

EE562 Selected Topics in Development Economics 2

(Topic: A Global Perspective and Empirical Evidence in Thailand)

Faculty of Economics

Thammasat University

Summer Session 2017 (2560)

Time: Wednesdays and Fridays, 9AM – noon

Growth and Inequality: Thailand Case

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Course Conveners: Dr. Arnunchanog Sakondhavat and Dr. Chamadanai Marknual

Office of the National Economic and Social Development Board (NESDB)

Outline

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Curve

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Growth and Inequality: the Evidence
of Thailand

Section I

Growth and Inequality

Global GDP growth should **pick up modestly**, but **remains below historical norms**

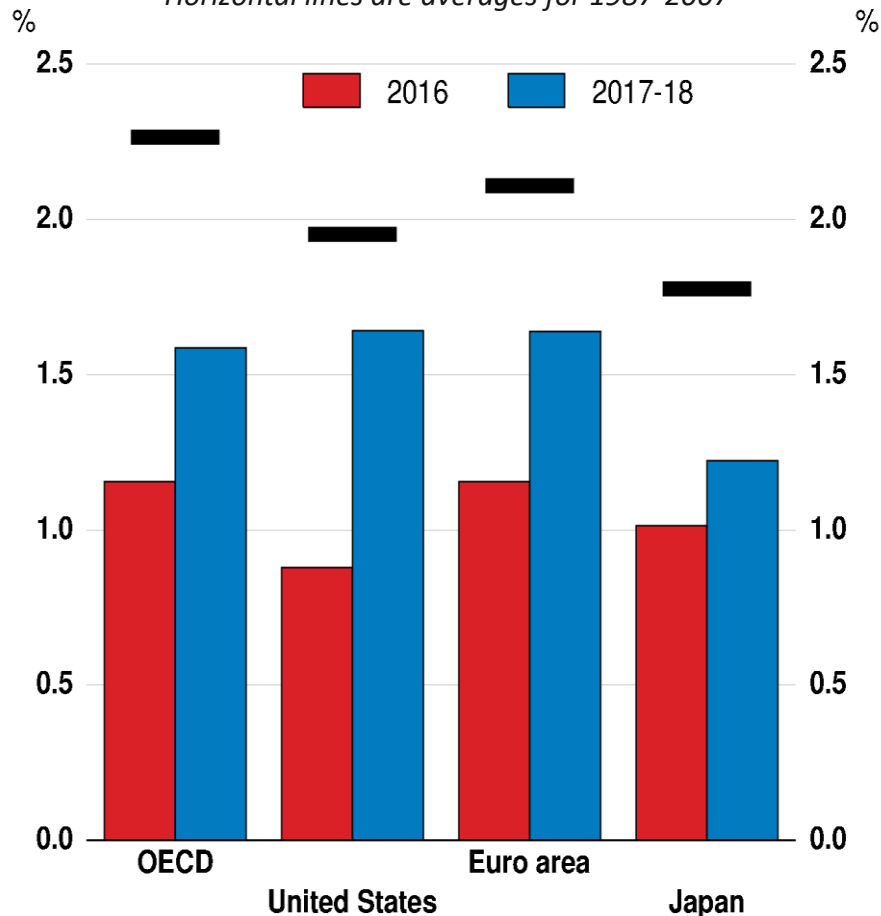


Source: OECD June 2017 Economic Outlook database.

GDP growth per person is below history and **income inequality continues to rise**

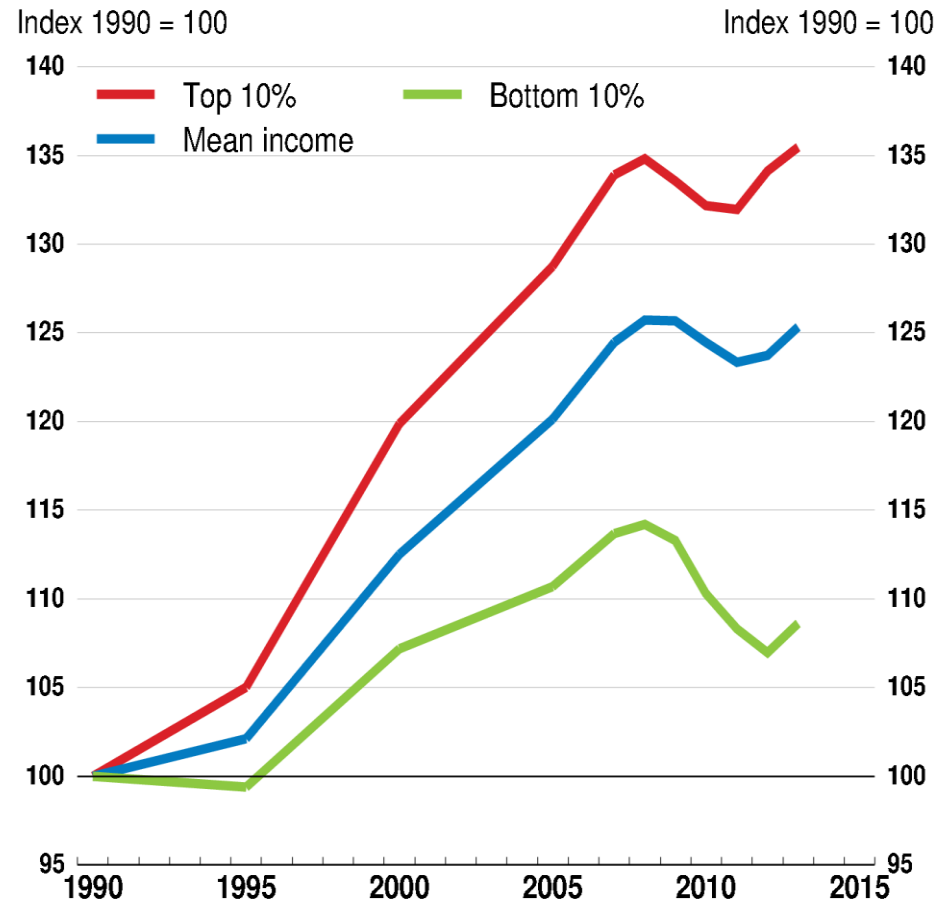
GDP growth per person

Horizontal lines are averages for 1987-2007



Income inequality is rising in the OECD

Real household disposable income, total population



Note: RHS is the unweighted average of 17 OECD countries.

Source: OECD June 2017 Economic Outlook database; and OECD Income Distribution database.

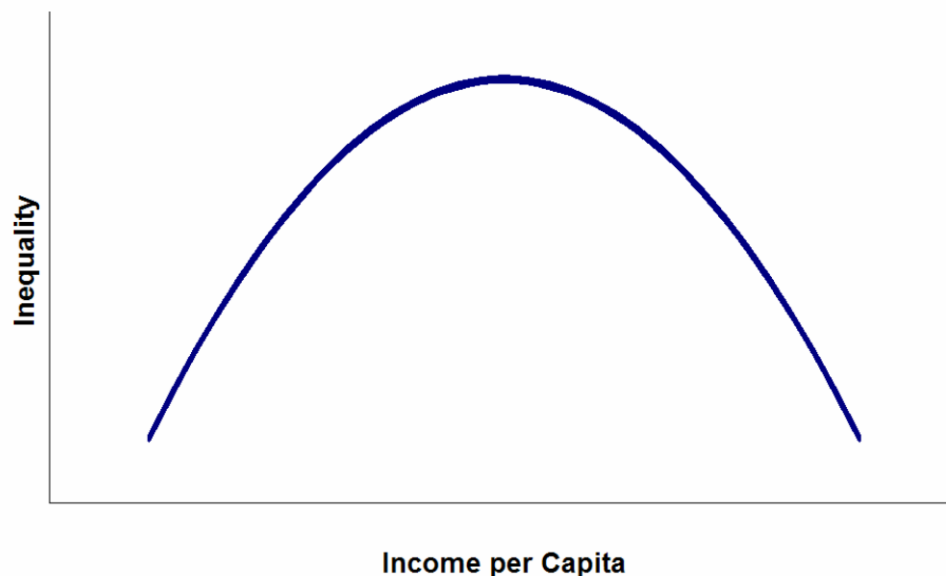
How does growth affect inequality?

- ▶ As the economy grows, **inequality first increases, and then decreases**

Kuznets (1955):

- ▶ Movements of workers **from agriculture to industry**
- ▶ **Initially**, industry is small, thus leads to **increased inequality**
- ▶ As the industry grows, **inequality starts decreasing**

The Kuznets Hypothesis



- In 1955, Simon Kuznets hypothesized that as a country developed, **inequality would first rise and then later fall**.
- Kuznets' theory implies that if we graphed the level of inequality as a function of the level of development, *the data would trace out an inverted-U shape; so called “**Kuznets Curve**”*

Inequality, Income, and Growth

The Inverted U-hypothesis

- Development seems to be an **uneven** and **sequential** process:
 - All groups do not benefit simultaneously; **development favors certain groups**, while **others must “catch up”**
 - **Economic progress** (rise in per capita income) is initially accompanied by **rising inequality**, but over time disparities go away
 - A plot of inequality against per-capita income looks like an **“inverted U”**

Income and Inequality: Uneven and Compensatory Changes

- There can be three types of income growth:
 - **Uniform growth:** accumulation of wealth, annual raises, productivity changes over time, etc.
 - **Uneven growth:** specific sectors **take-off** (software, bio-tech, etc), creating demand for *certain types of skills* only $\Rightarrow$ *inequality increasing*
 - **Compensatory growth:** eventually incomes **diffuse** into the greater economy, creating demand for other goods (houses, cars, vacations, etc), education, and skills $\Rightarrow$ *inequality reducing*
- If uneven changes occur at low income levels, and compensatory changes at high income levels, we can give the inverted U-hypothesis some theoretical foundation

Section II

Inequality Measurement

What is inequality?

- ▶ The quality of being unequal or uneven as
 - ▶ lack of evenness
 - ▶ social disparity
 - ▶ disparity of distribution or opportunity
 - ▶ the condition of being variable - changeableness

Why do economic inequalities occur?

- ▶ **Physical attributes** – distribution of natural ability is not equal
- ▶ **Personal Preferences** – Relative valuation of leisure and work effort differs
- ▶ **Social Process** – Pressure to work or not to work varies across particular fields or disciplines
- ▶ **Public Policy** – tax, labor, education, and other policies affect the distribution of resources

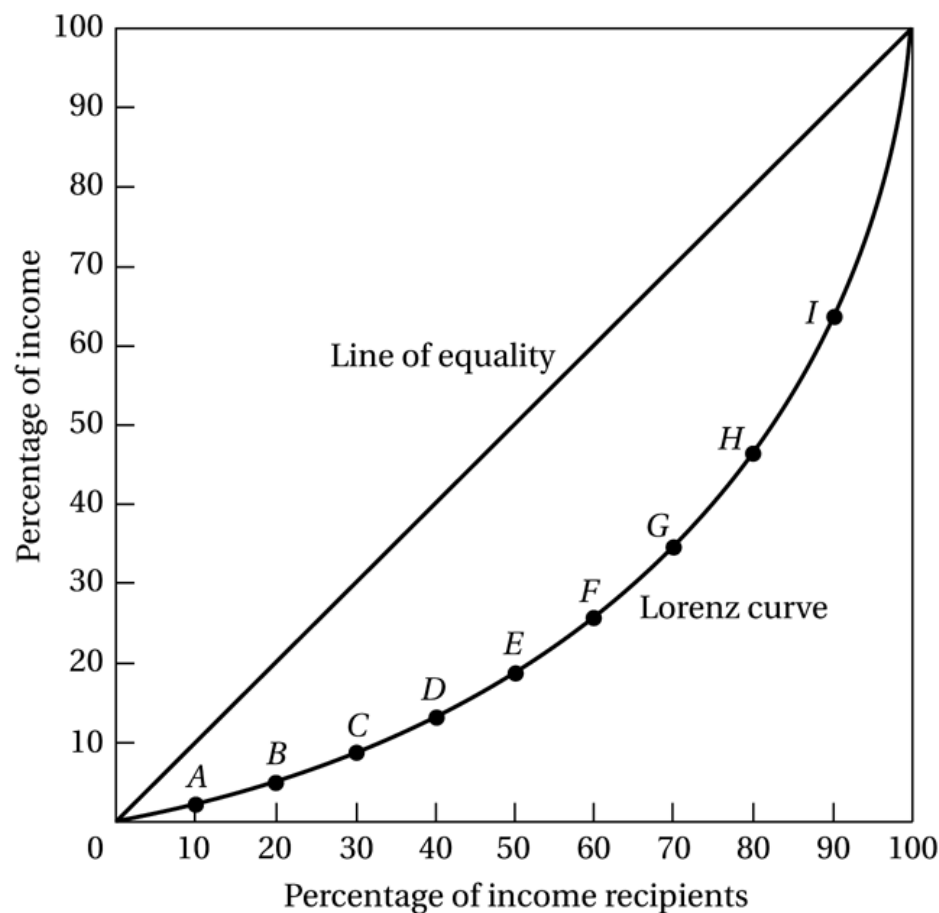
Measuring Inequality

- ▶ Our primary interest is in economic inequality.
- ▶ In this context, **inequality** measures the **disparity** between a *percentage of population* and the *percentage of resources* (such as income) *received by that population*.
- ▶ Inequality increases as the disparity increases.

