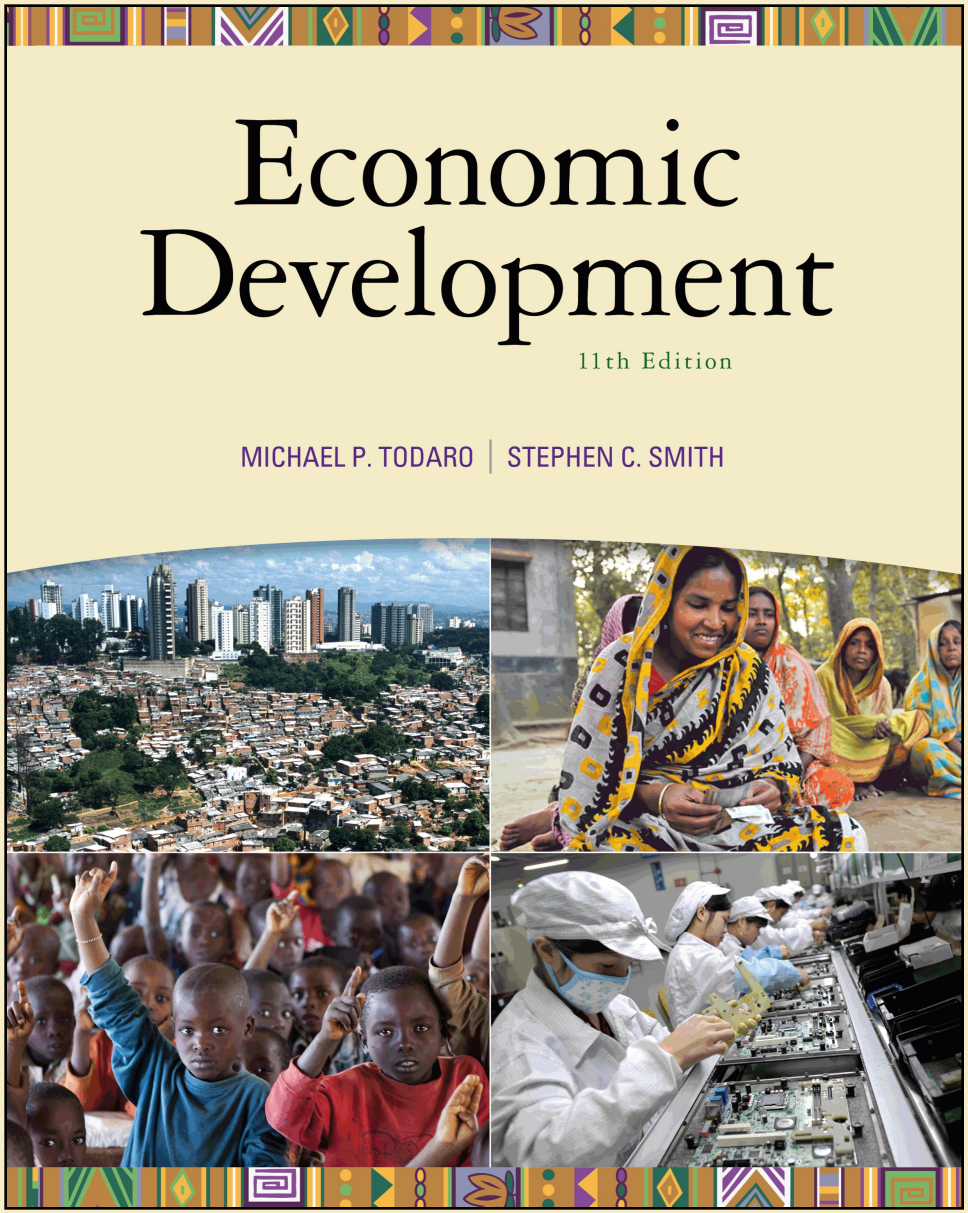
Chapter 5

Poverty, Inequality, and Development



Addison-Wesley
is an imprint of
PEARSON

Absolute Poverty in Third World Countries

- Some concepts
  - Extreme poverty line: $1 a day in 1985 PPPs
  - Reset to $1.08 with 1993 PPPs
  - In 2008, reset to $1.25 with 2005 PPPs
  - In 2015, reset to $1.90 with 2011 PPPs（equivalent of $1.00 a day in 1996 US prices）
  - In September 2022, update to be $2.15 with 2017 PPPs

Absolute Poverty in Third World Countries

- Some statistics
  - In the past, majority of world population lived in conditions of extreme poverty.
  - The percentage fell from over 80% in 1800 to under 20% by 2015.
  - According to UN estimates, in 2015 roughly 734 million people or 10% remained under those conditions.
  - COVID-19 drove an additional 97 million people into extreme poverty in 2020, according to World Bank estimates.

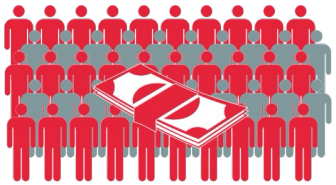
830 million people live below the International Extreme Poverty Line of $1.90 a day

End poverty in all its forms everywhere.

1.8 billion people live below a moderate poverty threshold of $2.50 a day

Average income

Top 1% of population **US$290** a day



Bottom 50% of population **US$7** a day

UNITED NATIONS UNCTAD

Source: https://stats.unctad.org/Dgff2016/people/goal1/index.html

Absolute Poverty In China

- In 1986, China set the national poverty alleviation standard for the first time, which was 206 yuan per capita per year net rural income.
- By 2000, the current rate was 625 yuan. It was raised to 865 yuan in 2001 and stands at 1,274 yuan in 2010.
- By 2015, the standard price is 2,855 yuan. That is $2.20 a day PPP.
- Provinces can set local poverty alleviation standards higher than this level. 12 provinces and cities have generally around 4,000 yuan, the high to 6,000 yuan or more.

Rural Poverty Situation in China

按现行农村贫困标准衡量的农村贫困状况

年份	Poverty Line（Yuan/Year） 当年价贫困标准（元/年□人）	Poverty Rate 贫困发生率（%）	Poverty Pop 贫困人口规模（万人）
1978	366	97.5	77039
1980	403	96.2	76542
1985	482	78.3	66101
1990	807	73.5	65849
1995	1511	60.5	55463
2000	1528	49.8	46224
2005	1742	30.2	28662
2010	2300	17.2	16567
2011	2536	12.7	12238
2012	2625	10.2	9899
2013	2736	8.5	8249
2014	2800	7.2	7017
2015	2855	5.7	5575
2016	2952	4.5	4335
2017	2952	3.1	3046

Poverty Distribution in China

贫困人口分布状况				
	Poverty POP2017年年底	Poverty Rate	Poverty POP 2018年年底	Poverty Rate
地区	贫困人口（万人）	贫困发生率（%）	贫困人口（万人）	贫困发生率（%）
全国	3046	3.1	1660	1.7
贵州	280.32	7.75	132.32	4.3
云南	279	5.8	128.64（预计）	/
河南	277	3.4	104.3	1.21
广西	267	5.7	152（预计）	/
湖南	200	3.86	69	1.5
甘肃	188.6	9.7	111	5.6
四川	171	2.7	67	1.1
陕西	169	6.3	64.5	3.2
安徽	120.2	2.2	/	/
河北	120.2	1.86	55.2	0.78
制图：西部城事				

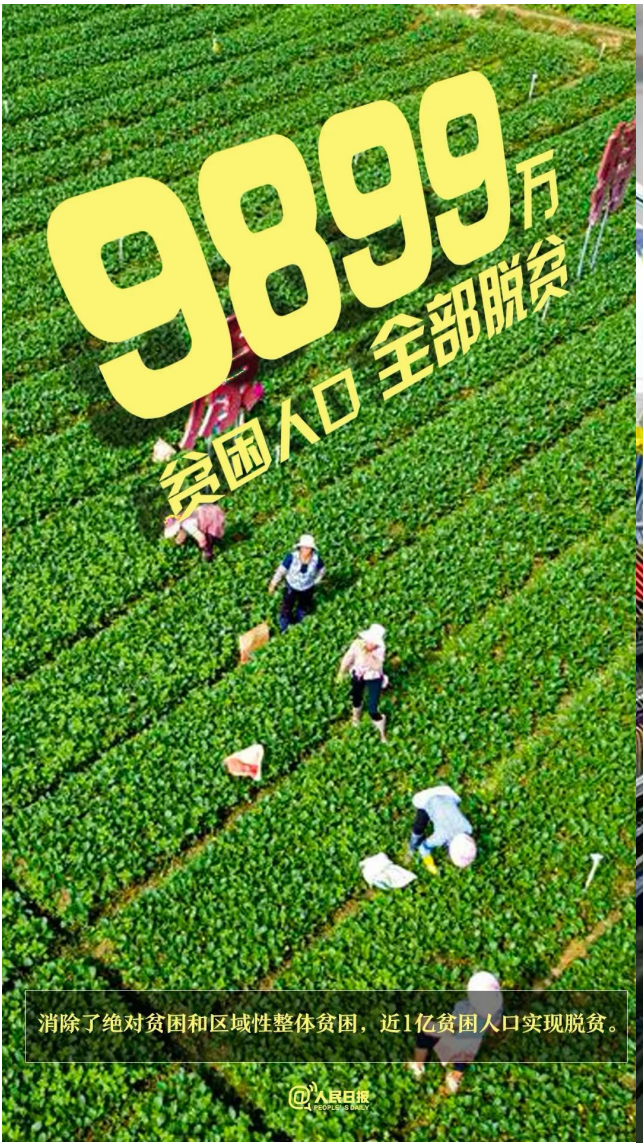
Overall
Guizhou
Yunan
Henan
Guangxi
Hunan
Gansu
Sichuan
Shannxi
Anhui
Hebei

Note: The measure of whether a village has been lifted out of poverty is whether the incidence of poverty is less than 3%.

China's War On Poverty

- On February 25, 2021, China announced a comprehensive victory in the battle against poverty.

- Over the past eight years, nearly 100 million people have been lifted out of poverty, and all 832 poverty-stricken counties have been lifted out of poverty.



- In 2018, the World Bank's wrote:

"Despite significant poverty reduction gains, China still ranks fourth in the world in terms of the number of poor people, due to its huge population size, behind only India, Nigeria and the Democratic Republic of the Congo."

- In 2020, the World Bank updated its China website,

"Today's China is an upper middle-income country and the world's second largest economy. But China's per capita income is only about a quarter of the average in high-income countries, and about 373 million Chinese still live below the upper middle-income poverty line of $5.50 a day."

China still faces a long and arduous journey to fight with poverty.

Distribution and Development: Seven Critical Questions

- What is the extent of relative inequality, and how is this related to the extent of poverty?
- Who are the poor?
- Who benefits from economic growth?
- Does rapid growth necessarily cause greater income inequality?
- Do the poor benefit from growth?
- Are high levels of inequality always bad?
- What policies can reduce poverty?

