The Impact of Radical Redistribution on Economic Growth

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Literature Review

- Economic inequality is a major issue in our time.
  - Stiglitz (2013) argues that inequality is self-perpetuating because the wealthy abuse political or legislative power in order to make more wealth for themselves.
  - Piketty (2014) insists that if the rate of return on capital is higher than the growth rate, then wealth inequality increases. Thus, he proposes a global wealth tax to reduce the rate of return on capital.
  - Milanovic (2016) shows how international income inequality changed after globalization.

Literature Review

- Negative effect of inequality on growth and its duration
  - Persson & Tabellini (1994) investigate historical panel data and postwar cross sections and reveal a large negative relationship between inequality and growth.
  - Benabou (1996) argues that income distribution has a positive impact on economic growth.
  - Ostry and Berg (2011) state that there is a significant negative relationship between inequality and sustained growth.
  - Ostry et al. (2014) reveal a negative relationship between growth spells and inequality.
  - Cingano (2014) says that there is a significant negative impact of income inequality on growth based on the data in the OECD countries over the past 30 years.

Literature Review

- No or positive effect of inequality on growth
  - Forbes (2000) shows that income inequality is positively related to economic growth.
  - Barro (2000) states that high-income inequality disturbs growth in poor countries and encourages growth in rich countries.
  - Panizza (2002) finds a positive relationship between inequality and growth based on a cross-state panel for the US.
  - Kraay (2015) says that it is hard to say the effect of inequality on growth.
  - Halter et al. (2014) conclude that inequality increases growth in the short run, but inequality decreases growth in the long run.

Literature Review

- Non-linear or inverse relationship
  - Kuznets (1955) states that as a country develops, initially economic inequality increases, but later it decreases.
  - Banerjee and Duflo (2003) reveal that growth is growing when low inequality, but growth is declining when high inequality. Thus, it has an inverted U-shaped function.
  - Brueckner et al. (2015) find that if real GDP per capita increases by 1%, then Gini coefficient decreases by 0.08%.

Literature Review

- Inequality of opportunity affects negatively income growth.
  - Marrero and Rodriguez (2013) mention the relationship between inequality and growth is up to its component. If the component is inequality of opportunity, then it has a negative relationship. If the component is inequality of effort, then it has a positive relationship.
  - Hsieh et al. (2013) argue that falling barriers to occupational choice for women and blacks enhance 15% to 20% of aggregate wage growth.
  - Bradbury and Triest (2016) suggest intergenerational mobility enhances economic growth and economic growth increases economic opportunity.
  - Marrero et al. (2016) say that inequality of opportunity has a negative impact on the growth of the poor.

Literature Review

- There are lots of research ideas and results regarding the relationship between inequality and growth. While most research papers focus on income inequality, asset inequality is more important because people innovate themselves when they have room for their development and innovation leads to economic growth.

Literature Review

- Land Reform & Growth
  - Grabowski (2002) explains land reforms in Japan, South Korea, and Taiwan brought about rapid growth by abolishing the economic classes and increasing economic equality.
  - Iscan (2018) argues that redistributive land reforms after World War II played a key role in economic growth.
  - The previous studies discussed the relationship, but they did not suggest the model and generalize the relationship.
  - This paper provides a model to generalize the relationship.
  - Also, this paper suggests a solution to resolve the economic inequality, and the low growth problem based on the model.

Research Question & Hypothesis

- Research Question: Is there any impact of radical redistribution under capitalism on economic growth?
- Hypothesis: Successful radical redistribution (land reform) under capitalism during the 1930s ~ 1950s had a significant impact on GDP per capita during 1960~2020.

Model

- $Cumulative\ GDP\ per\ capita = \alpha_0 + \alpha_1 Redistribution + \alpha_2 Inflation + \alpha_3 Life\ Expectancy + \alpha_4 Population + \alpha_5 GINI + \alpha_6 FDI + \alpha_7 Uneployment + \alpha_8 EduLowSecondary + \alpha_9 EduPrimary + [\alpha_{10} Exsocialist + \alpha_{11} WestEurope + \alpha_{12} CentralEurope + \alpha_{13} Asian + \alpha_{14} AngloSaxon] + \varepsilon$ (1)
- Dependent Variable: Cumulative Growth Rate (1960~2020)
- Independent Variable: Radical Redistribution (1930s~1950s)
- Control Variables: Average Inflation Rate, Life Expectancy, Population, GINI, FDI, Unemployment rate, Low Secondary Education Completion rate, Primary Education Completion rate, (Ex-Socialist, West Europe, Central Europe, Asian, Anglo-Saxon) countries dummy variable (1960~2020)