Measuring Inequality

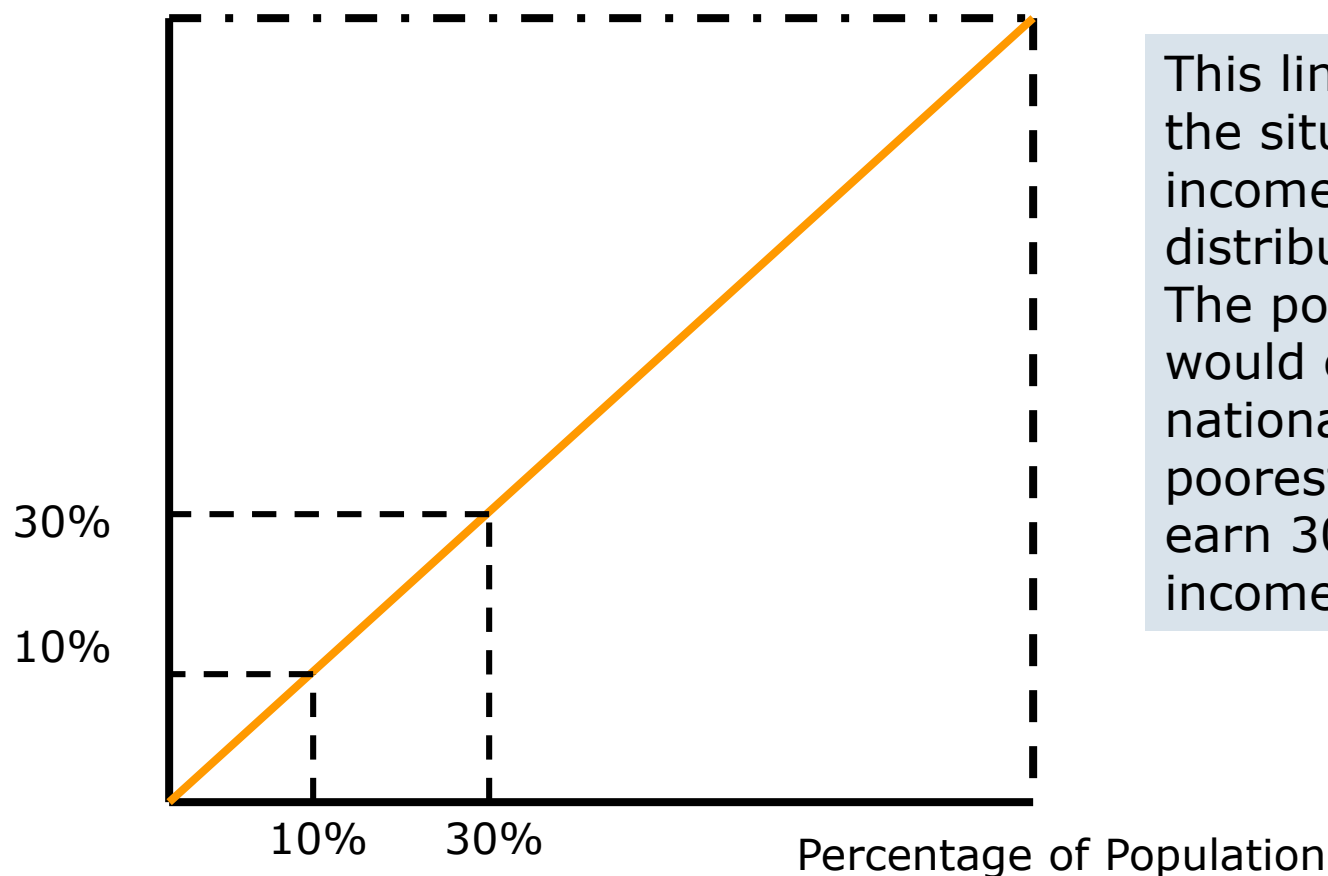
Lorenz Curve:

- ▶ A curve showing the proportion of national income earned by a given percentage of the population.



Lorenz Curve

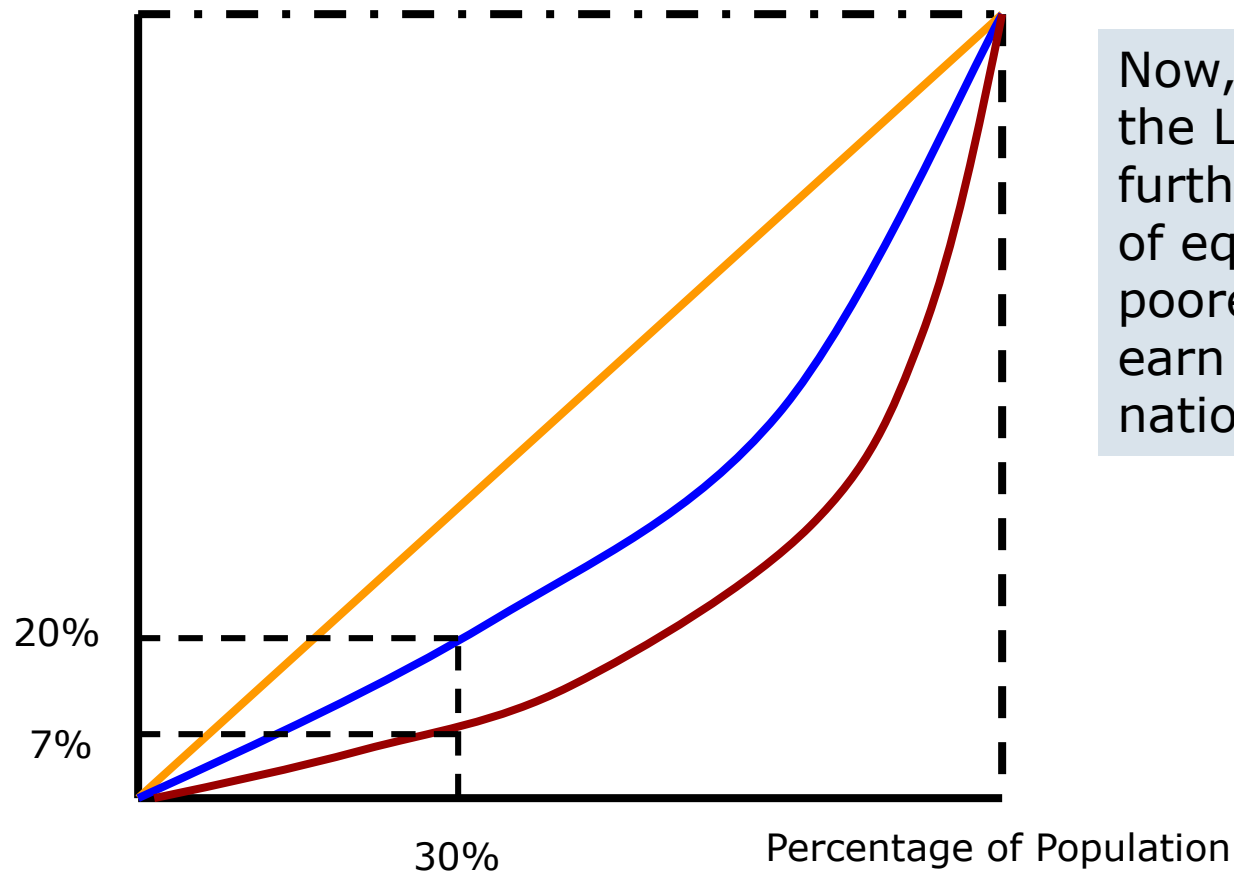
% of National Income



This line represents the situation if income was distributed equally. The poorest 10% would earn 10% of national income, the poorest 30% would earn 30% of national income.

Lorenz Curve

% of National Income

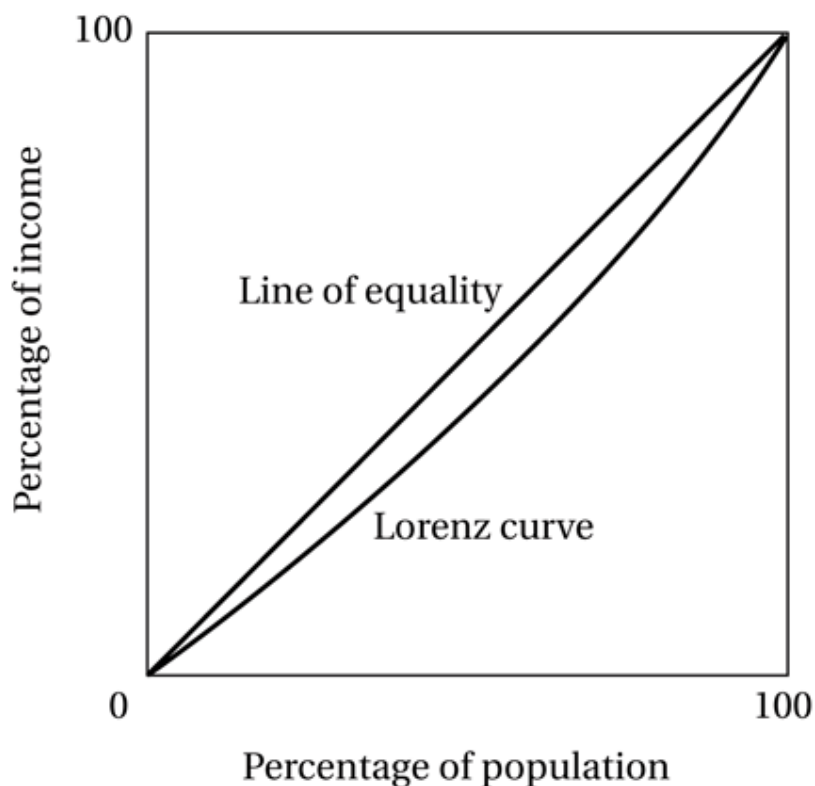


Now, suppose that the Lorenz curve lies further below the line of equality. Here, the poorest 30% only earn 7% of the national income.

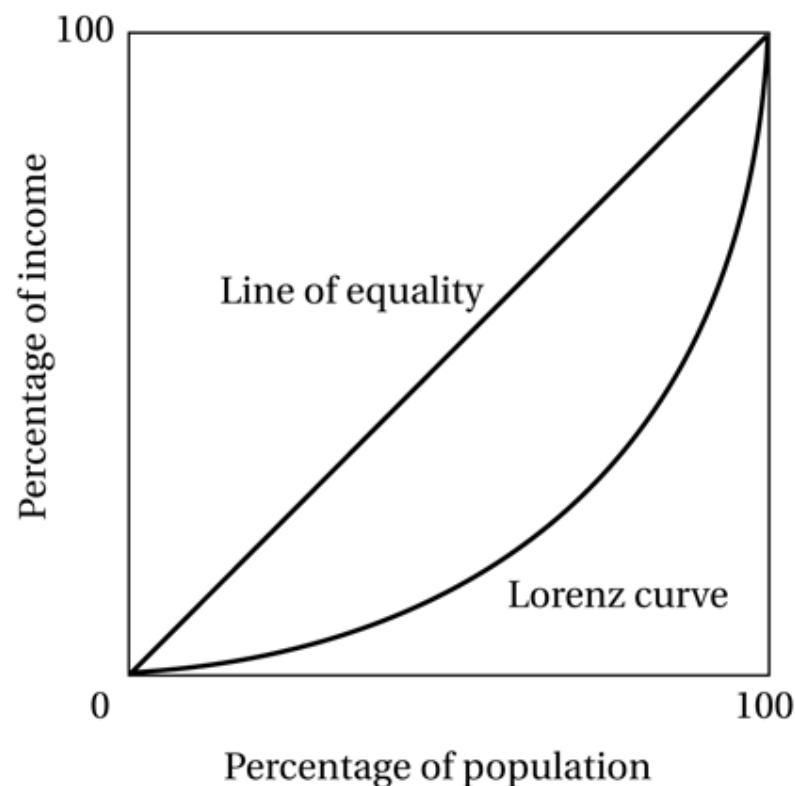
Typical Size Distribution of Personal Income in a Developing Country by Income Shares—Quintiles and Deciles

Individuals	Personal Income (money units)	Share of Total Income (%)	
		Quintiles	Deciles
1	0.8		
2	1.0		1.8
3	1.4		
4	1.8	5	3.2
5	1.9		
6	2.0		3.9
7	2.4		
8	2.7	9	5.1
9	2.8		
10	3.0		5.8
11	3.4		
12	3.8	13	7.2
13	4.2		
14	4.8		9.0
15	5.9		
16	7.1	22	13.0
17	10.5		
18	12.0		22.5
19	13.5		
20	15.0	51	28.5
Total (national income)	100.0	100	100.0

The Greater the Curvature of the Lorenz Line, the Greater the Relative Degree of Inequality



(a) A relatively equal distribution



(b) A relatively unequal distribution

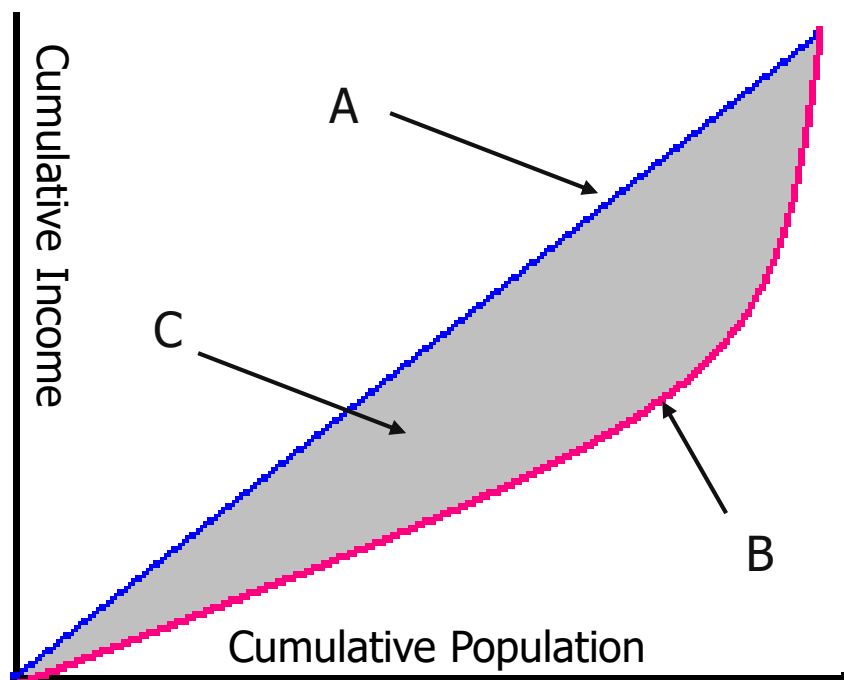
Gini Coefficient

- ▶ Enables more precise comparison of Lorenz Curves
- ▶ The proportion of the **area taken up by the Lorenz Curve** in relation to the **overall area under the line of equality**
- ▶ To understand the Gini Coefficient, one must first *understand the Lorenz Curve*, which orders all observations and then *plots the cumulative percentage of the population against the cumulative percentage of the resource*.