5.1 Measuring Inequality and Poverty

- Measuring Inequality
  - Size distributions (quintiles 五分之一, deciles 十分之一)
  - Lorenz curves 洛伦兹曲线
  - Gini coefficients 基尼系数 and aggregate measures of inequality
  - Functional distributions

size distribution

- Some statistical terminology
  - Deciles: 10% (divided into 10 parts equally)
  - First decile is the first 10%, the second decile is the second 10%…
- Other commonly used divisions
  - Quintiles: 20%
  - Quantiles: 25%
- Size distributions of a typical developing country

Table 5.1 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 4分	Deciles 2分
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

$r_k = \frac{51}{5+9}$

- In Table 5.1, 20 individuals are arranged in order of ascending annual personal income, ranging from the individual with the lowest income (0.8 units) to the one with the highest (15.0 units).
- A common measure of income inequality, **the Kuznets ratio**, is the ratio of the incomes received by the top 20% and bottom 40%.
- In the example, this inequality ratio is equal to 51 divided by 14, or approximately 3.64.

Some Basic Concepts

- Lorenz curves: the curve describing the cumulative percentages of incomes of the population, from the poorest to the richest
- The curve is easier to understand than the above definition

Draw a Lorenz curve using decile data of Table 5.1

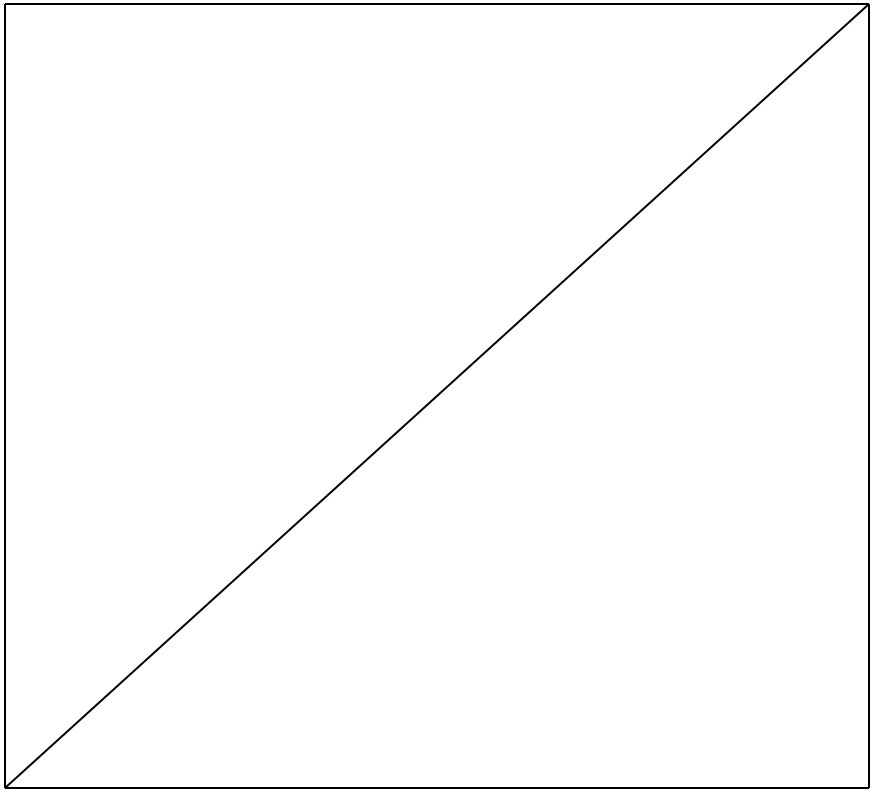


Figure 5.1 The Lorenz Curve

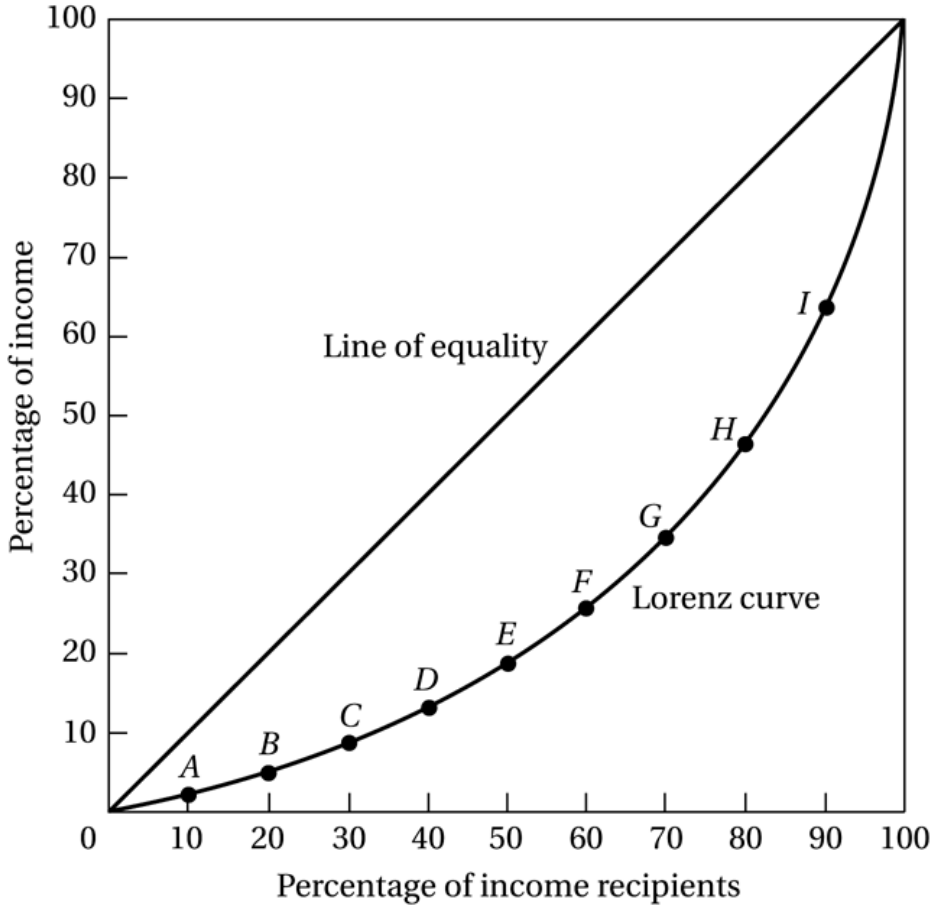
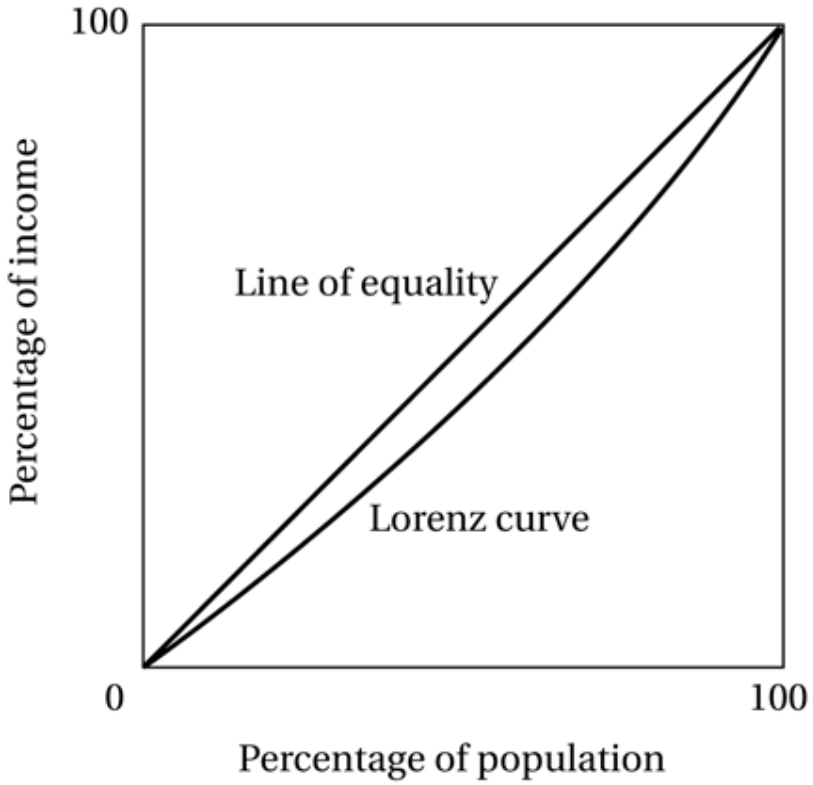
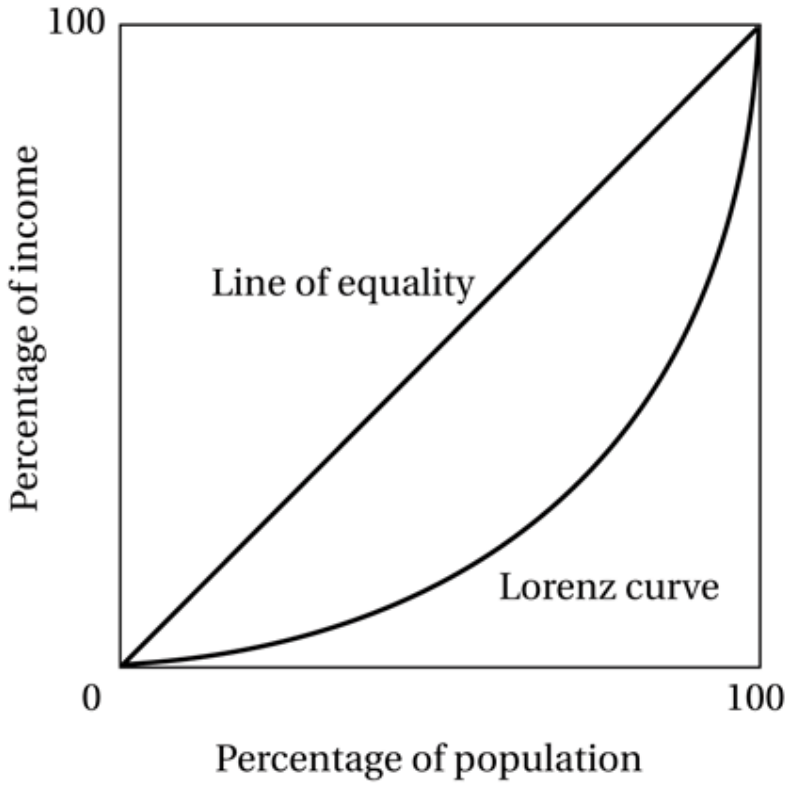


Figure 5.2 The Greater the Curvature of the Lorenz Line, the Greater the Relative Degree of Inequality