Data

Variable	Obs	Mean	Std. Dev.	Min	Max
CumulativeGrowth	30	40.02	38.811	9.864	199.42
Redistribution	30	.133	.346	0	1
Inflation	30	3.932	1.46	2.198	8.067
LifeExpectancy	30	67.549	9.269	45.856	77.932
Population	30	1.169e+08	2.448e+08	2749518.8	1.094e+09
GINI	29	38.102	8.044	27.883	61.883
FDI	30	7.730e+08	1.954e+10	-5.863e+10	7.853e+10
Unemployment	30	7.1	5.094	.782	21.09
EduLowSecondary	30	60.238	24.425	20.905	99.162
EduPrimary	29	86.276	15.816	49.716	102.076
ExSocialist	30	.067	.254	0	1
WestEurope	30	.167	.379	0	1
CentralEurope	30	.1	.305	0	1
Asian	30	.367	.49	0	1
AngloSaxon	30	.167	.379	0	1

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- Data from the World Bank

Radical Redistribution Conditions

- Period: 1930s ~1950s
- Economic System: Capitalism
- Successful land reform

Country	Cumulative Growth Rate (1960-1990)	Radical Redistribution Success during 1930s~1950s
Japan	53.28	1
South Korea	40.76	1
Spain	33.83	1
Italy	24.89	1
Austria	22.18	0
Portugal	20.87	0
Netherlands	18.92	0
France	15.39	0
Belgium	15.17	0
Thailand	13.89	0
United Kingdom	12.66	0
Iran	10.39	0
Turkey	9.08	0
Australia	9.08	0
Canada	8.53	0
Congo	8.40	0
Mexico	7.89	0
United States of America	6.94	0
Nigeria	5.08	0
South Africa	4.97	0
New Zealand	4.90	0
Colombia	4.71	0
India	3.44	0
Uganda	3.41	0
Pakistan	3.25	0
China	2.88	0
Kenya	2.63	0
Bangladesh	2.48	0
Philippines	2.11	0
Myanmar	1.10	0

Cumulative Growth Rate in GDP per capita from 1960 to 1990

- Flores (1970) reports that after Japan's land reform, the percentage of land operated by landowners increased from 54% to 92%. Iscan (2018) suggests that the ratio of farm owners in Japan increased from 52% in 1941 to 91% in 1955, while tenants decreased from 48% to 9% during the same period.
- Iscan (2018) notes that the ratio of farm owners in South Korea increased from 44% in 1938 to 93% in 1965, while the tenant ratio decreased from 56% to 7% during the same period.

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Thailand	13.89	0
United Kingdom	12.66	0
Iran	10.39	0
Turkey	9.08	0
Australia	9.08	0
Canada	8.53	0
Congo	8.40	0
Mexico	7.89	0
United States of America	6.94	0
Nigeria	5.08	0
South Africa	4.97	0
New Zealand	4.90	0
Colombia	4.71	0
India	3.44	0
Uganda	3.41	0
Pakistan	3.25	0
China	2.88	0
Kenya	2.63	0
Bangladesh	2.48	0
Philippines	2.11	0
Myanmar	1.10	0

Cumulative Growth Rate in GDP per capita from 1960 to 1990

- According to Basco (2023), they distributed 120,000 hectares of land to 40,000 families through using 1932 decree. Moreover, they distributed almost 500,000 hectares of land to 110,000 families by using 1936 decree and finally Republican governments distributed 600,000 hectares of land to 120,000 landless families after the land reform law of 1932 in Spain, resulting in less than 1% of landless families.
- Bonanno (1988) mentions land reform in Italy from 1944 to 1961, with three different acts passed in 1950. At the end of the reform, 133,066 families received land, totaling about 500,000 people. The land reform in Italy significantly weakened peasant movement power (Mottura and Pugliese 1980; Fabiani 1979, p. 129; Bonnano 1984, p. 50).