Gini Coefficient

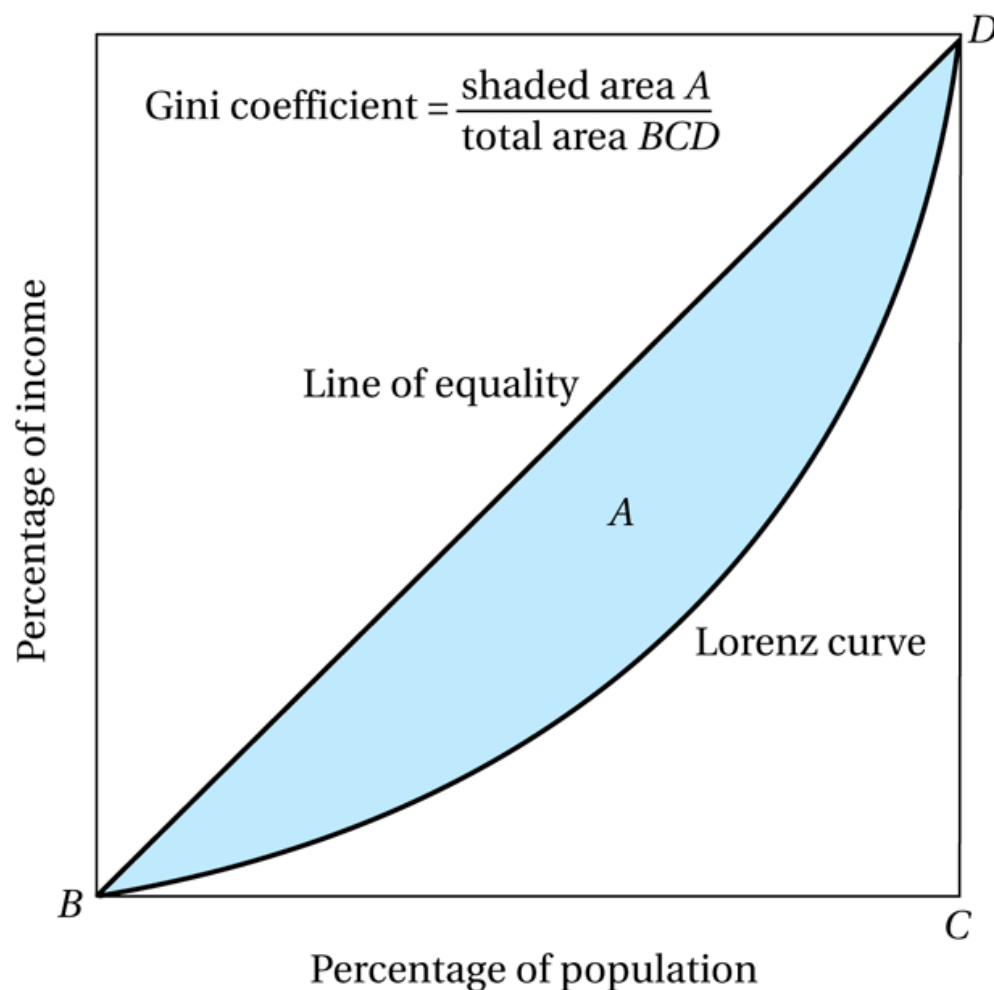
An **equality diagonal** represents perfect equality: at every point, cumulative population equals cumulative income.

The **Lorenz curve** measures the *actual distribution of income*.



- ▶ A – Equality Diagonal
Population = Income
- ▶ B – Lorenz Curve
- ▶ C – Difference Between Equality and Reality

Estimating the Gini Coefficient

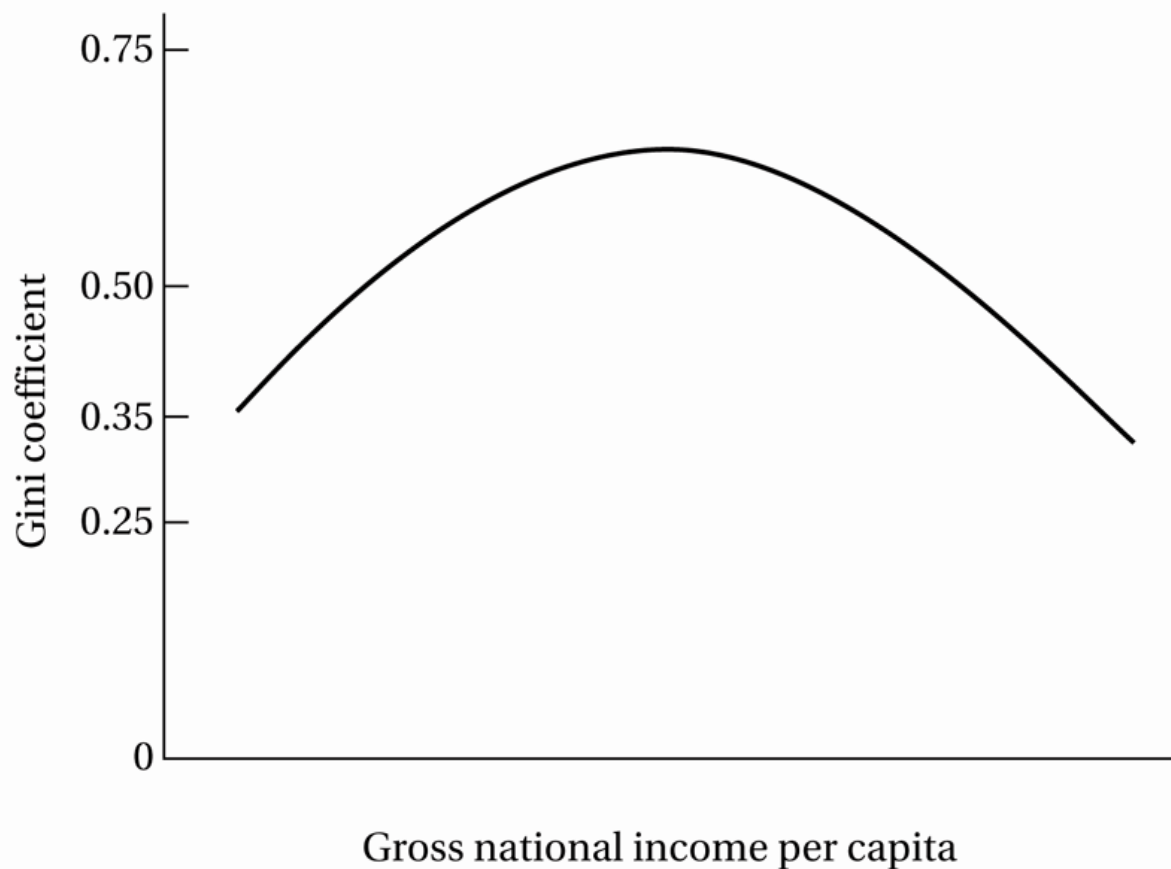


- ▶ When there is **perfect equality**, the *Lorenz curve is the equality diagonal*, and the value of the *Gini Coefficient* is zero.
- ▶ When **one member of the population holds all of the resource**, the value of the *Gini Coefficient* is *one*.

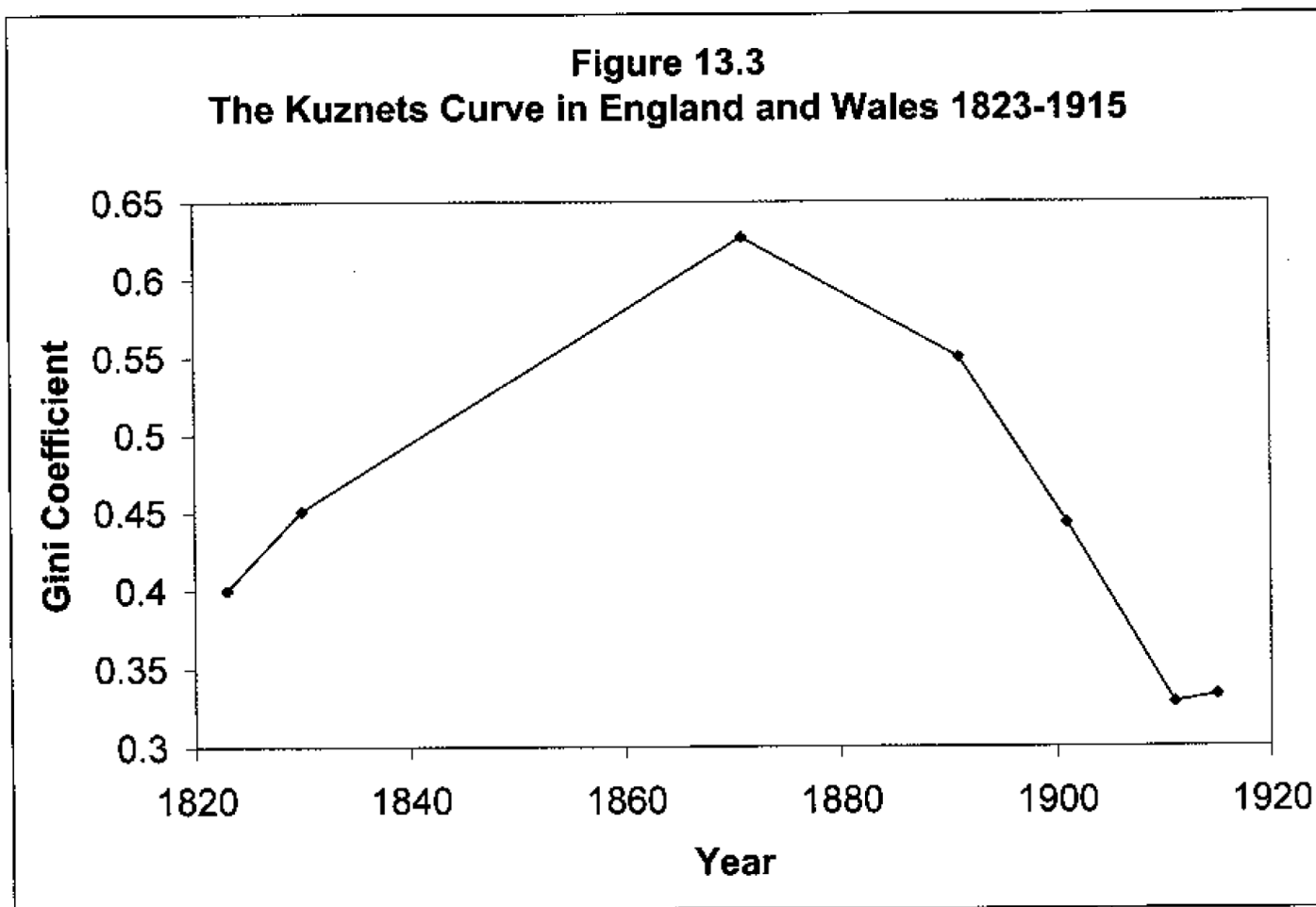
Section III

The Evidence of Inverted-U Kuznets Curve

The “Inverted-U” Kuznets Curve



The “Inverted-U” Kuznets Curve



The “Inverted-U” Kuznets Curve

What are the Theoretical Under-pinning of the “Inverted-U” Kuznets Curve?

The idea here is that any growth that does occur is likely to benefit more people if income inequality is low in the first place.

So what then determines income inequality?

Assets – particularly land in LDCs

Education

Networks

Rural-Urban

Property Rights, Legal System

The “Inverted-U” Kuznets Curve

What are the Theoretical Under-pinning of the “Inverted-U” Kuznets Curve?

The 1970s...

In the 1970s the ‘Redistribution with Growth’ development economists believed in the inverted-U hypothesis of Kuznets.

Kuznets inverted-U of growth and inequality:

Stage 1: low per capita income level, low income inequality.

Stage 2: per capita income increases with development, income inequality rises.

Stage 3: gets to a point where per capita income increases with continued development, income inequality declines.

Section IV

Inequality and Income Redistribution

Savings and Inequality

- ▶ The relationship between **inequality and savings** depends on the relationship between **savings and income**
- ▶ Relevant question: what is the relationship between savings and income?