(a) A relatively equal distribution

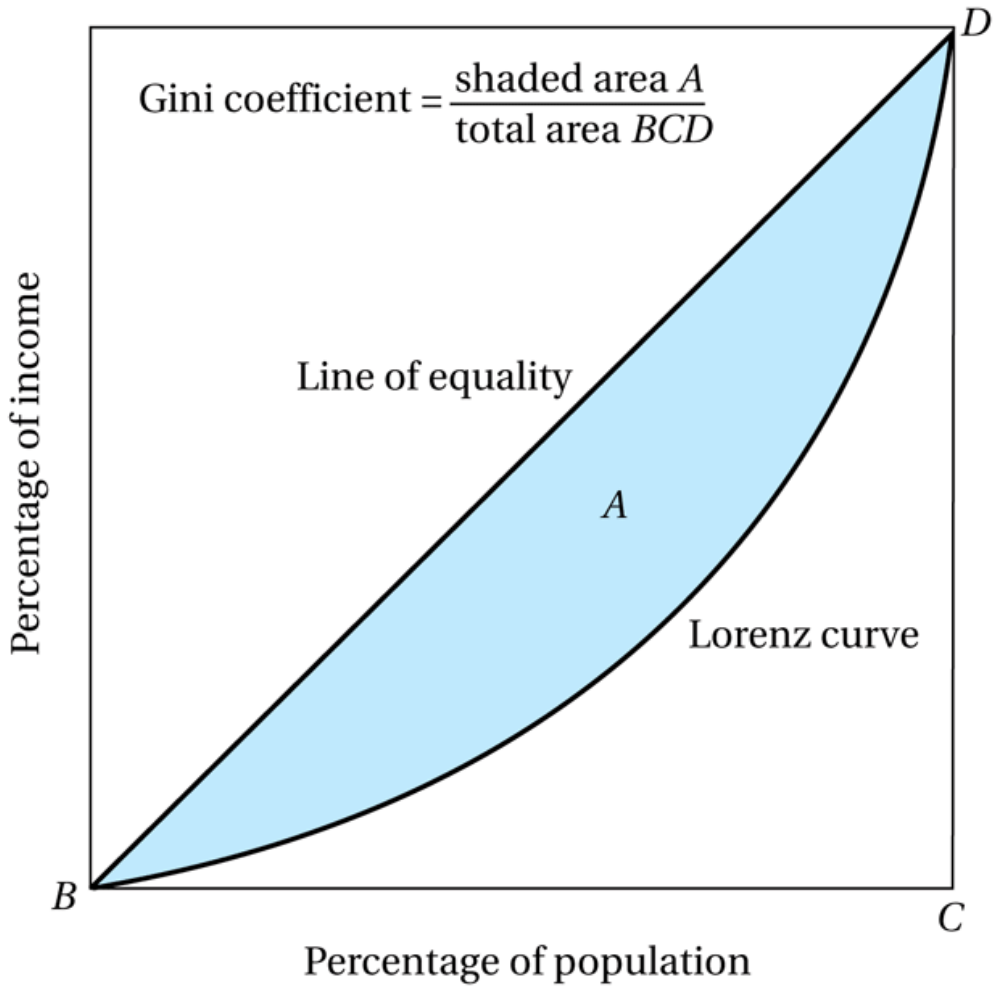


(b) A relatively unequal distribution

Some Basic Concepts

- Gini coefficients
  - Most popular measure of inequality
  - Larger coefficient means more inequality
  - From 0 (perfect equality) to 1 (perfect inequality)
- Definition: see graph

Figure 5.3 Estimating the Gini Coefficient



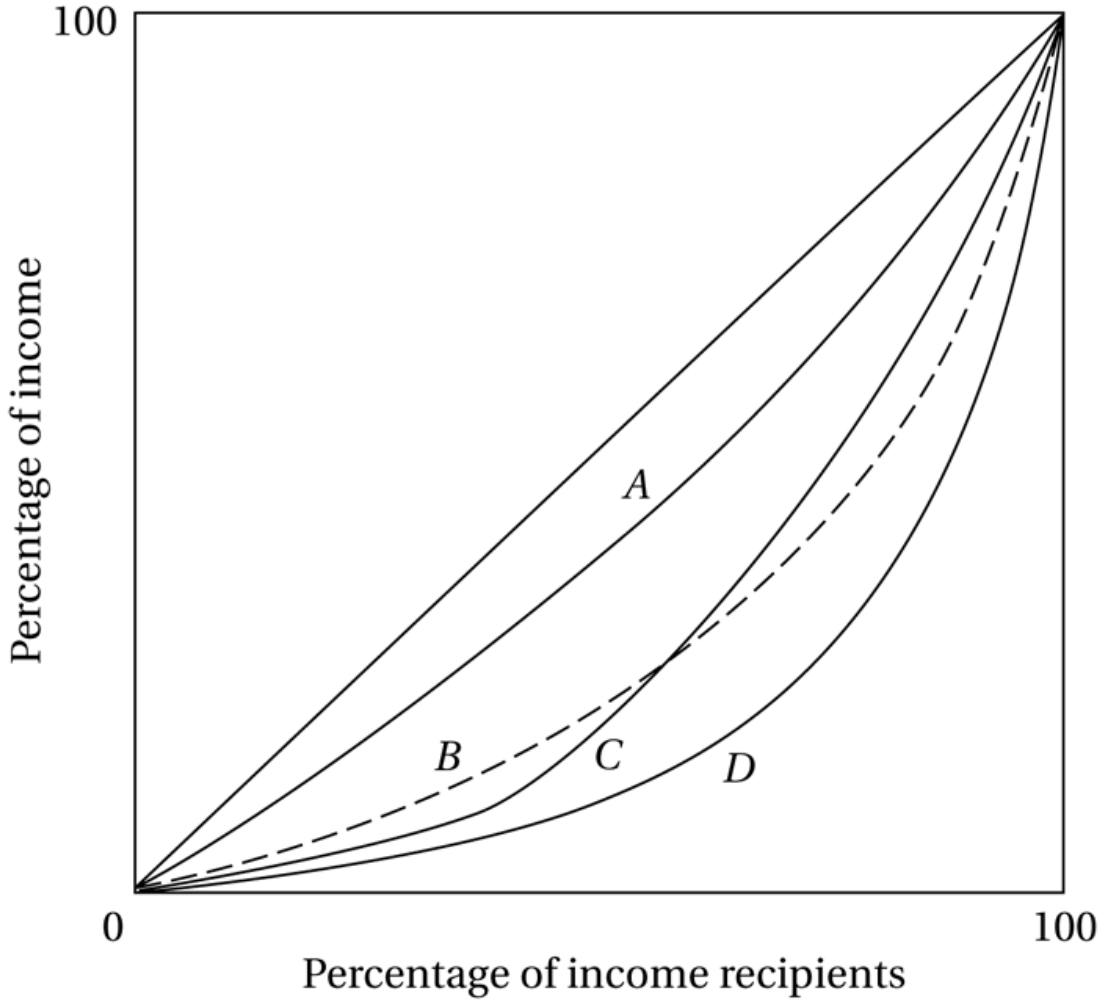
- Gini coefficient of the above example (quintile data of Table 5.1)

White area
=0.05*0.2*0.5 + (0.05+0.14)*0.2*0.5 + (0.14+0.27)*0.2*0.5 + (0.27+0.49)*0.2*0.5 + (0.49+1)*0.2*0.5
= [0.05+ (0.05+0.14) + (0.14+0.27) + (0.27+0.49) + (0.49+1)] *0.2*0.5
= [0.05*2+ 0.14*2 + 0.27*2 + 0.49*2+1] *0.2*0.5
= 0.29

Total area = 0.5

Gini =(0.5-0.29)/0.5=0.42

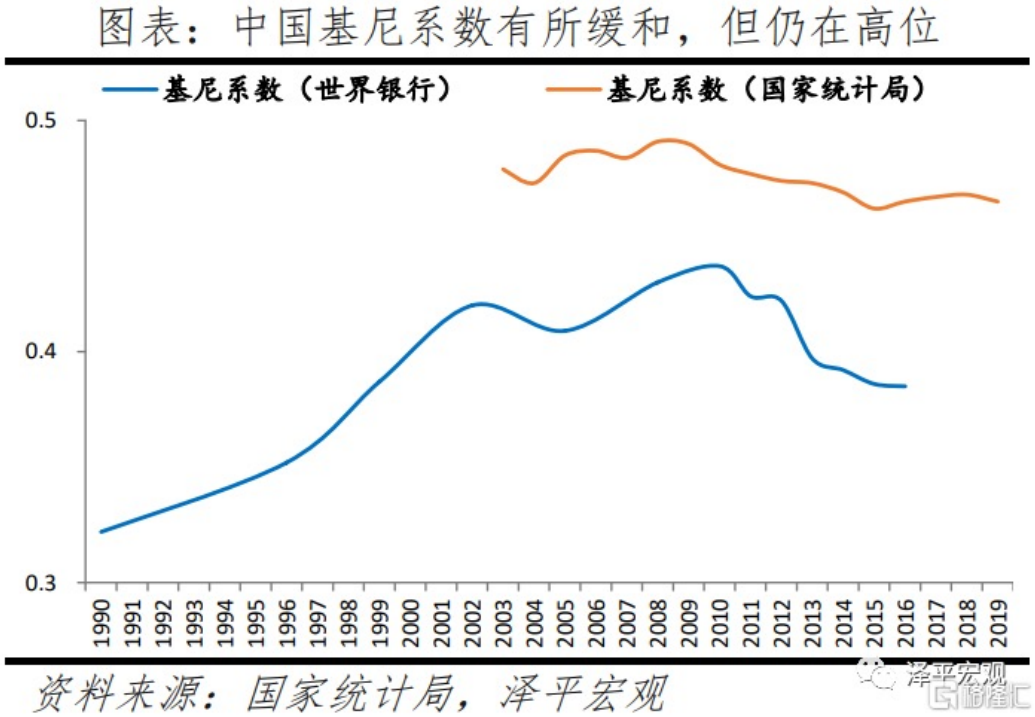
Figure 5.4 Four Possible Lorenz Curves



- Comparing countries A and D, which one is more equal?
  - Ambiguously, say A.
- How about B and C?
  - It depends.
  - If we argue on the grounds of the priority of addressing problems of poverty, curve B indicates a more equal economy since the poorest are richer.
  - If we assume an economy with a stronger middle class is inherently more equal, we will choose economy C.