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Turkey	9.08	0
Australia	9.08	0
Canada	8.53	0
Congo	8.40	0
Mexico	7.89	0
United States of America	6.94	0
Nigeria	5.08	0
South Africa	4.97	0
New Zealand	4.90	0
Colombia	4.71	0
India	3.44	0
Uganda	3.41	0
Pakistan	3.25	0
China	2.88	0
Kenya	2.63	0
Bangladesh	2.48	0
Philippines	2.11	0
Myanmar	1.10	0

Correlations

Variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
(1) CumGrowth	1.000									
(2) Redistribution	0.582**	1.000								
(3) Inflation	0.528**	0.004	1.000							
(4) LifeExpectancy	0.296*	0.389*	-0.453**	1.000						
(5) Population	0.203	-0.100	0.501**	-0.127	1.000					
(6) GINI	-0.307*	-0.236*	0.075	-0.396*	-0.064	1.000				
(7) FDI	0.012	0.454**	-0.432**	0.322*	-0.497**	-0.235	1.000			
(8) Unemployment	-0.249*	0.110	-0.417**	0.082	-0.131	0.440**	-0.002	1.000		
(9) EduLowSecondary	0.203*	0.312*	-0.539**	0.768***	-0.143	-0.356*	0.440**	0.070	1.000	
(10) EduPrimary	0.315*	0.393*	-0.249*	0.695***	0.111	-0.023	0.154	0.178	0.706***	1.000

Note: *Weak **Medium ***Strong ****Very Strong

Regressions of GDP per capita

- Redistribution's impact on the growth rate from 1960 to 2020 additionally increase a 4,080% with a 95% confidence level.
- Positive educational effect (Low Secondary Education Completion)
- Strong positive inflation effect
- Weak positive life expectancy effect
- Weak negative FDI effect

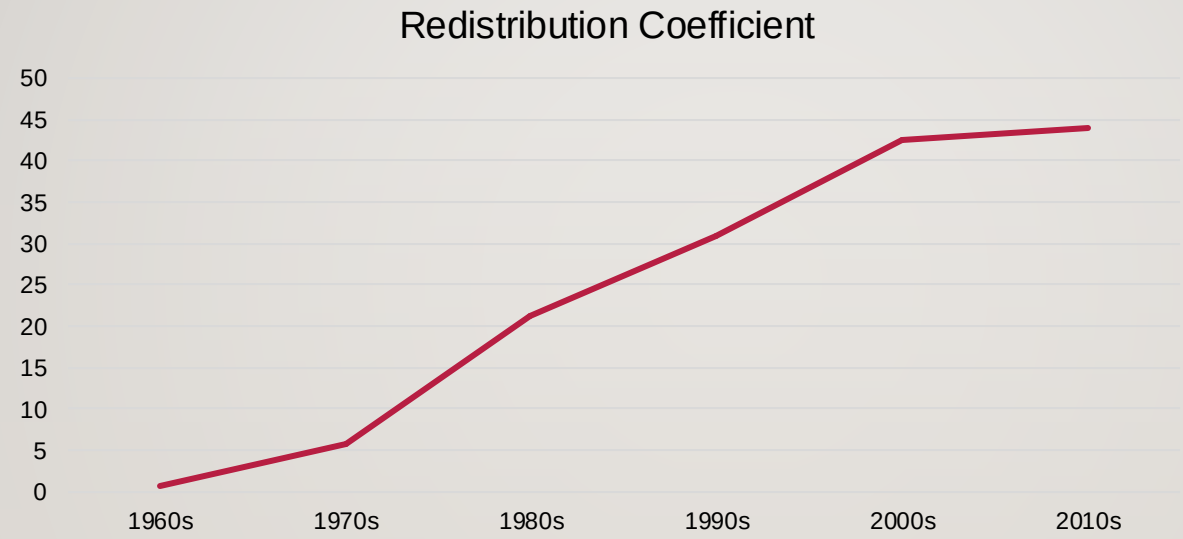
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
VARIABLES	No Region	No Inflation	No Life Expectancy	No Population	No Education	Only Redistribution	All
Redistribution	40.45**	76.55***	41.37**	42.40**	36.36*	65.83***	40.80**
	(16.04)	(20.40)	(18.23)	(18.55)	(18.16)	(17.18)	(18.23)
LifeExpectancy	1.053	1.349		0.969	1.683*		0.917
	(0.792)	(1.214)		(0.927)	(0.809)		(0.910)
Population	-3.22e-08	-2.18e-08	-2.89e-08		-1.39e-08		-2.79e-08
	(2.15e-08)	(2.99e-08)	(2.22e-08)		(2.28e-08)		(2.22e-08)
GINI	-0.684	-0.766	-0.376	-0.0744	-0.292		-0.485
	(0.748)	(1.452)	(1.076)	(1.050)	(1.037)		(1.081)
FDI	-2.57e-10	-1.39e-09**	-2.93e-10	-1.97e-10	2.37e-10		-3.64e-10
	(2.94e-10)	(4.84e-10)	(4.57e-10)	(4.51e-10)	(4.01e-10)		(4.62e-10)
Unemployment	0.714	-1.575	0.167	-0.0780	0.335		0.183
	(1.069)	(1.368)	(1.132)	(1.135)	(1.235)		(1.132)
EduLowSecondary	0.648*	1.321**	1.040**	0.965**			1.000**
	(0.334)	(0.581)	(0.439)	(0.449)			(0.441)
EduPrimary	-0.0490	-0.784	-0.0244	-0.372			-0.231
	(0.494)	(0.723)	(0.521)	(0.559)			(0.559)
ExSocialist		23.48	1.395	0.182	9.728		3.818
		(25.41)	(19.54)	(19.85)	(21.65)		(19.68)
WestEurope		-21.08	23.04	16.84	18.54		11.50
		(29.02)	(20.47)	(23.52)	(23.90)		(23.45)
CentralEurope		-76.89*	4.094	-2.890	18.87		-9.973
		(36.76)	(30.20)	(33.44)	(32.48)		(33.26)
Asian		3.074	-4.408	-8.656	-11.86		-8.198
		(19.74)	(14.53)	(15.30)	(15.82)		(15.00)
AngloSaxon		-69.26**	-21.75	-26.46	0.774		-29.66
		(29.17)	(23.12)	(24.76)	(23.65)		(24.40)
Inflation	25.35***		26.59***	24.90***	27.45***		25.60***
	(4.718)		(7.208)	(7.395)	(7.728)		(7.271)
Constant	-144.8**	-8.028	-113.2*	-146.6**	-177.9**	31.24***	-140.7**
	(57.28)	(69.50)	(57.80)	(64.99)	(69.40)	(6.274)	(63.89)
Observations	28	28	28	28	29	30	28
R-squared	0.831	0.761	0.868	0.863	0.813	0.344	0.878