Savings and Income

- Low levels of income:
 - **Subsistence needs** are high and there is not much to save
 - **Savings rate could be low** or even negative
- Middle income levels:
 - **Savings rates are high**, as middle class people are guided by *aspirations of upward mobility*
 - **Save for future generations**
- High levels of income:
 - **Conspicuous consumption is high**, so marginal savings rates are low
 - **“Need” for additional savings are also low**

The Savings Function

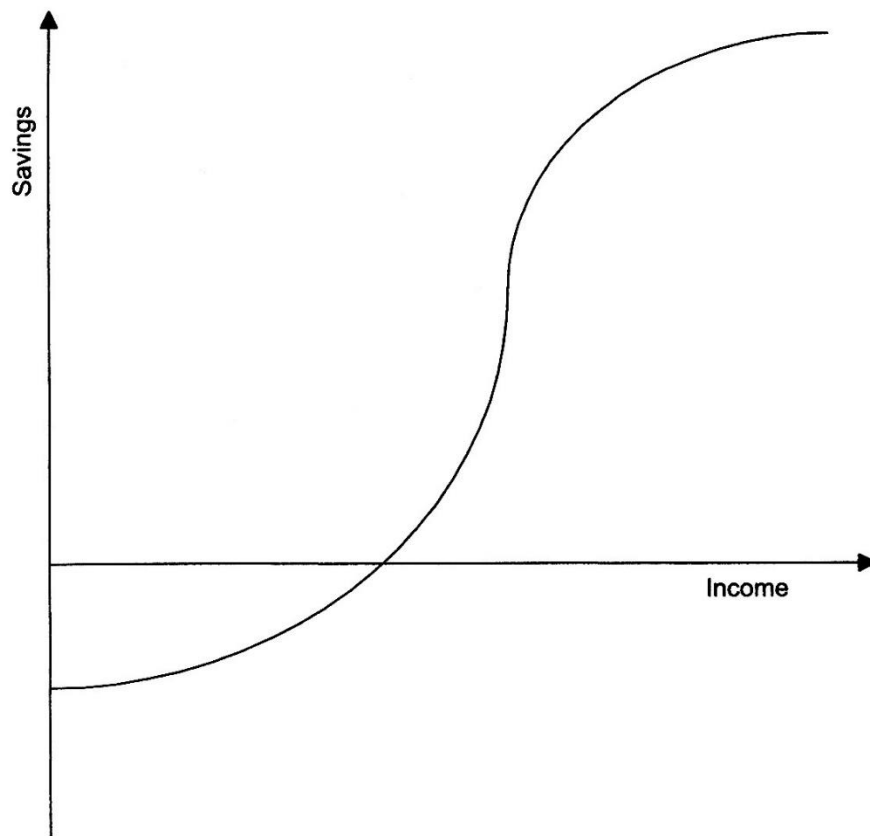


Figure 7.3. Savings and income: a more detailed view.

Inequality, Political Redistribution, and Growth

- The idea: high levels of **inequality** create political **demands for redistribution**
 - How does this affect growth?
- Redistribution can take two forms:
 - Redistribute **existing** wealth among the population
 - Land Reform, confiscatory taxes
 - Redistribute **increments** of new wealth among the population
 - Tax on *increments* to wealth, income, profits, etc.

Problems with Redistributing Existing Wealth

- Redistributing existing wealth is very difficult, both politically and economically
 - Information needed on who holds most of the wealth and in what form
 - Government officials sometimes hold most of the economy's wealth
 - Large landowners or the very wealthy often act as vote banks (political donations, influence over communities, etc)
- Most governments therefore choose to **redistribute increments of wealth and income**

Occupational Choice

- Assume that there is an initial distribution of wealth in the economy
- This initial distribution determines who can be an entrepreneur and who cannot
 - Individuals with initial wealth above the threshold become **entrepreneurs**
 - Individuals with initial wealth below the threshold either **join the subsistence sector** or become industrial **workers**

Occupational Choice

- **Entrepreneurs** create a *demand for labor*
- **Workers** create a *supply of labor*
- These joint decisions determine the **equilibrium wage rate**
- A new stream of **profits** are **generated for entrepreneurs**, given the equilibrium wage rate
- This determines the distribution of wealth and income in the next period...and the process keeps repeating itself

“Inefficiency” of Inequality

- If **some workers** in the **industrial sector** or **subsistence sector** could become entrepreneurs, then this would increase the demand for ***industrial workers*** and ***lower inequality***
- But this cannot happen because of lack of access to credit markets
- This implies that lack of **credit markets** generate an **“inefficient” level of inequality**
Since there is a possibility to *make some people better off* without *making someone worse off*

The Persistence of Inequality

- If there are **a lot of people in the subsistence sector**, then **equilibrium wages are low**
- Profits for the (few) entrepreneurs are high
- **Subsistence and industrial workers are unable to accumulate wealth (due to low wages)**
- Inequality becomes ***history-dependent*** and **persistent over time**

Income Inequality

Income Inequality: Labor vs. Capital Income

- ▶ **1) Labor income inequality** is due to *differences in working abilities* (education, talent, physical ability, etc.), *work effort* (hours of work, effort on the job, etc.), and *luck* (labor effort might succeed or not)
- ▶ **2) Capital income inequality** is due to *differences in wealth* (due to *past saving behavior* and *inheritances received*), and in *rates of return* (varies dramatically overtime and across assets)

Income Inequality

Labor Economics Debate on Causes of Inequality Increase

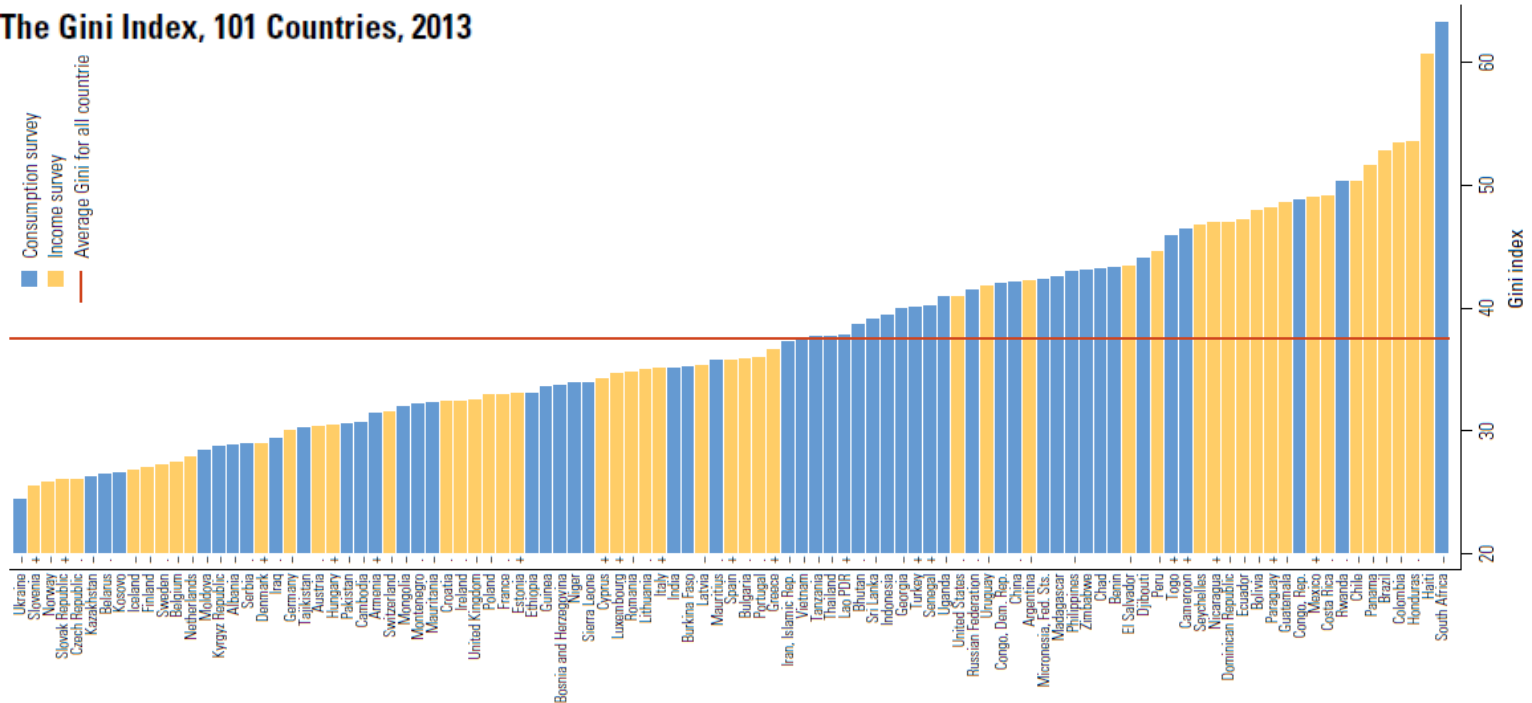
- ▶ **Skilled Biased Technological Change:** Recent technological progress (such as IT revolution) *favors highly skilled workers and hence increases highly skilled wages and inequality [New Kuznets' cycle]*
- ▶ **Changes in Institutions regulating the labor market:** Decline in Union membership, Decline in Minimum Wage

Section V

Global Growth and Inequality

Global inequality

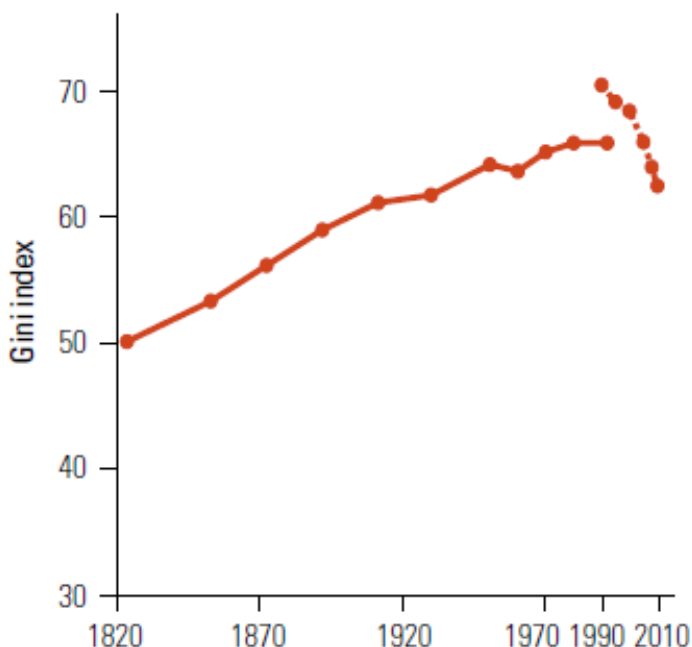
The Gini Index, 101 Countries, 2013



- ▶ The most unequal country in the world is South Africa, followed by Haiti, each of which has a Gini index in excess of 60.
- ▶ Another Sub-Saharan African country (Rwanda) and seven other Latin America and Caribbean countries (Brazil, Chile, Colombia, Costa Rica, Honduras, Mexico, and Panama) make up the top 10 most unequal countries in the world.
- ▶ All the **most equal countries** are in the **group of industrialized countries** or in **Eastern Europe** and **Central Asia**.

Global inequality

FIGURE 4.3 Global Income Inequality, 1820–2010

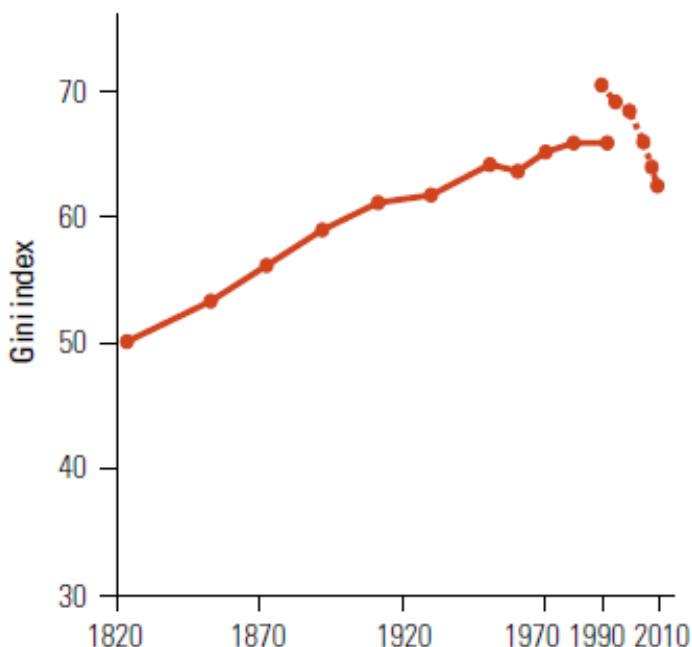


Note: The discontinuity in the series represents the change in the base year of the purchasing power parity (PPP) exchange rates from 1990 to 2005.

- ▶ Globally, there has been a long-term secular **rise in inequality** as can be seen from the global Gini index **since 1820**, when relevant data first became available.
- ▶ The **industrial revolution** led to a ***worldwide divergence*** in incomes across countries, as today's advanced economies began pulling away from others.