Gini Coefficients in China

- Before 1978, lower than 0.2
- In 1987, 0.30
- In 2008, 0.491
- In 2012, 0.474
- In 2019, 0.465



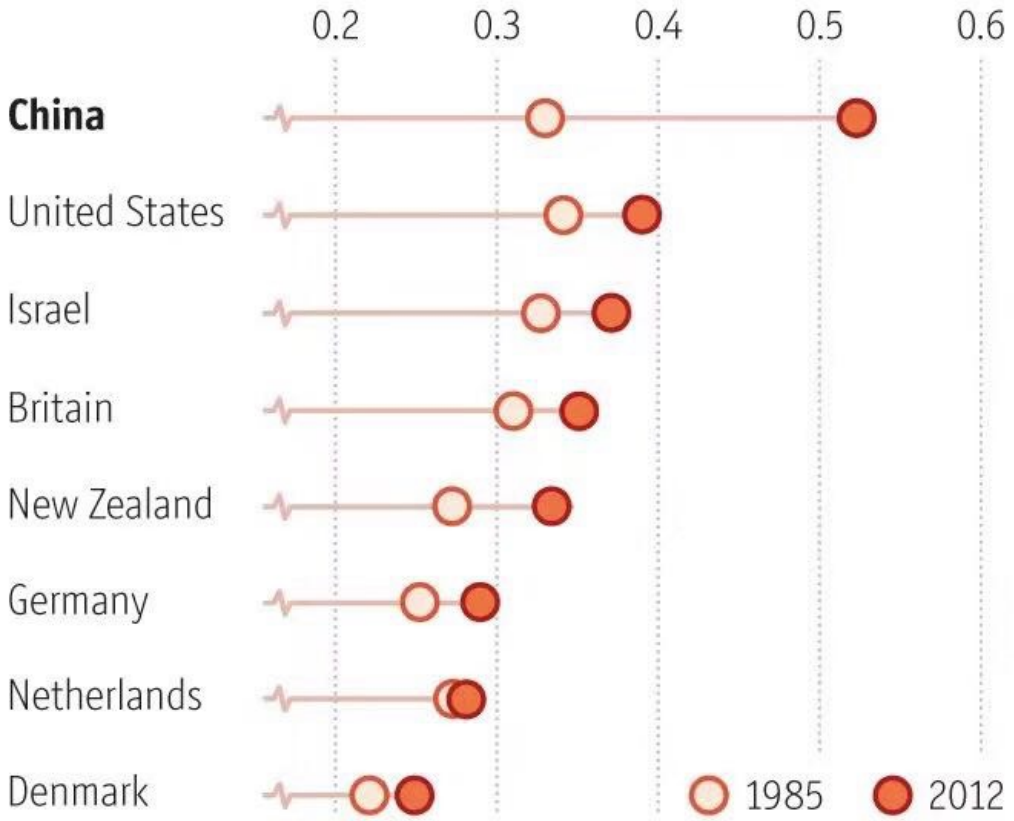
- The ratio of disposable income between high-income (top 20%) and low-income (bottom 20%) groups was 10.20 in 2020

The Economist

Today China is one of the most unequal societies on Earth

Gini coefficients,
0=perfect equality,
1=perfect inequality

Sources: GCIP; OECD



Reasons for Large Income Gap

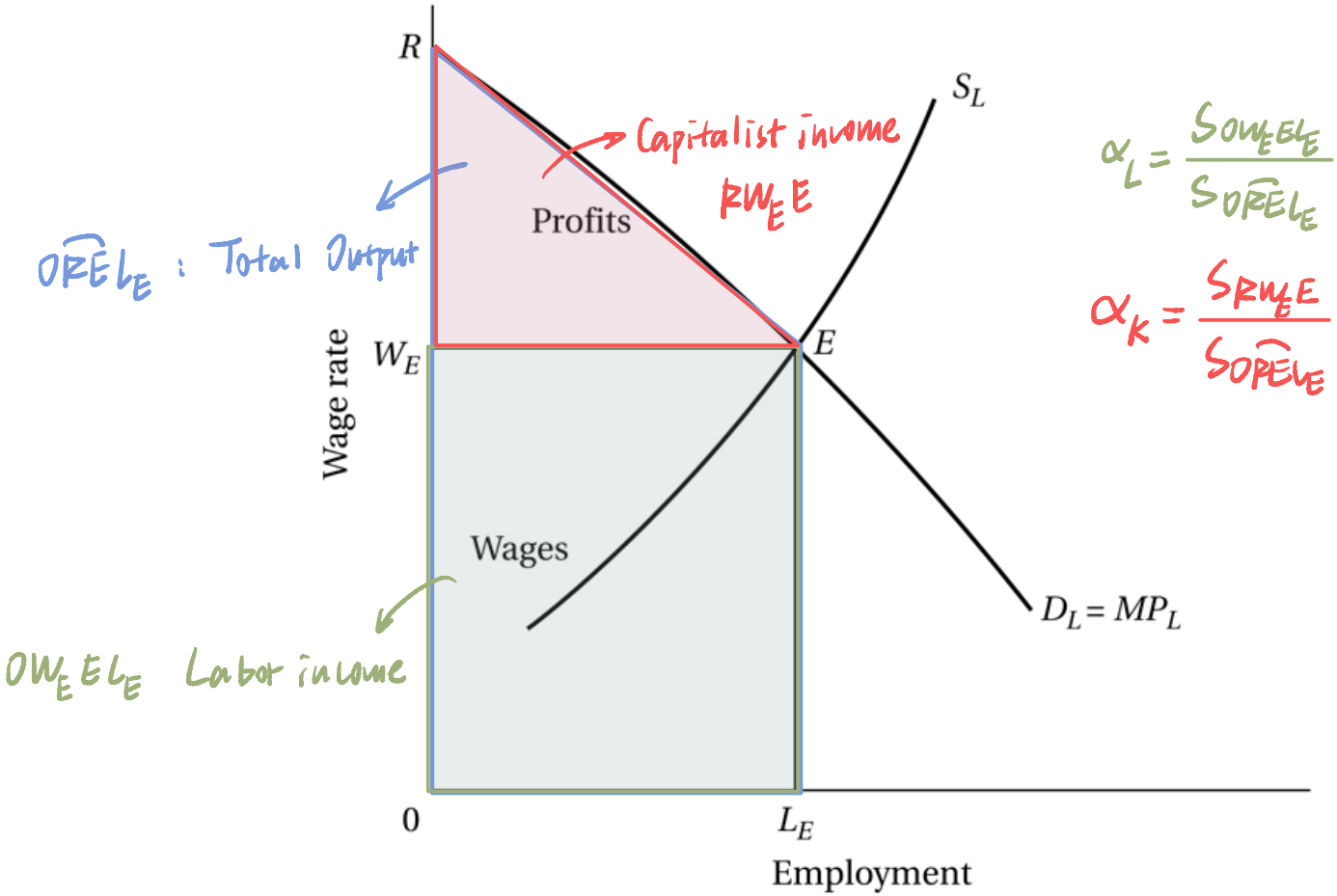
- Migration of rural labor force has significant influence on income distribution in dual economy
- Uneven development of industries leads to a widening income gap
- Imbalance of regional economic development leads to the expansion of income differences between regions

Some Basic Concepts

- Functional distributions: factor share distribution of income
  - Labor share
  - Capital share

- Suppose two factors of production
  - Capital: fixed
  - Labor: variable
- Labor demand and supple curves
- Which area indicates the total national output?
- Which part goes to labor?
- Which part goes to capitalists?
- However, this theory ignores to take into account the important role and influence of nonmarket forces

Figure 5.5 Functional Income Distribution in a Market Economy: An Illustration



5.1 Measuring Inequality and Poverty

- Measuring Absolute Poverty
  - Headcount Index 人头指数: H/N
  - Where H is the number of persons who are poor and N is the total number of people in the economy
  - Total poverty gap:

$$TPG = \sum_{i=1}^{H} (Y_p - Y_i)$$

  - Where Y_p is the absolute poverty line; and Y_i the income of the ith poor person