Robustness Check: By Periods

	(1)	(2)	(3)	(4)	(5)	(6)
VARIABLES	1960~1970	1960~1980	1960~1990	1960~2000	1960~2010	1960~2020
Redistribution	0.626	5.685**	21.27***	30.81***	42.50***	43.96***
	(0.371)	(2.201)	(5.237)	(6.316)	(8.968)	(12.06)
Inflation	0.130*	0.617	1.619	4.857***	11.99***	21.42***
	(0.0645)	(0.457)	(1.041)	(1.554)	(2.446)	(3.523)
LifeExpectancy	0.0230*	0.116	0.587***	0.616***	1.308***	2.035***
	(0.0116)	(0.0755)	(0.167)	(0.217)	(0.355)	(0.512)
Population	-1.66e-10	-3.48e-09	-8.14e-09	-1.41e-08	-2.52e-08*	-1.39e-08
	(7.11e-10)	(3.73e-09)	(7.27e-09)	(9.81e-09)	(1.37e-08)	(1.82e-08)
Constant	-1.249	-4.293	-33.00**	-46.47**	-104.9***	-185.9***
	(0.861)	(5.799)	(12.21)	(16.85)	(29.36)	(42.37)
Observations	27	28	26	30	30	30
R-squared	0.515	0.518	0.748	0.757	0.782	0.767

The impact was negligible in 1960~1970, but it grew and disappeared.

Redistribution Coefficient Change by Periods



The radical redistribution's impact initially grew, lasted for around 50 years, and then disappeared.

Discussion

- Repeated radical redistribution every 50 years with 2/3 voting
  - Due to low growth rate and high inequality
  - Preventing political populists' abuse
  - 1/2 voting making a big confrontation
  - A country with 2/3 population's frustration cannot sustain…unstable, bloody revolution possibility
- Repeated radical redistribution has serious problems:
  - Rich people's opposition
  - Moral hazard

Discussion

- Redeeming Values:
  - Resolving economic inequality
  - Preventing a country from bloody revolutions
  - Preventing a country from national default due to excessive welfare programs.
  - Preventing problems derived from severe economic inequality itself
  - Restoring trust in the free market
  - Making innovation and higher education possible
  - Uniting a divided country

Conclusion

- If there is a successful radical redistribution under a capitalist country, GDP per capita increases additional 40.80 times more over 60 years. Our analysis shows that radical redistribution was completed in the 1930s~1950s and the GDP per capita rate was accumulated during 1960~2020.
- The result has some implications.
- After radical redistribution, its impact is valid for around 50 years in South Korea, Japan, Spain, and Italy.
- After 50 years, its impact is not valid because the four countries experience low growth rates, high unemployment rates, and high economic inequality.
- Thus, for an economy to leap again, we suggest repeated radical redistribution for every effective duration (50 years).
- The radical redistribution policy requires 2/3 democratic voting to get support from the people.

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