Global inequality

FIGURE 4.3 Global Income Inequality, 1820–2010

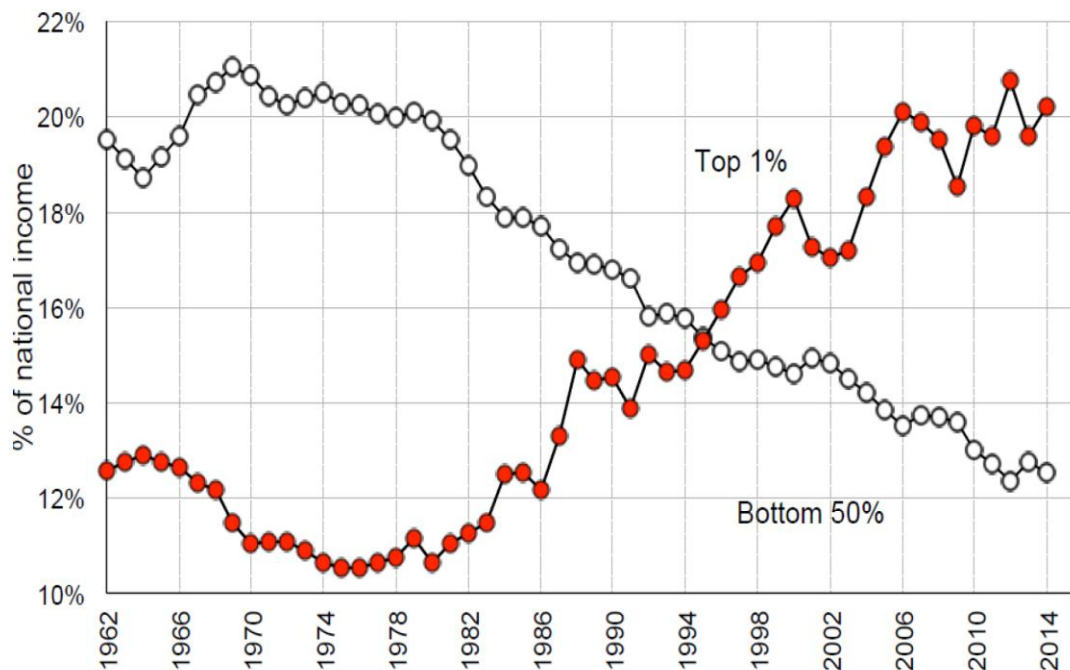


Note: The discontinuity in the series represents the change in the base year of the purchasing power parity (PPP) exchange rates from 1990 to 2005.

- ▶ However, in the late 1980s and early 1990s, the **global Gini index began to fall**. This coincided with a period of **rapid globalization and substantial growth in populous poor countries, such as China and India**.

The long-run dynamics of income inequality

USA: The collapse of the bottom 50% income share



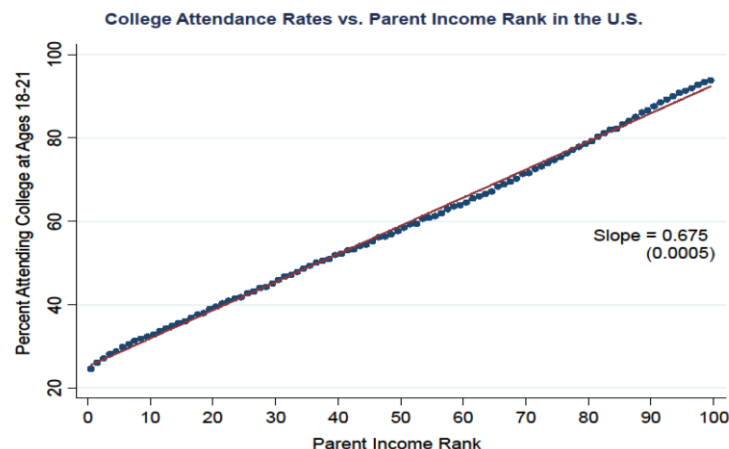
- ▶ The rise in US inequality in recent decades is mostly due to **rising inequality of top labor income**, and a **collapse of bottom 50% income share**.

The long-run dynamics of income inequality

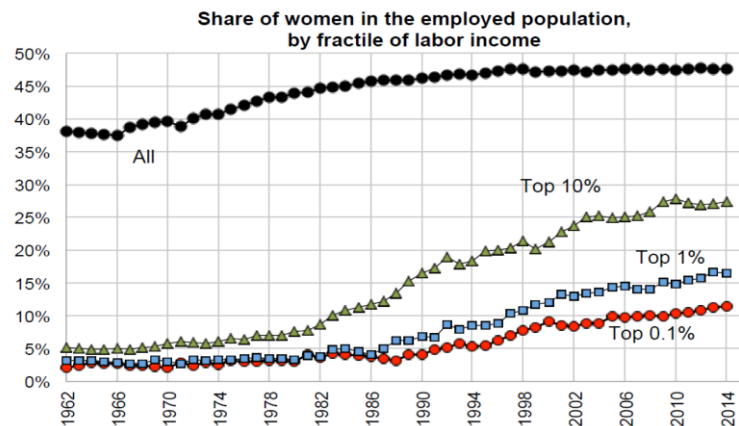
It is due to a mixture of reasons:

- ▶ Changing supply and demand for **skills**;
- ▶ **Race between education and technology**; very unequal to access to skills in the US (rising tuitions, insufficient public investment);
- ▶ **Unprecedented rise of top managerial compensation** in the US (changing incentives, cuts in top income tax rates);
- ▶ Falling minimum wage in the US

Modern inequality: the meritocratic fairy tale

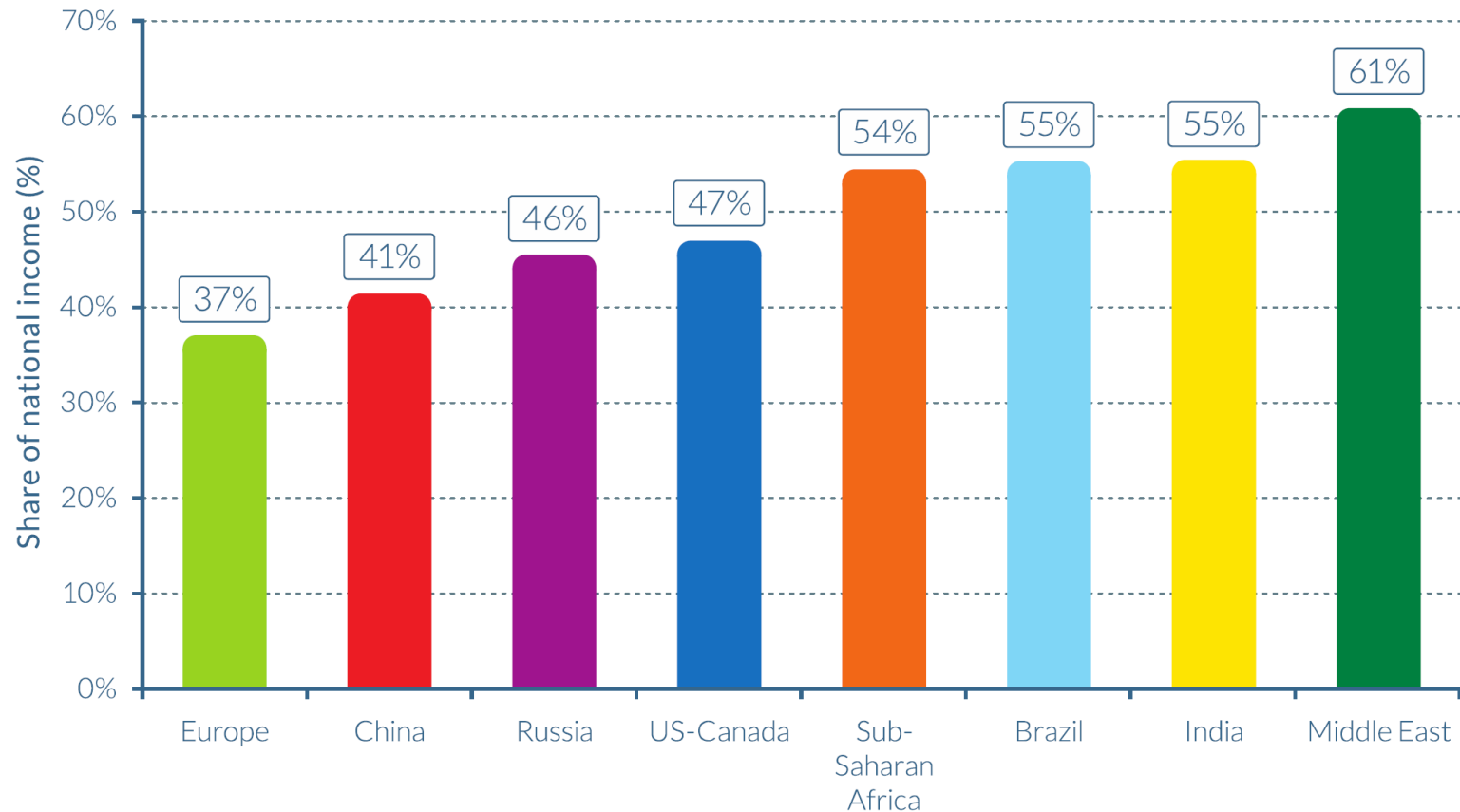


Gender inequality in the US: men still make 85% of top 1% earners

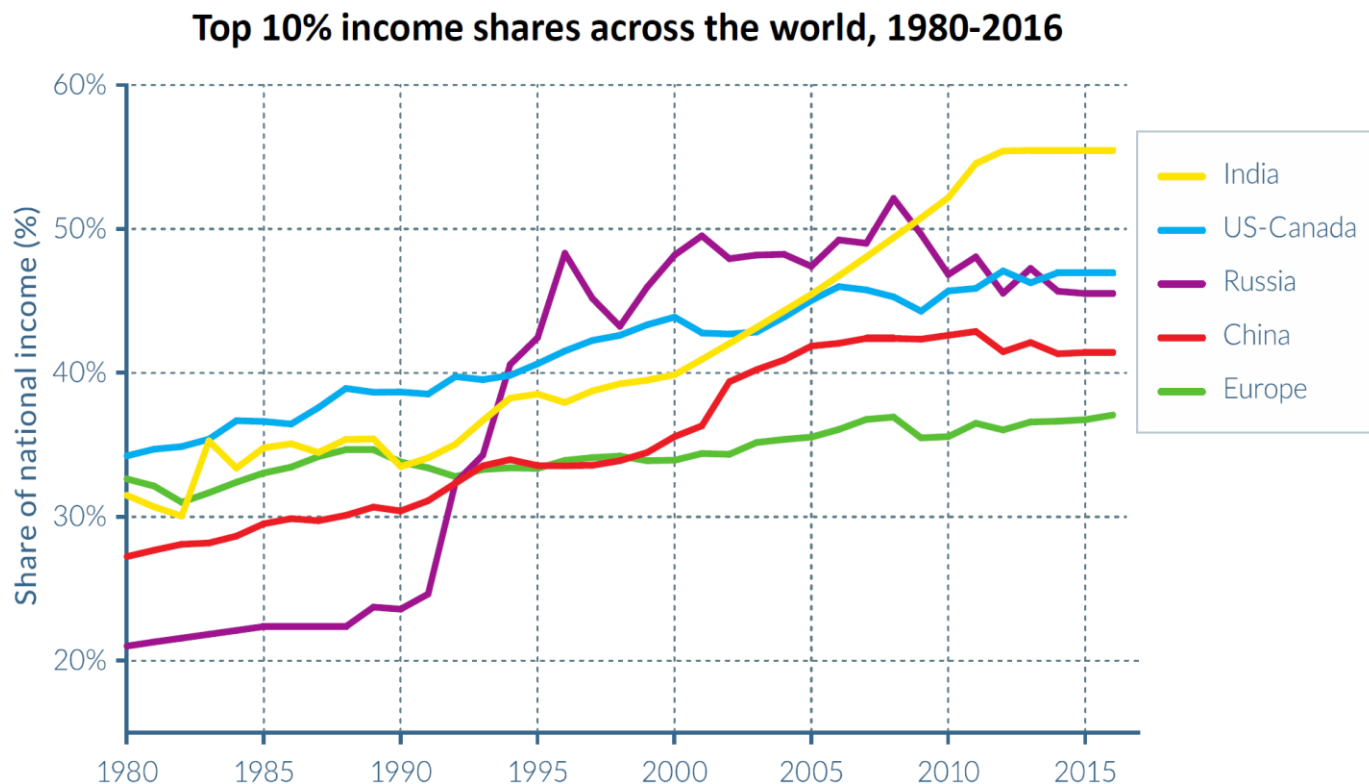


Income inequality varies widely across world regions

Top 10% national income share across the world, 2016



Is the world moving toward the high-inequality frontier?



Source: World Inequality Report 2018, Figure 2.1.1. See wir2018.wid.world for data sources and notes.