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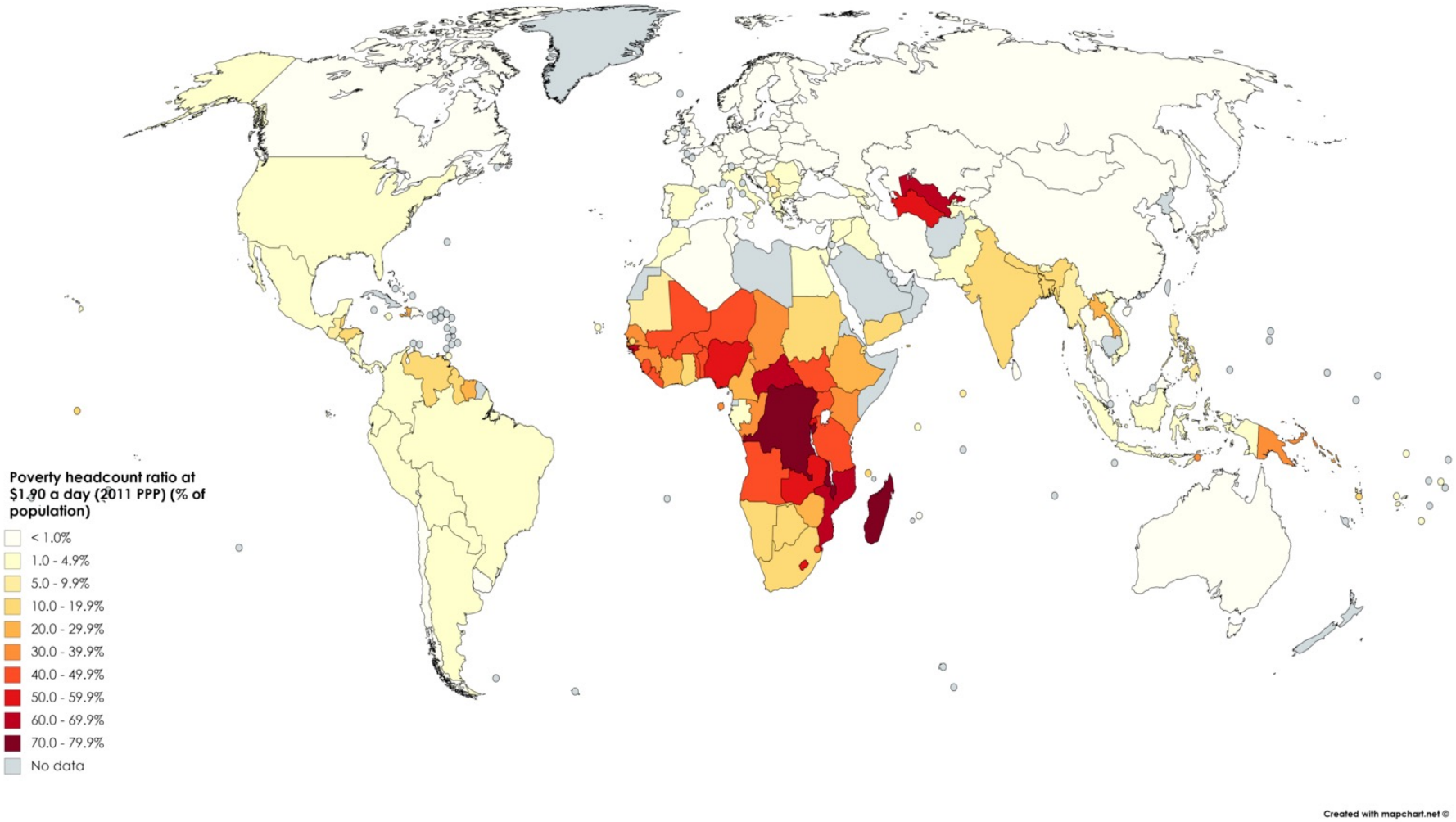
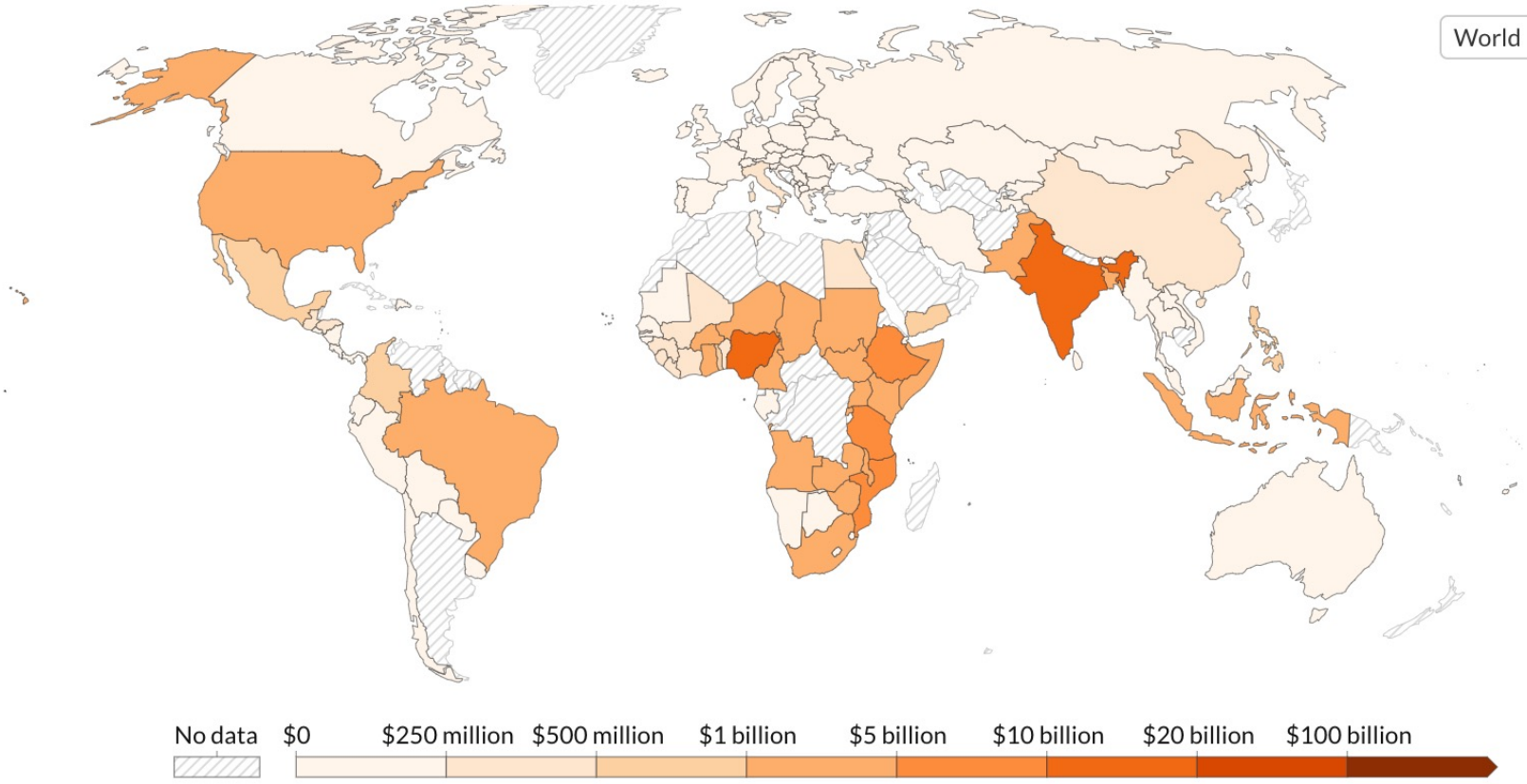


The poverty gap, 2019

The poverty gap is the amount of money that would be theoretically needed to lift the incomes of all people in extreme poverty up to the International Poverty Line of $2.15 a day. This data is adjusted for inflation and for differences in the cost of living between countries.

Our World in Data



Source: OWID calculations based on World Bank PIP

OurWorldInData.org/poverty/ • CC BY

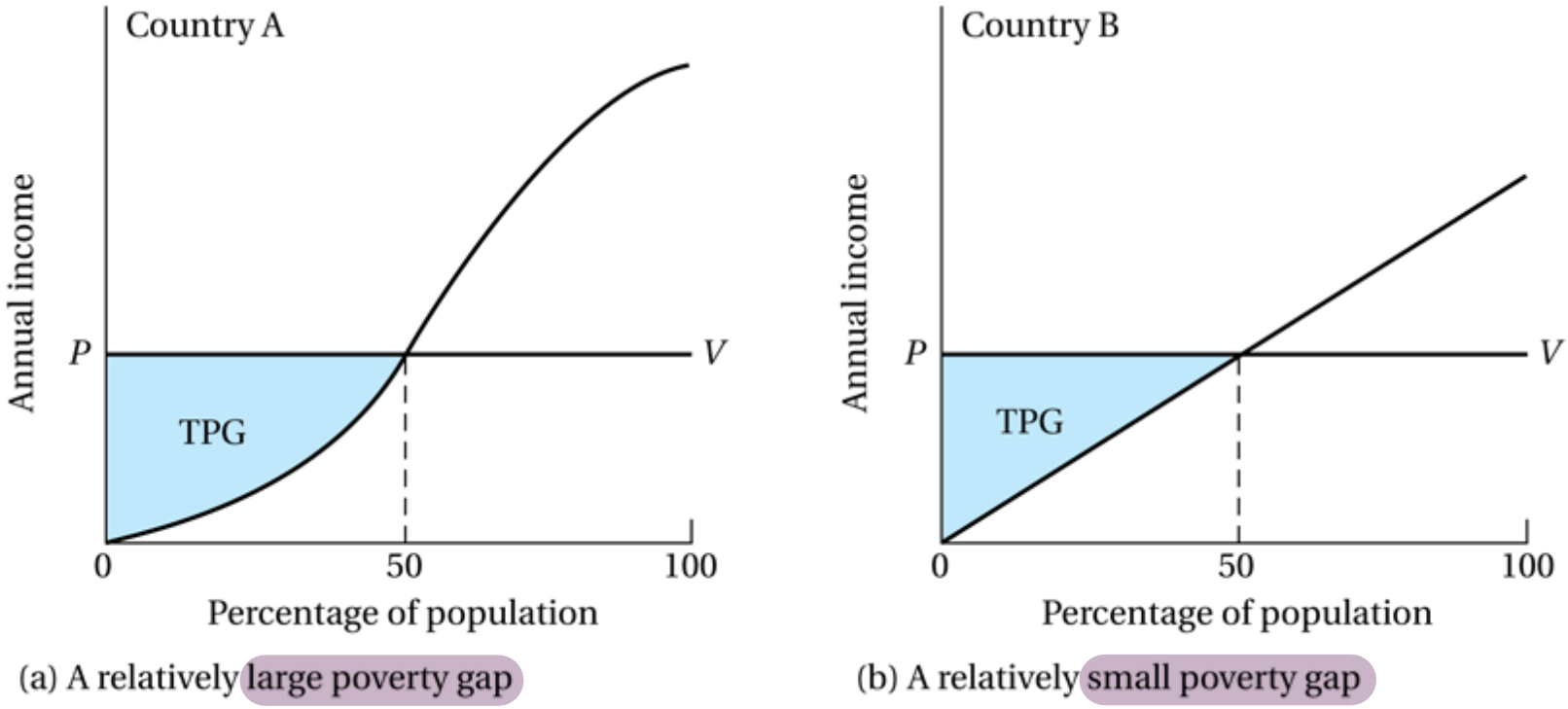
Note: This data is expressed in international-$ at 2017 prices. The cost of closing the poverty gap does not take into account costs and inefficiencies from making the necessary transfers.

1967 2021

Absolute Poverty in Third World Countries

- Poverty line itself may not be accurate in describing poverty
  - Some people may be far below the poverty line, while others are close to the line
- Poverty gap: income needed to raise everyone below the poverty line up to that line
  - The shaded area between poverty line (PV) and the annual income profile of the population

Figure 5.6 Measuring the Total Poverty Gap



Even though in both country A and country B, 50% of the population falls below the same poverty line, the TPG in country A is greater than in country B. Therefore, it will take more of an effort to eliminate absolute poverty in country A.

5.1 Measuring Inequality and Poverty

- Measuring Absolute Poverty
  - Average poverty gap (APG):

$$APG = \frac{TPG}{N}$$

  - Where N is number of persons in the economy
  - TPG is total poverty gap
  - Note: normalized poverty gap, NPG = APG/Y_p

5.1 Measuring Inequality and Poverty

- Measuring Absolute Poverty
  - Average income shortfall (AIS):

$$AIS = \frac{TPG}{H}$$

  - Where H is number of poor persons
  - TPG is total poverty gap
  - Note: Normalized income shortfall, NIS = AIS/Y_p

5.1 Measuring Inequality and Poverty

- Measuring Absolute Poverty (continued)
  - The Foster-Greer-Thorbecke (FGT) index:

$$P_\alpha = \frac{1}{N}\sum_{i=1}^{H}\left(\frac{Y_p - Y_i}{Y_p}\right)^\alpha$$

  - N is the number of persons, H is the number of poor persons, and $\alpha \geq 0$ is a parameter
  - When $\alpha=0$, we get the headcount index measure H/N
  - When $\alpha=2$, we get the "P_2" measure

$$P_2=\left(\frac{H}{N}\right)[NIS^2+(1-NIS)^2(CV_P)^2]$$

P_2 increases with H/N, NIS and CV_P.