- Globalization came with specific institutions and policies: **financial deregulation** and **end of progressive taxation**

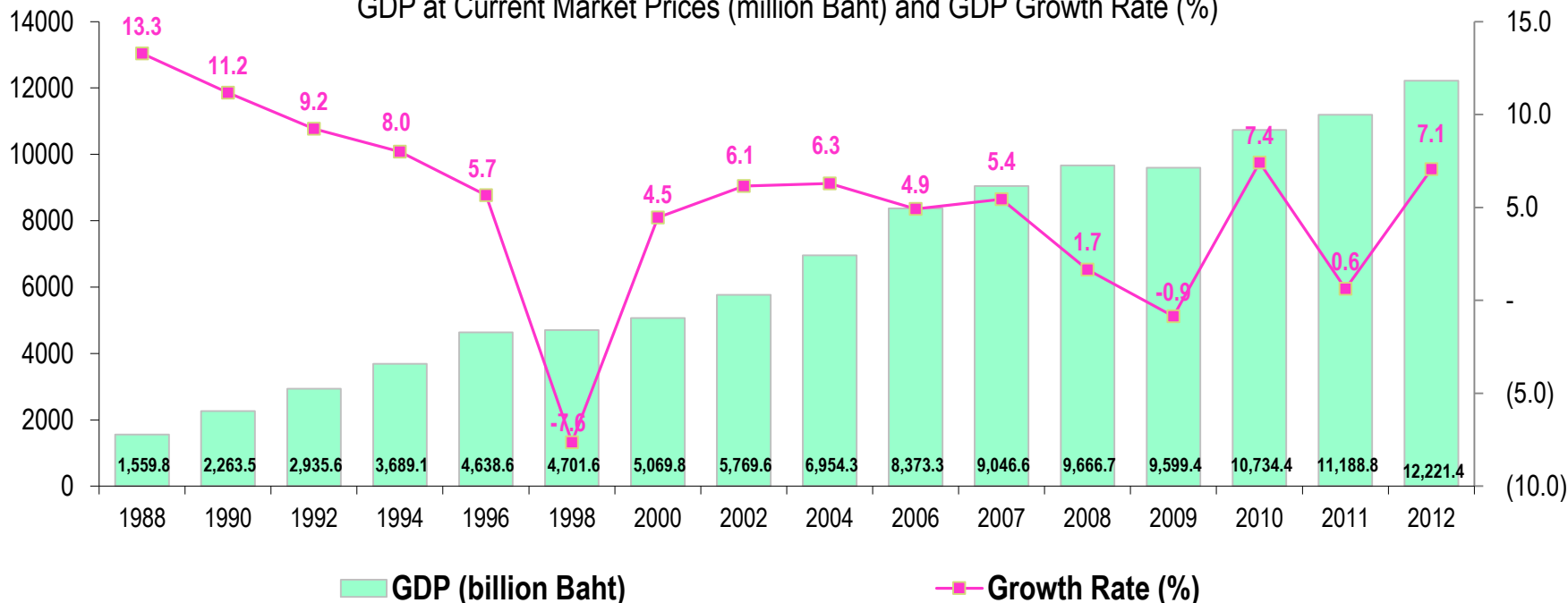
Section VI

Growth and Inequality: the Evidence of Thailand

Overview of poverty and development in Thailand

Over the past 3 decades, Thailand has experienced remarkable rise in income

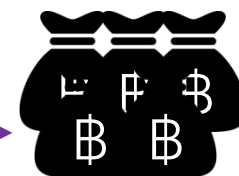
GDP at Current Market Prices (million Baht) and GDP Growth Rate (%)



28,712 Baht

Per capita GDP

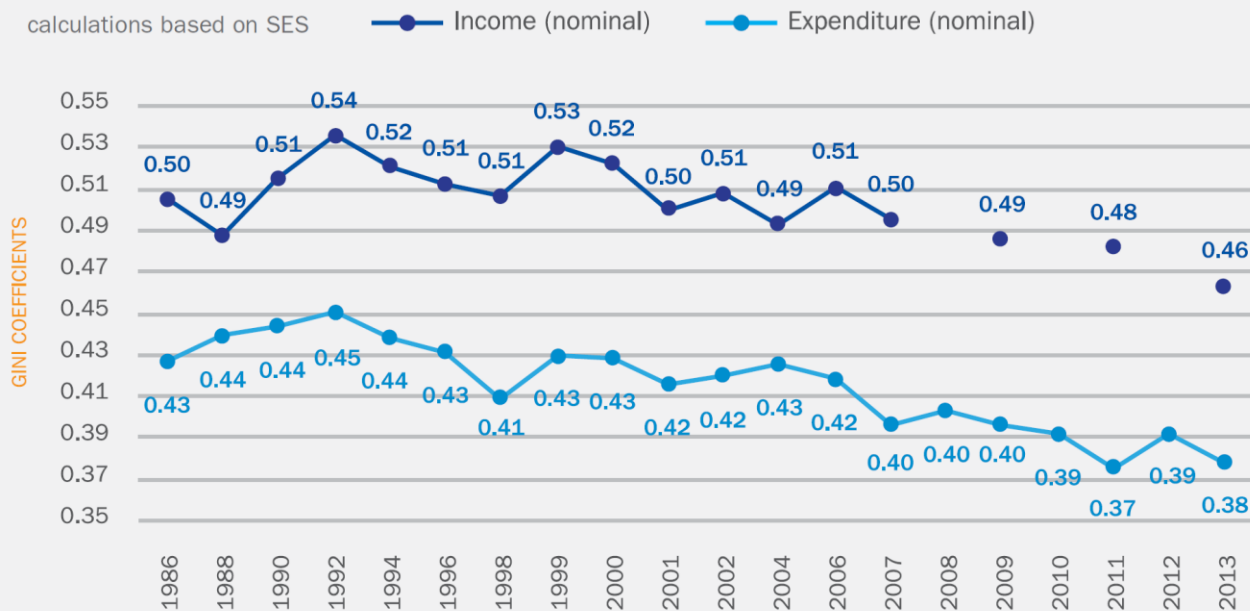
183,803 Baht



Source: National Income of Thailand by Office of the National Economic and Social Development Board, NESDB

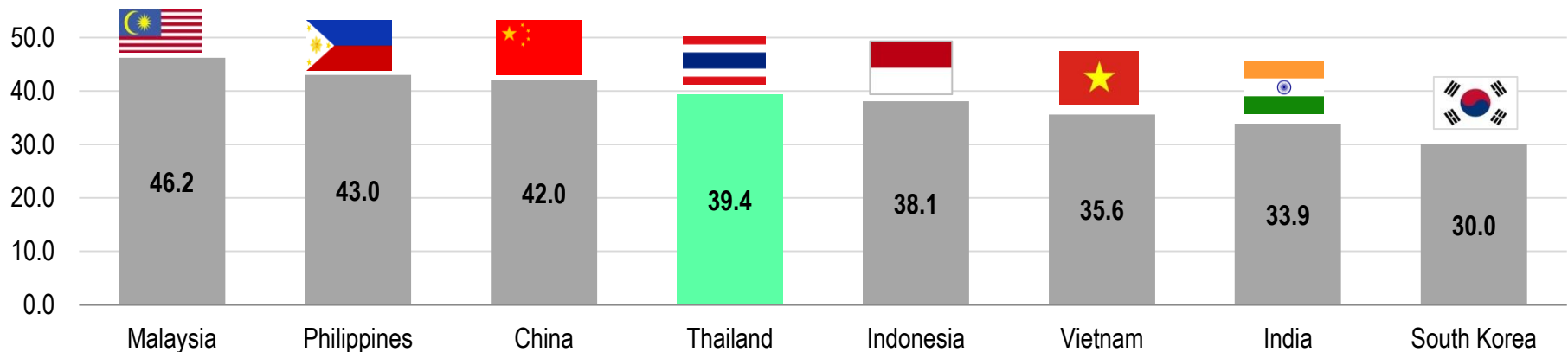
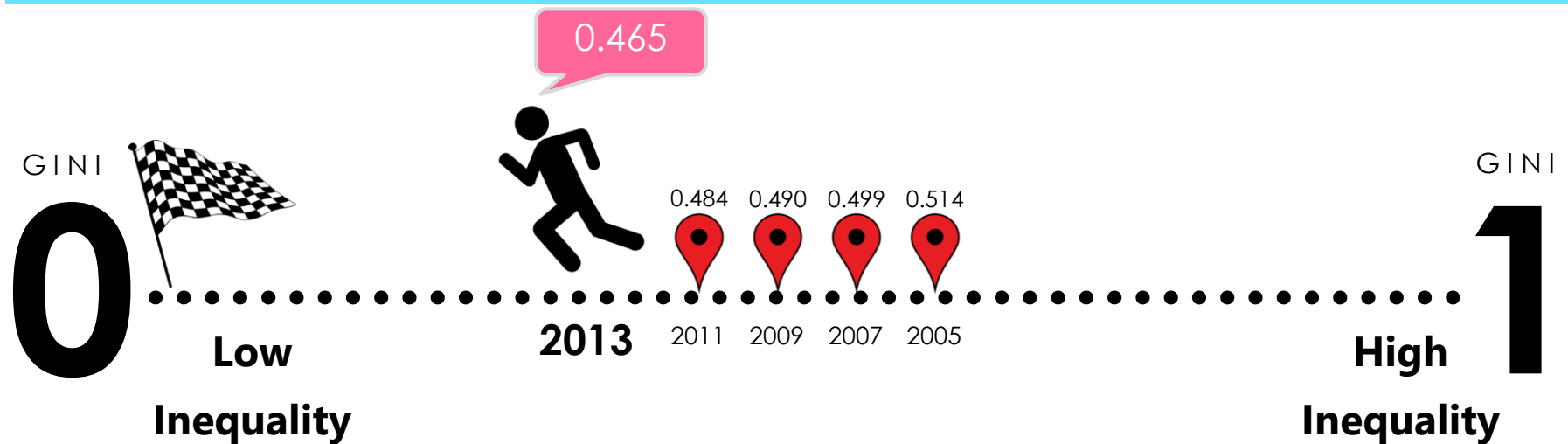
Thai's Gini Improved

FIGURE 28 : Gini coefficients have been on a downward trend in Thailand (1986-2013)



- ▶ The Gini coefficient for Thailand has been on a downward trend, falling from 0.43 in 1986 to 0.38 in 2013 for real per capita household expenditure and from 0.50 to 0.46 for real per capita household income.
- ▶ In fact, inequality has fallen as the bottom 40 percent of the population has witnessed higher growth compared with the average population.

Benefit of the growth has not been distributed evenly



Source: Socio-economic Survey (SES) by National Statistical Office, compiled by NESDB / World Development Indicator 2013, World Bank