Note: CV: the coefficient of variation of incomes among the poor

Table 5.6 Poverty Incidence in Selected Countries (continued)

Country	Year	Per Capita Monthly Income (2005 PPP)	Headcount Ratio (%)	Poverty Gap (%)	Squared Poverty Gap (%)	Gini Index (%)
Incidence at $2 a Day; Poverty Line at 60.84						
Bangladesh	2005	48.27	80.32	34.35	17.55	33.22
Benin	2003	52.77	75.33	33.51	18.25	38.62
Brazil	2007	346.64	12.70	4.15	1.85	55.02
Burkina Faso	2003	46.85	81.22	39.26	22.58	39.60
China—Rural	2005	71.34	55.63	19.47	8.94	35.85
China—Urban	2005	161.83	9.38	2.12	0.81	34.8
Côte d'Ivoire	2002	101.11	46.79	17.62	8.78	48.39
Guatemala*	2006	191.7	25.71	9.63	4.84	53.69
Honduras*	2006	184.45	29.73	14.15	8.91	55.31
India—Rural	2004	49.93	79.53	30.89	14.69	30.46
India—Urban	2004	62.43	65.85	25.99	12.92	37.59
Indonesia—Rural	2005	62.79	61.19	19.55	8.27	29.52
Indonesia—Urban	2005	89.1	45.85	14.85	6.39	39.93
Madagascar	2005	44.82	89.62	46.94	28.5	47.24
Mexico	2006	330.37	4.79	0.96	0.31	48.11
Mozambique	2002	36.58	90.03	53.56	36.00	48.07
Nicaragua*	2005	151.18	31.87	12.26	6.44	52.33
Nigeria	2003	39.46	83.92	46.89	30.8	42.93
Pakistan	2004	65.76	60.32	18.75	7.66	31.18
Peru	2006	216.82	18.51	5.95	2.54	49.55
Philippines	2006	98.99	45.05	16.36	7.58	44.04
Rwanda	2000	33.76	90.3	55.69	38.5	44.11
Senegal	2005	66.86	60.37	24.67	12.98	39.19

Source: World Bank, "PovcalNet," http://iresearch.worldbank.org/PovcalNet.
*Preliminary data.

5.1 Measuring Inequality and Poverty

- Measuring Absolute Poverty
  - The Newly Introduced Multidimensional Poverty Index

The Multidimensional Poverty Index (MPI)

- Identification of poverty status through a *dual cutoff*:
- First, cutoff levels within each dimension (analogous to falling below a poverty line for example $1.25 per day for income poverty);
- Second, cutoff in the number of dimensions in which a person must be deprived (below a line) to be deemed *multidimensionally* poor.
- MPI focuses on deprivations in health, education, and standard of living; and each receives equal (that is one-third of the overall total) weight.

MPI Indicators

- Health - two indicators with equal weight - whether any child has died in the family, and whether any adult or child in the family is malnourished –weighted equally (each counts as one-sixth toward the maximum deprivation in the MPI)
- Education - two indicators with equal weight - whether no household member completed 5 years of schooling, and whether any school-aged child is out of school for grades 1 through 8 (each counts one-sixth toward the MPI).
- Standard of Living, equal weight on 6 deprivations (each counts as 1/18 toward the maximum): lack of electricity; insufficiently safe drinking water; inadequate sanitation; inadequate flooring; unimproved cooking fuel; lack of more than one of 5 assets – telephone, radio, TV, bicycle, and motorbike.

Computing the MPI

- The MPI for the country (or region or group) is then computed
- A convenient way to express the resulting value is H*A, i.e.,
- The product of the headcount ratio *H* (the percent of people living in multidimensional poverty), and the average intensity of deprivation *A* (the percent of weighted indicators for which poor households are deprived on average).
- The adjusted headcount ratio *HA* is readily calculated

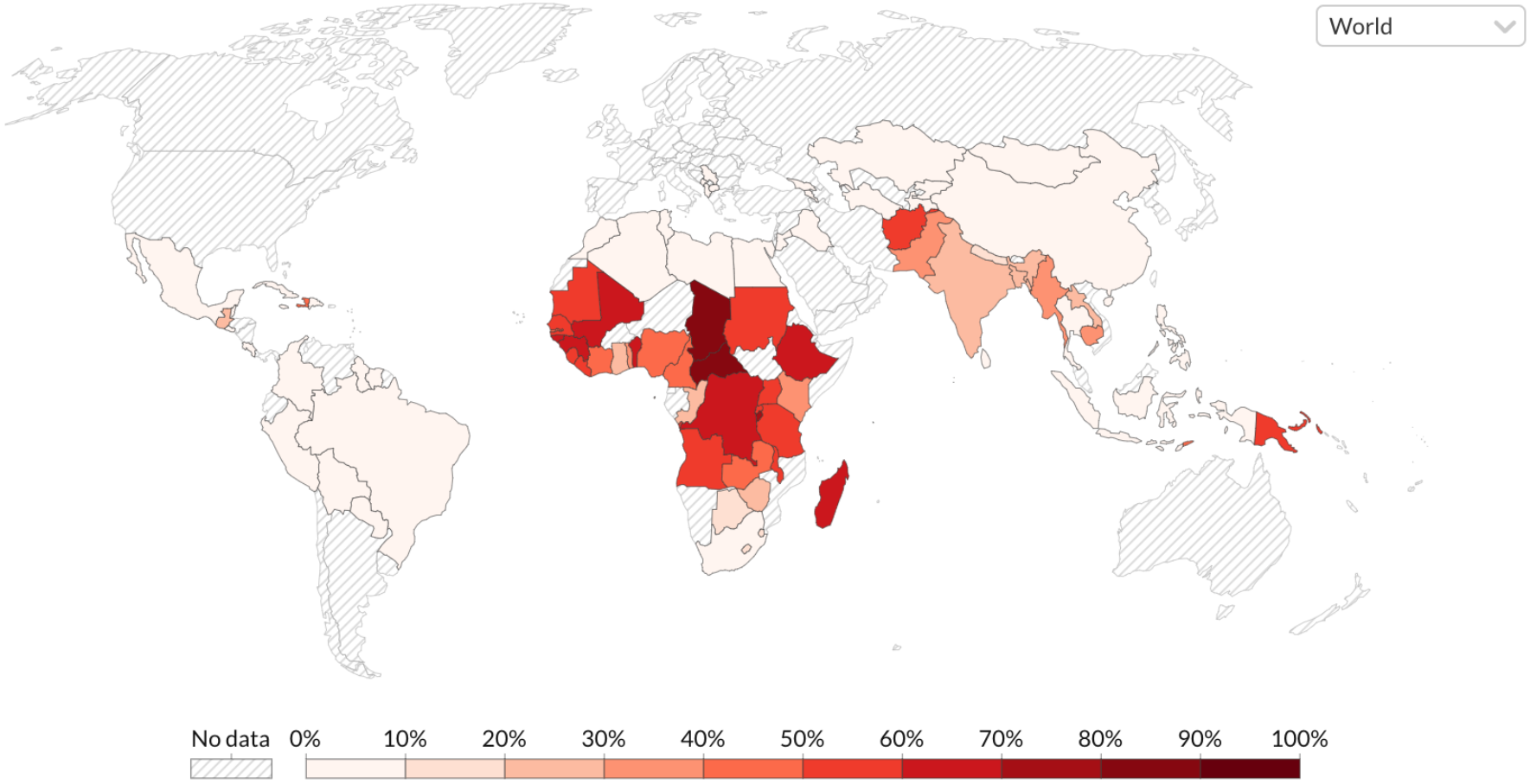
Table 5.2 MPI Rankings and Poverty Headcounts for Selected Countries

Country	Survey Year	MPI	Headcount (H_M)	Intensity (A)
Afghanistan	2015–16	0.273	0.561	0.487
Bangladesh	2014	0.194	0.411	0.473
Brazil	2015	0.016	0.038	0.425
Burundi	2016–17	0.404	0.743	0.543
Cambodia	2014	0.158	0.349	0.453
Chad	2014-15	0.535	0.859	0.623
China	2014	0.017	0.041	0.414
Colombia	2015–16	0.021	0.050	0.408
Côte d'Ivoire	2016	0.236	0.461	0.512
Dominican Republic	2014	0.016	0.041	0.389
Ethiopia	2016	0.490	0.838	0.585
Guatemala	2014–15	0.134	0.291	0.462
India	2015–16	0.121	0.275	0.439
Mali	2015	0.457	0.781	0.585
Mexico	2016	0.025	0.063	0.392
Niger	2012	0.591	0.906	0.653
Pakistan	2012–13	0.228	0.439	0.520
Rwanda	2014–15	0.266	0.558	0.477
South Africa	2014–15	0.032	0.082	0.393
Vietnam	2014	0.020	0.050	0.395

Share of population in multidimensional poverty, 2019

Our World in Data

Multidimensional poverty is based on the Multidimensional Poverty Index (MPI). Being 'MPI poor' means that a person is deprived in a third or more of ten weighted indicators across three dimensions: health, education and living standards.



Source: Alkire, Kanagaratnam and Suppa (2021), The global Multidimensional Poverty Index (MPI) 2021 OurWorldInData.org/poverty • CC BY
Note: This data is not intended to capture trends in MPI over time within countries – a separate dataset is produced for this purpose.

2009 2019

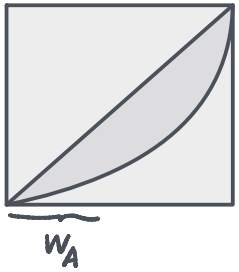
5.2 Poverty, Inequality, and Social Welfare

- What's So Bad about Extreme Inequality?
  - Lead to economic inefficiency
  - Extreme income disparities undermine social stability and solidarity
  - Unfair
- Welfare $W = W(Y, \bar{I}, \bar{P})$
  - Y is income per capita and enters our welfare function positively
  - I is inequality and enters negatively
  - P is absolute poverty and enters negatively