Bangkok has lowest poverty and highest inequality

1988

#3 North
GINI = 0.439

#2 Northeast
GINI = 0.454

#4 Central
GINI = 0.435

#5 BKK.
GINI = 0.388

GINI (avg.) = 0.487

#1 South
GINI = 0.463

1998

#2 North
GINI = 0.462

#3 Northeast
GINI = 0.460

#4 Central
GINI = 0.443

#5 BKK
GINI = 0.415

GINI (avg.) = 0.507

#1 South
GINI = 0.491

2013

#4 North
GINI = 0.433

#3 Northeast
GINI = 0.442

#5 Central
GINI = 0.397

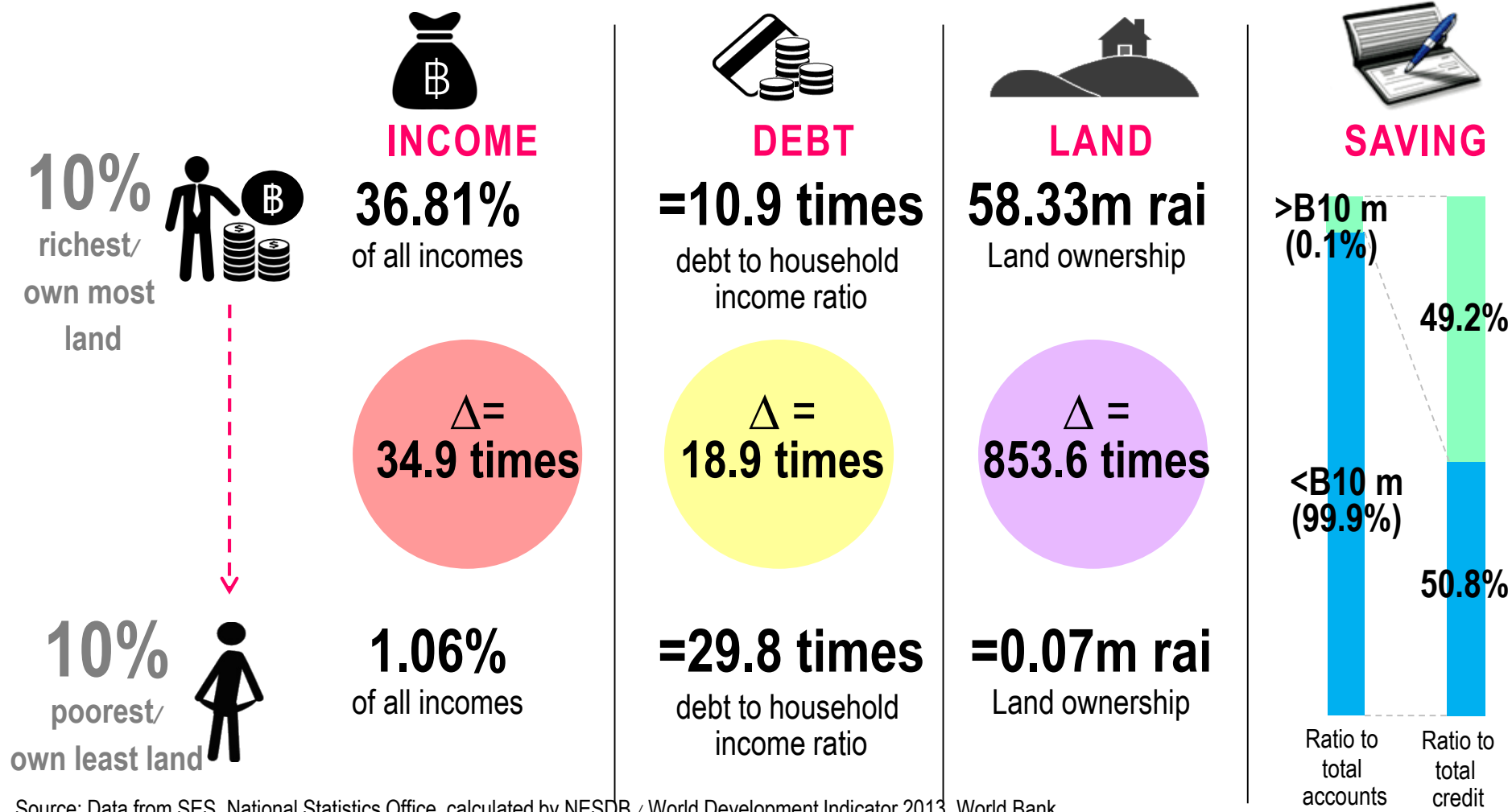
#1 BKK
GINI = 0.451

GINI (avg.) = 0.465

#2 South
GINI = 0.443

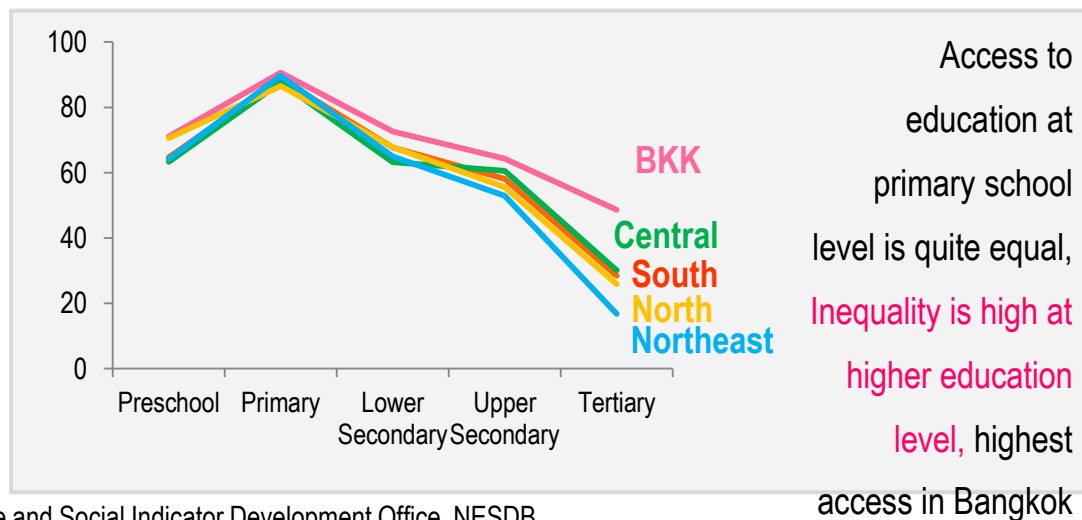
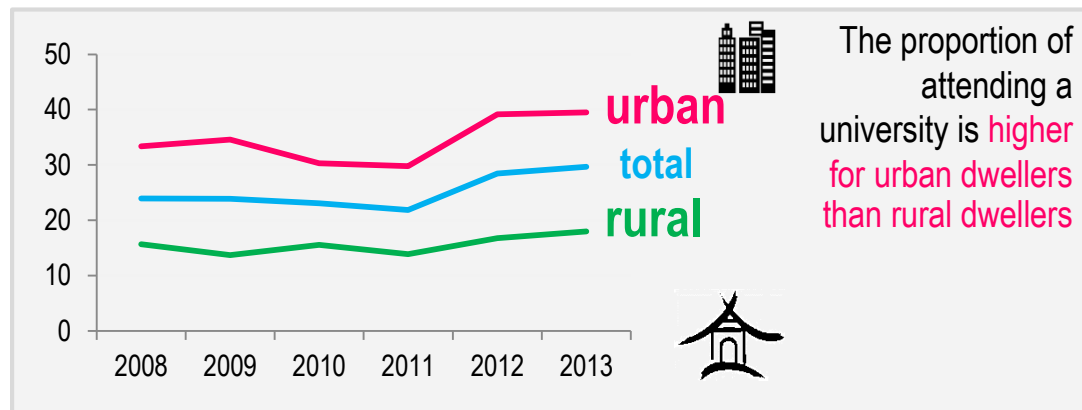
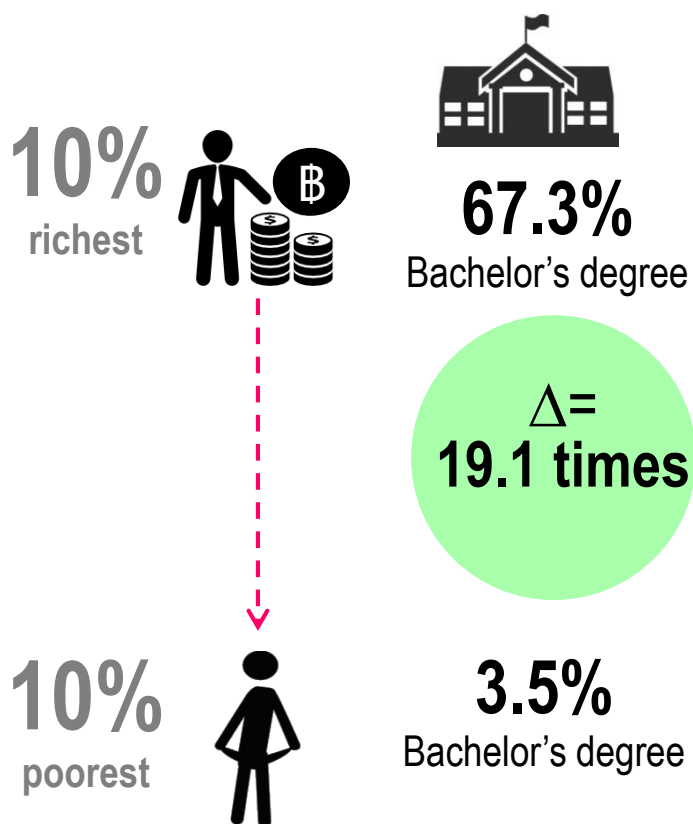
Source: Socio-economic Survey (SES) by National Statistical Office, compiled by Office of the National Economic and Social Development Board, NESDB

Inequality in economic dimension is apparently large



Inequality in social dimension – Education

The rich has higher access to university than the poor, and so do those in urban than those in rural area.



Source: Data from SES, National Statistics Office, calculated by Database and Social Indicator Development Office, NESDB

Inequality in social dimension – Public Health

- **Medical staff are concentrated in Bangkok.**
- **Informal workers do not have social security.**

Ratio of 1 medical staff to total population by region in 2012

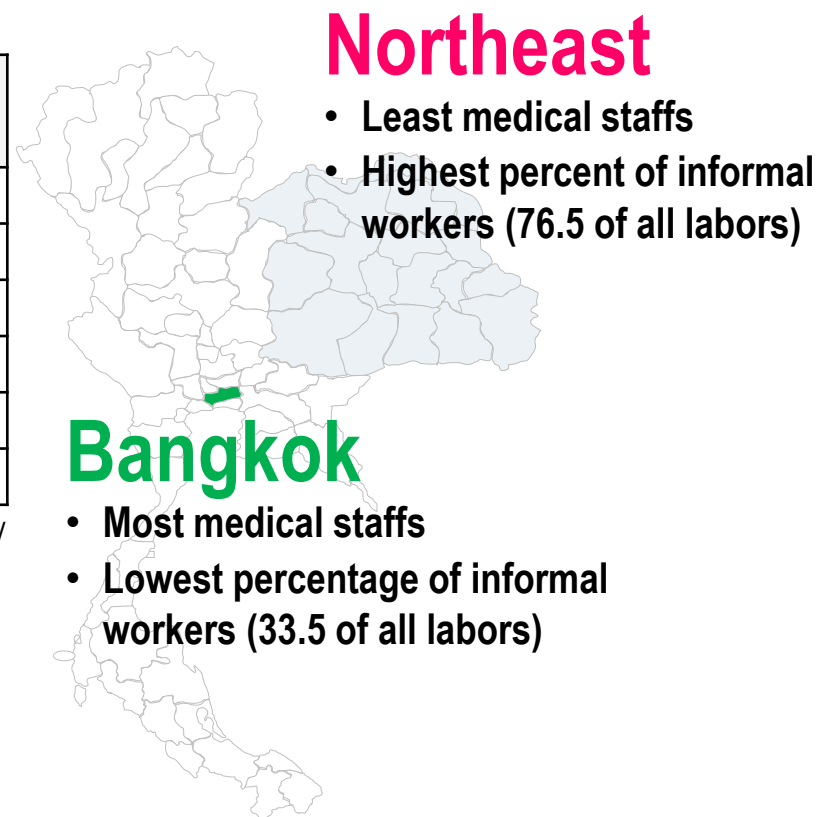
Region	Doctor	Dentist	Pharmacist	Registered Nurse	Technical Nurse
Whole Kingdom	2,533	11,233	6,465	495	15,430
Bangkok	886	6,477	3,206	239	18,789
Central (exc. Bangkok)	2,339	10,268	5,437	453	11,256
Northeast	4,176	16,055	10,165	761	25,521
North	2,968	10,889	6,781	502	14,056
South	3,104	10,708	6,764	485	12,151

Source : Statistics report of public health, 2012, Policy and Strategy Office, Public Health Ministry

Ratio of formal and informal workers in labor force 2005 – 2013

Year	2005	2007	2009	2011	2013
Formal sector	37.9	37.3	36.6	37.4	35.8
Informal sector	62.1	62.7	63.4	62.6	64.2

Source : Survey of Illegal Workers, National Statistics Office

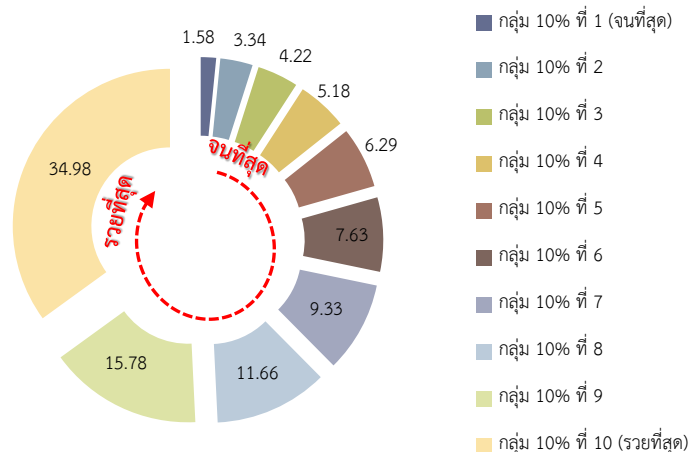


Recent inequality situation in 2015

In 2015, the incomes of the richest decile were still more than 22 times those of the poorest

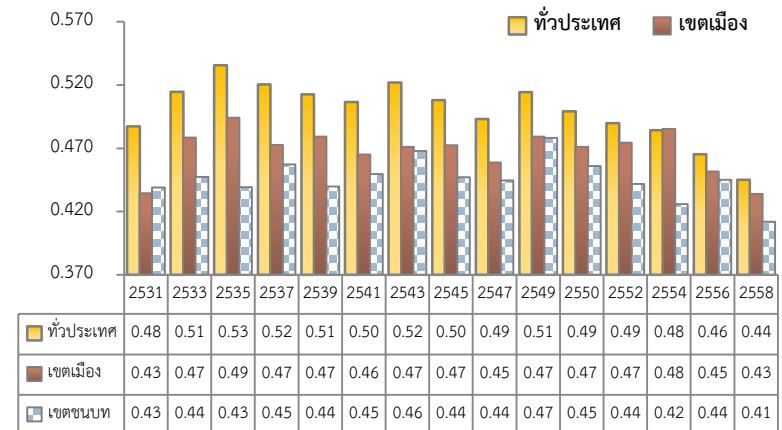
- **Income inequality slightly improved**, the Gini coefficient in 2015 was 0.445, comparing with 0.46 in 2013
- **The richest 10% shared more than one-third, 34.98% of total national income.** Whereas, the poorest 10% only hold 1.58 percent of total income.

สัดส่วนรายได้ของประชากร จำแนกตามกลุ่มประชากร ตามระดับรายได้ ปี 2558



ที่มา : SES

ค่าสัมประสิทธิ์ความไม่เสมอภาค (Gini coefficient) ด้านรายได้ : ทั่วประเทศ เขตเมือง-เขตชนบท



Negative relation between income inequality and economic growth

- ▶ Empirical analysis supports the negative effect of income inequality on economic growth.
- ▶ Barro (2000) lists three theories pertaining to how *inequality can negatively affect economic growth*.
 - ▶ imperfect capital markets, **people may not invest as much**
 - ▶ higher inequality leads to greater pressure for redistribution, which is likely to **distort economic decisions and investment**
 - ▶ higher degree of income inequality tends to **increase incentives for political unrest and instability**

Reduction in income inequality: a Policy Perspective

Pathways to reduce inequality are many from;

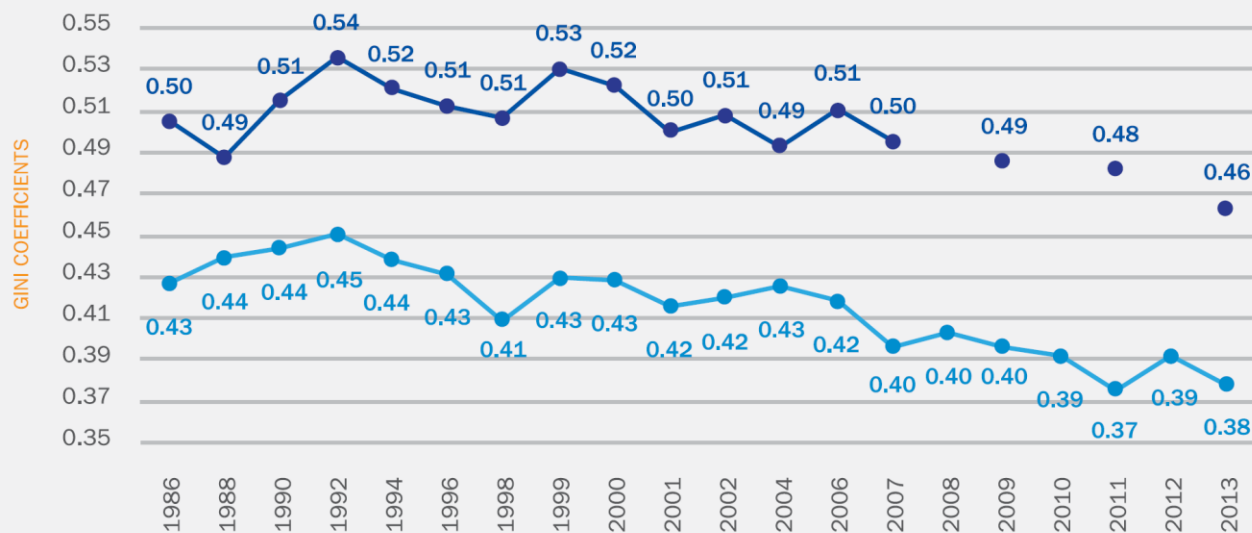
- ▶ **Narrowing gaps in income generation opportunities** to reducing the potential for *inequalities in human capital development* to emerge;
 - ▶ Improving preschool quality
 - ▶ Parenting skill development
 - ▶ Prolonged, exclusive breastfeeding
 - ▶ Shifting the focus from rising enrollments to achieving education for all
- ▶ **Smoothing consumption among the most deprived, especially during shocks;**
 - ▶ Universal health care
 - ▶ Conditional Cash Transfer
 - ▶ Financial inclusion
- ▶ **Redistributing in favor of the poor.**
 - ▶ Taxation

Section VII

Growth and Inequality of Thailand in Economic Literature

The evolution of Thai Gini Coefficient

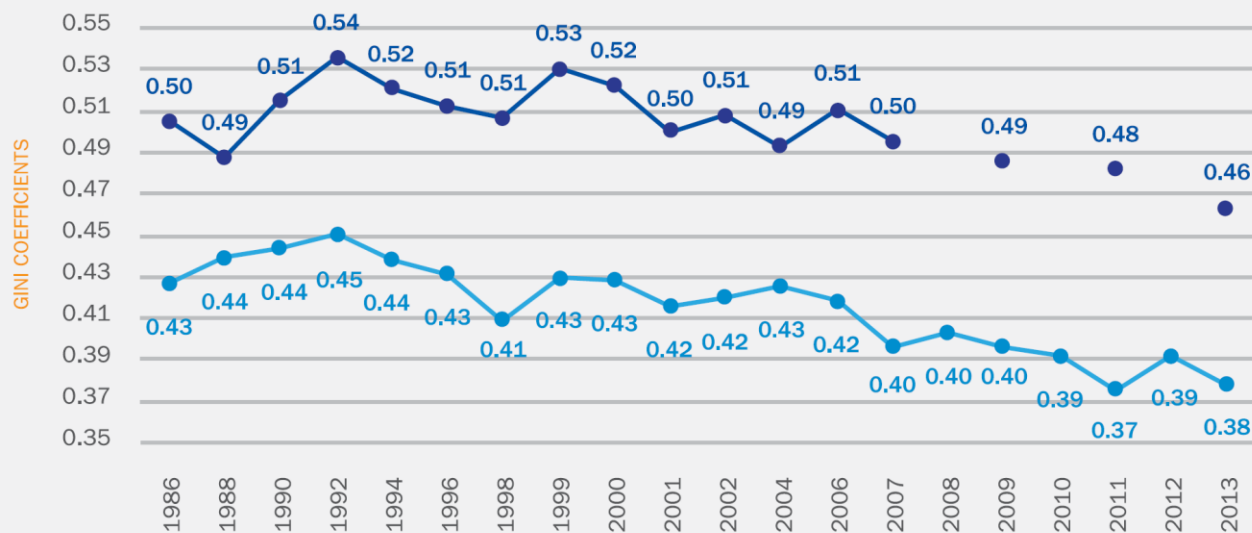
FIGURE 28 : Gini coefficients have been on a downward trend in Thailand (1986-2013)



- ▶ Despite impressive growth performances during the 1980s to 2000s, income inequality in Thailand has hardly changed.
- ▶ The Gini coefficient in 2013 was 0.46. This figure is not much different from the one previously observed in 1988, which equaled 0.487.
- ▶ After two decades of economic progress, Thailand's income inequality still lagged behind the levels in more advanced economies, such as the OECD group.

The evolution of Thai Gini Coefficient

FIGURE 28 : Gini coefficients have been on a downward trend in Thailand (1986-2013)



- ▶ As the Thai economy took off on a rapid growth path in the late 1980s, its **income inequality rose**.
- ▶ The **inequality peaked** during the *high growth period of 1988-1992*, when the Gini reached a value of 0.536, before it **subsequently fell** toward the current level.

The evolvement of Thai Gini Coefficient

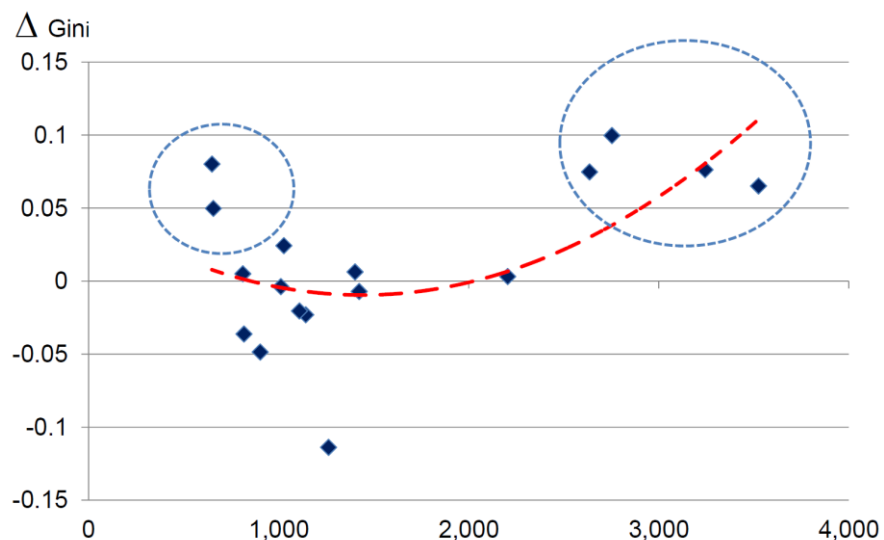
- ▶ Ikemoto and Uehara (2000) explained that higher inequality during the 1980s was due to the **emergence of export-oriented manufacturing industries** supported by the influx of *foreign direct investment*. Those capital inflows were attracted by **low-cost labor** in Thailand. As a result, labor was *mobilized* from the low-earning agricultural sector to the *better-paid manufacturing sector*.
- ▶ Initially, this **structural change** caused **more income disparity** as the process envisioned by the *Kuznets hypothesis* that manufacturing sector absorbed more and more labor.

The evolvement of Thai Gini Coefficient

- ▶ *In the early 1990s, Ikemoto and Uehara (2000) argued that the reason we did not observe a decline in inequality was due to the series of **financial liberalization** measures introduced in the early 1990s.*
- ▶ Such changes triggered **a boom in the construction and financial sectors** and pushed even **higher the wage rates of skilled laborers**. The bubble phase led to the economic crisis in 1997, *income inequality became more severe.*
- ▶ The **economic crisis in 1997** brought about the *declining trend in the Gini coefficient.*

The evolution of Thai Gini Coefficient

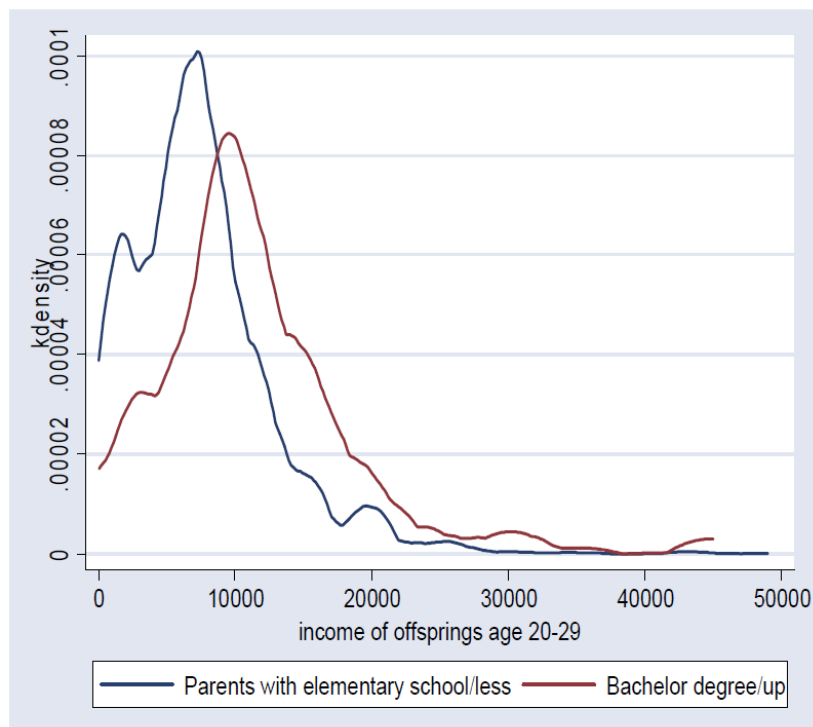
“Significant change in Gini found on the bottom and top of the pyramid”



Note: positive change in Gini implies worsened inequality

- ▶ Pootrakul (2013) showed that Thailand has **successfully reduced income inequality** in the past two decades.
- ▶ However, the **income disparity between the top 10 percent and the bottom 10 percent** was **much higher** than in advanced countries.
- ▶ The top 10 percent group had income *more than 25 times greater* than the bottom 10 percent.

The evolution of Thai Gini Coefficient



“Within-country divergence”

- ▶ **Lack of social mobility** for the poor households as their *income could not grow faster enough to catch up with the rich.*
- ▶ *Low-income families, whose parents had lower levels of education, are likely to* **pass inheriting poverty from one generation to the next generation.**

The evolvement of Thai Gini Coefficient

- ▶ Kilenthong (2014) used various proxies of **wealth accumulation and economic progress** in Thailand; (i) car and pick-up truck ownership, (ii) mobile phone ownership, and (iii) bank branch location.
- ▶ Over the years, a larger proportion of the Thai population owns either a car or pick-up truck, possesses a mobile phone and has **better access to financial services**. This evidence coincides with the *declining Gini indices*.

The evolvement of Thai Gini Coefficient

- ▶ Vanitcharearnthum (2017) made use of the **tax returns data** in estimating the share of the top income group and incorporating this group into the calculation of an alternative Gini coefficient during 2004-2009 to calculate corrected Gini.

Is Thailand moving toward the high-inequality frontier?

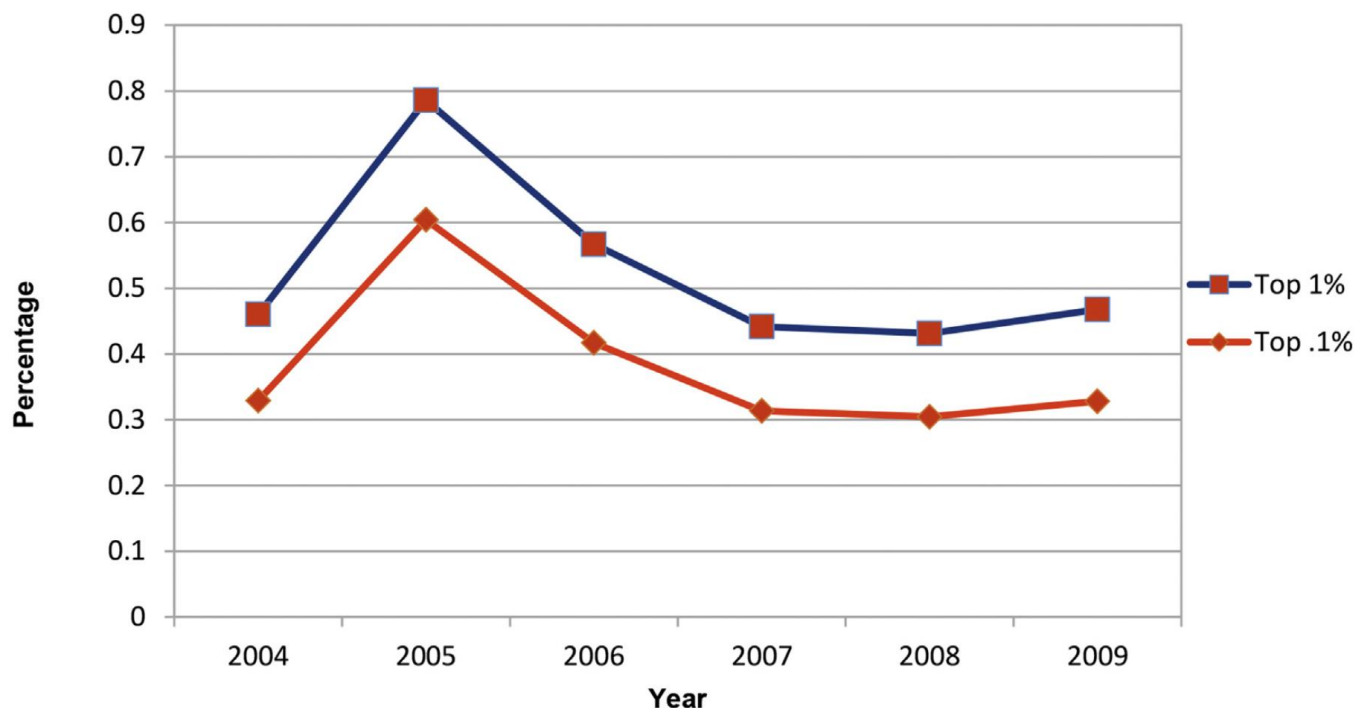


Figure 2 Top 1 percent and 0.1 percent income shares: 2004–2009

Vanitcharearnthum (2017) found a **greater degree of income inequality in 2009** that overturned the prediction of the Kuznets hypothesis that foresaw an improved income distribution in Thailand to continue in 2007 and 2009.

End of Lecture