Dualistic Development and Shifting Lorenz Curves

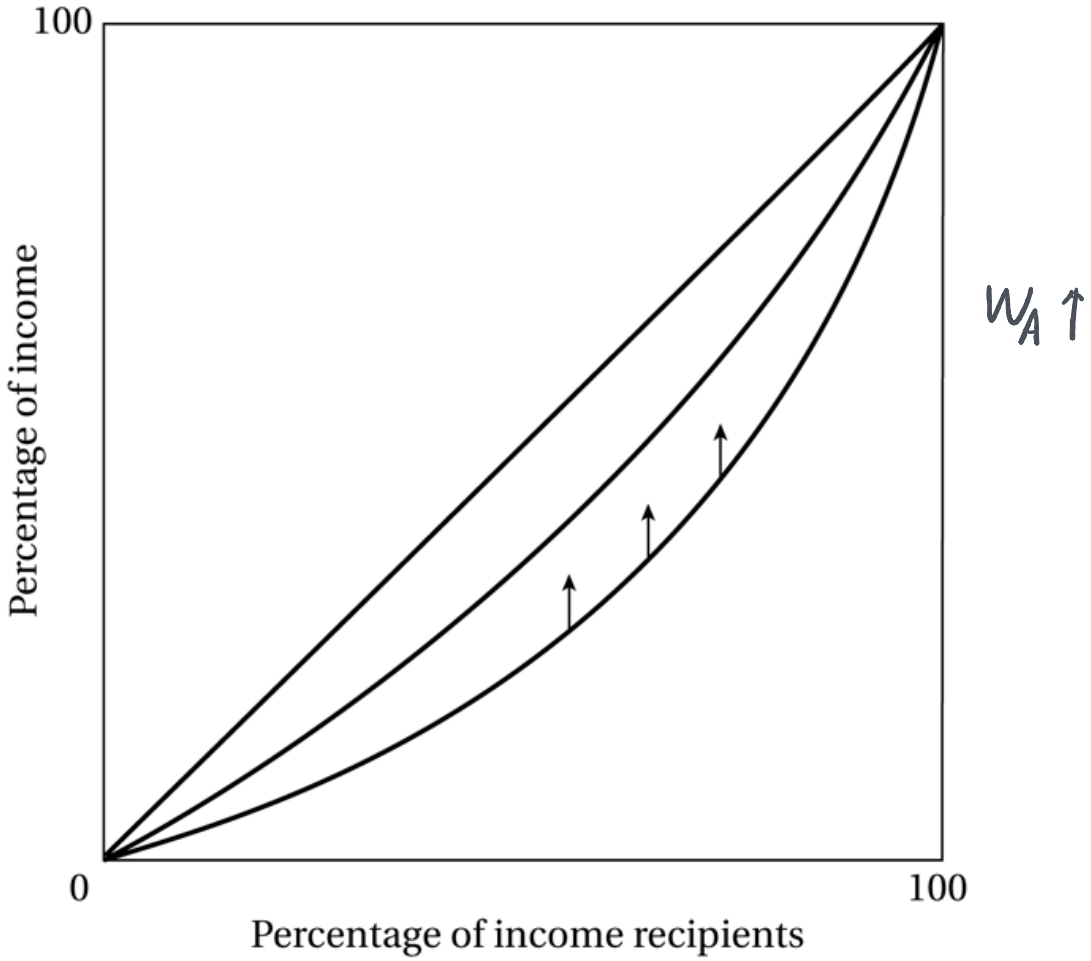
from Lewis Model: $W_A < W_M$

传统部门改进



- Traditional sector enrichment
  - Benefits agricultural workers only
  - Little or no growth in modern sector
  - A more equal relative distribution of income and less poverty
  - Describe the experiences of countries whose policies focused on achieving substantial reductions in absolute poverty even at very low incomes and with relatively low growth rates such as Sri Lanka, and the state of Kerala in India

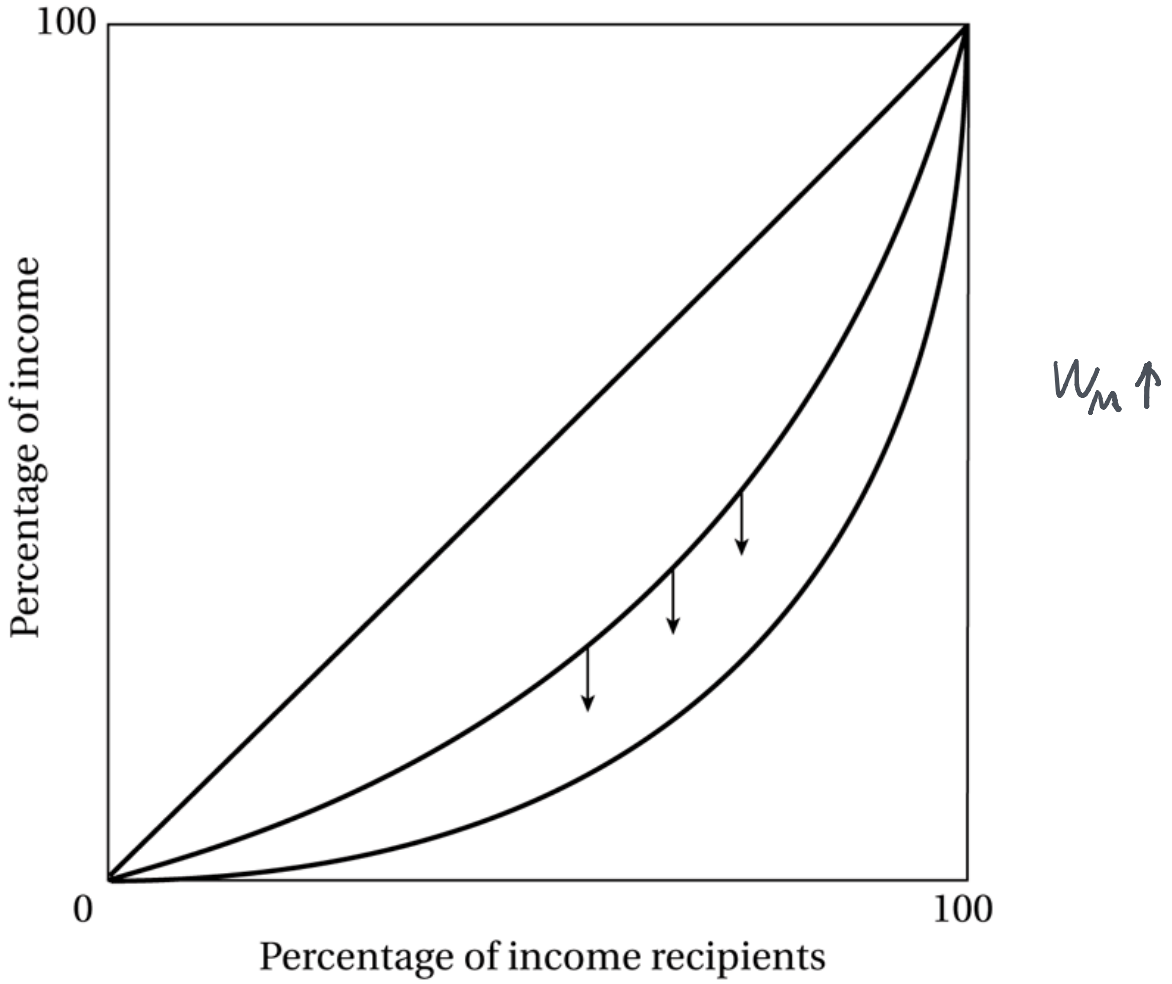
Figure 5.7 Improved Income Distribution under the Traditional-Sector Enrichment Growth Typology



Dualistic Development and Shifting Lorenz Curves

- Modern sector enrichment 现代部门改进
  - Growth is limited to a fixed number of people in the modern sector
  - Both the number of workers and their wages held constant in the traditional sector
  - A less equal relative distribution of income
  - Describe the experience of many Latin American and African economies

Figure 5.8 Worsened Income Distribution under the Modern-Sector Enrichment Growth Typology



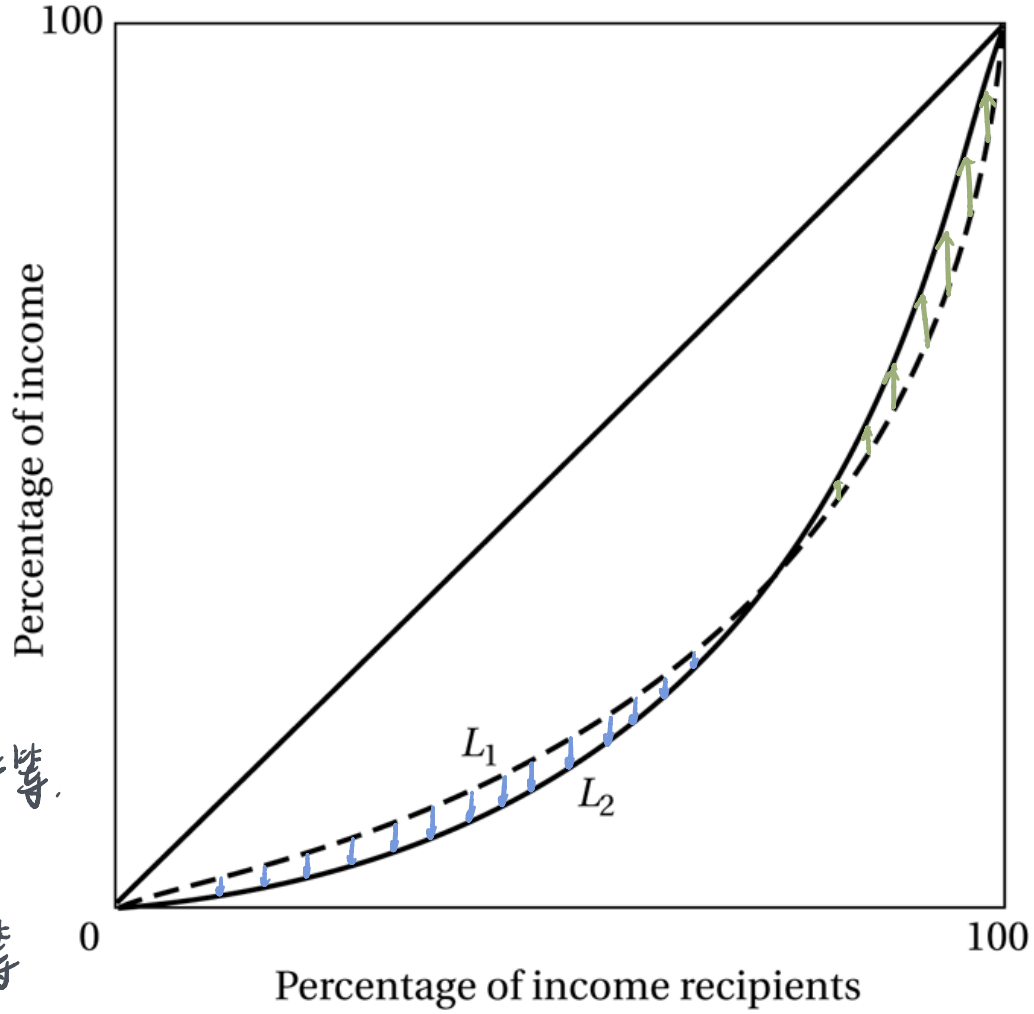
Dualistic Development and Shifting Lorenz Curves

- Modern sector enlargement: Lewis
  - Enlarge the size of the modern sector while maintaining constant wages in both sectors
  - Absolute incomes rises and absolute poverty is reduced
  - Change in relative inequality is ambiguous.
  - Why?
  - It corresponds roughly to the historical growth pattern of Western developed nations and, to some extent, the pattern in East Asian economies such as China

Dualistic Development and Shifting Lorenz Curves

- The poor who remain in the traditional sector have their incomes unchanged, but these incomes are now a smaller fraction of the larger total, so L_2 lies below L_1 at the lower end of the income distribution scale.
- Each modern-sector worker receives the same absolute income as before, but now the share received by the richest income group is smaller, so L_2 lies above L_1 at the higher end of the income distribution scale.

Figure 5.9 Crossing Lorenz Curves in the Modern-Sector Enlargement Growth Typology



农业部门收缩
贫困缩小，但更不平等.

工业部门扩张
富裕扩大，且更平等

5.2 Poverty, Inequality, and Social Welfare

倒U曲线假设

- Kuznets' 库兹涅茨 Inverted-U Hypothesis
  - In the early stages of economic growth, the distribution of income will tend to be worse
  - Only at later stages it will improve

Figure 5.10 The "Inverted-U" Kuznets Curve

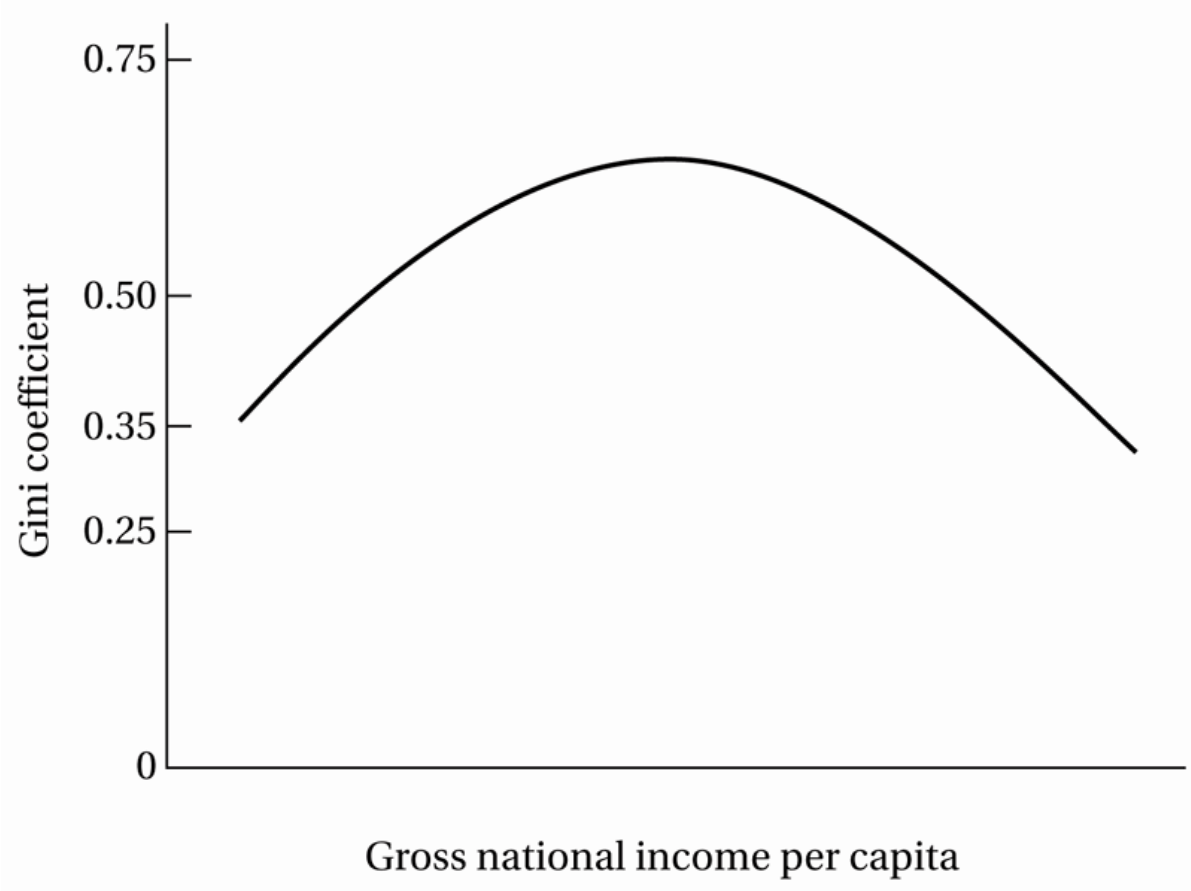


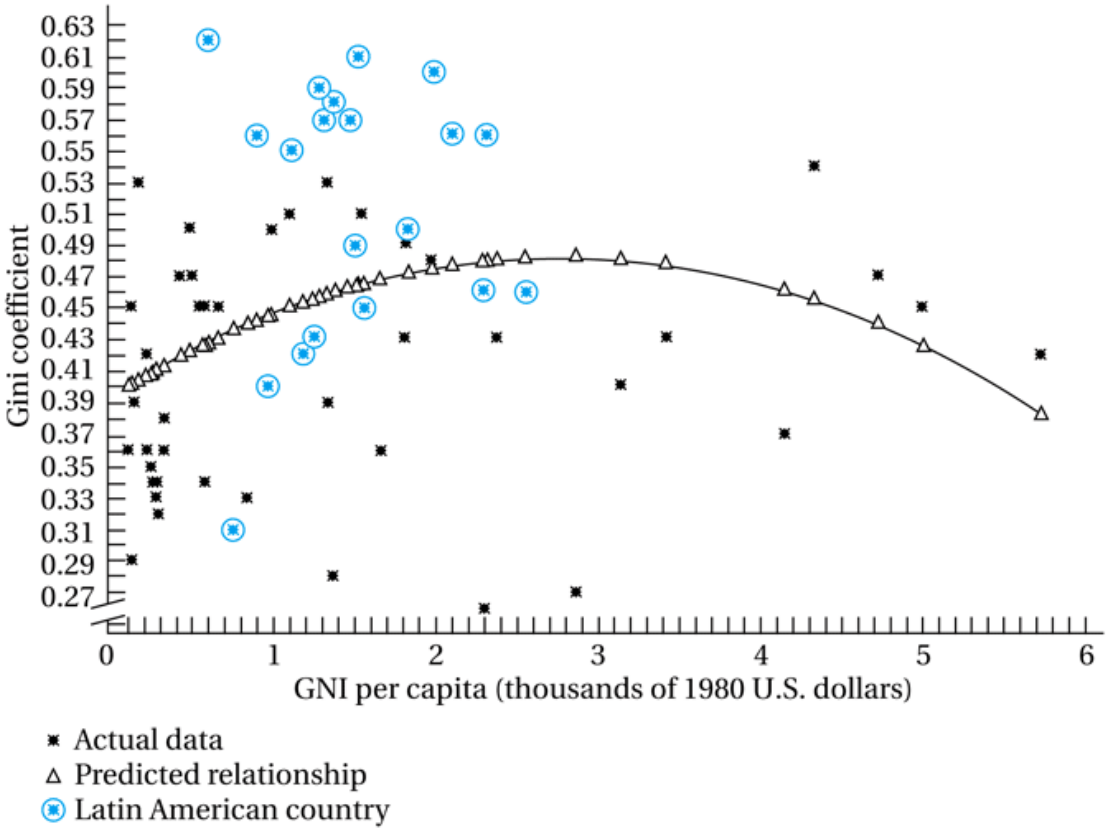
Table 5.4 Income and Inequality in Selected Countries

PC incomes are not necessarily related to inequality.

Country	Income per capita	Gini Coefficient (%)	Survey Year
Low Income			
Malawi	320	44.7	2016
Niger	360	34.3	2014
Mozambique	420	54.0	2014
Ethiopia	740	39.1	2015
Lower Middle Income			
Kyrgyz Rep.	1,130	26.8	2016
Honduras	2,250	50.0	2016
Indonesia	3,540	38.6	2016
Tunisia	3,490	32.8	2015
Philippines	3,660	40.1	2015
Upper Middle Income			
Armenia	3,990	32.5	2016
South Africa	5,430	63.0	2014
Thailand	5,950	36.9	2016
Brazil	8,610	53.7	2016
Mexico	8,610	43.4	2016
High Income			
United Kingdom	40,600	33.2	2015
Netherlands	46,910	28.2	2015
United States	59,160	41.5	2016
Norway	76,160	27.5	2015

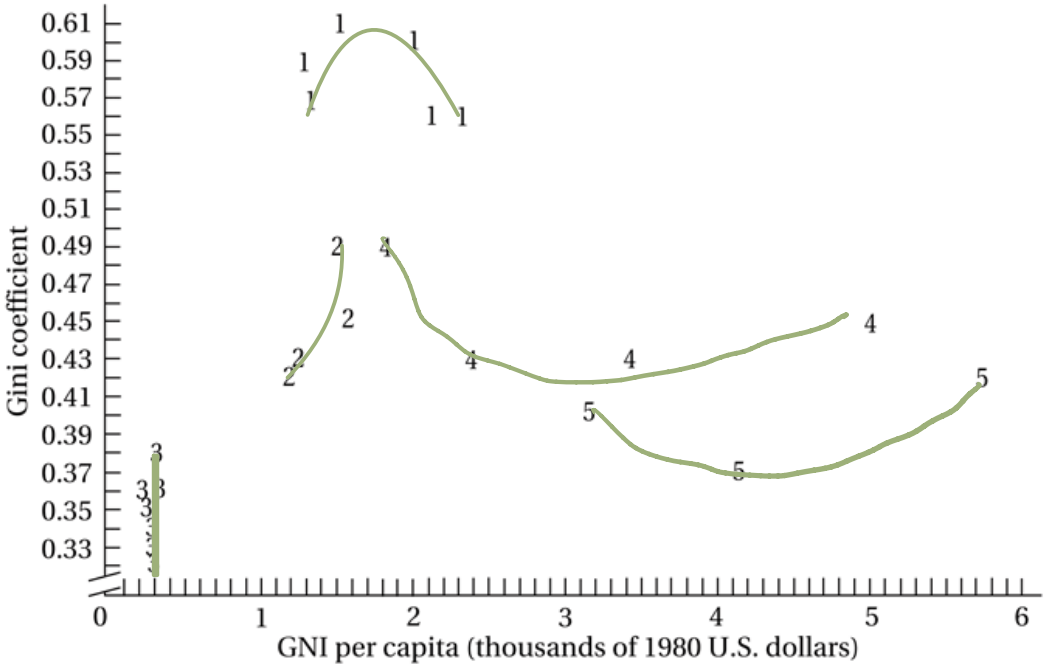
Source: Data from World Bank, *World Development Indicator Tables, 2018* (Washington, D.C.: World Bank, 2018), tabs. WV.1 and 1.3, accessed 16 June 2019.

Figure 5.11 Kuznets Curve with Latin American Countries Identified



Source: Gary S. Fields, *Distribution and Development: A New Look at the Developing World* (Cambridge, Mass.: MIT Press, 2001), ch. 3, p. 46. © 2001 Massachusetts Institute of Technology, by permission of The MIT Press.

Figure 5.12 Plot of Inequality Data for Selected Countries and Regions

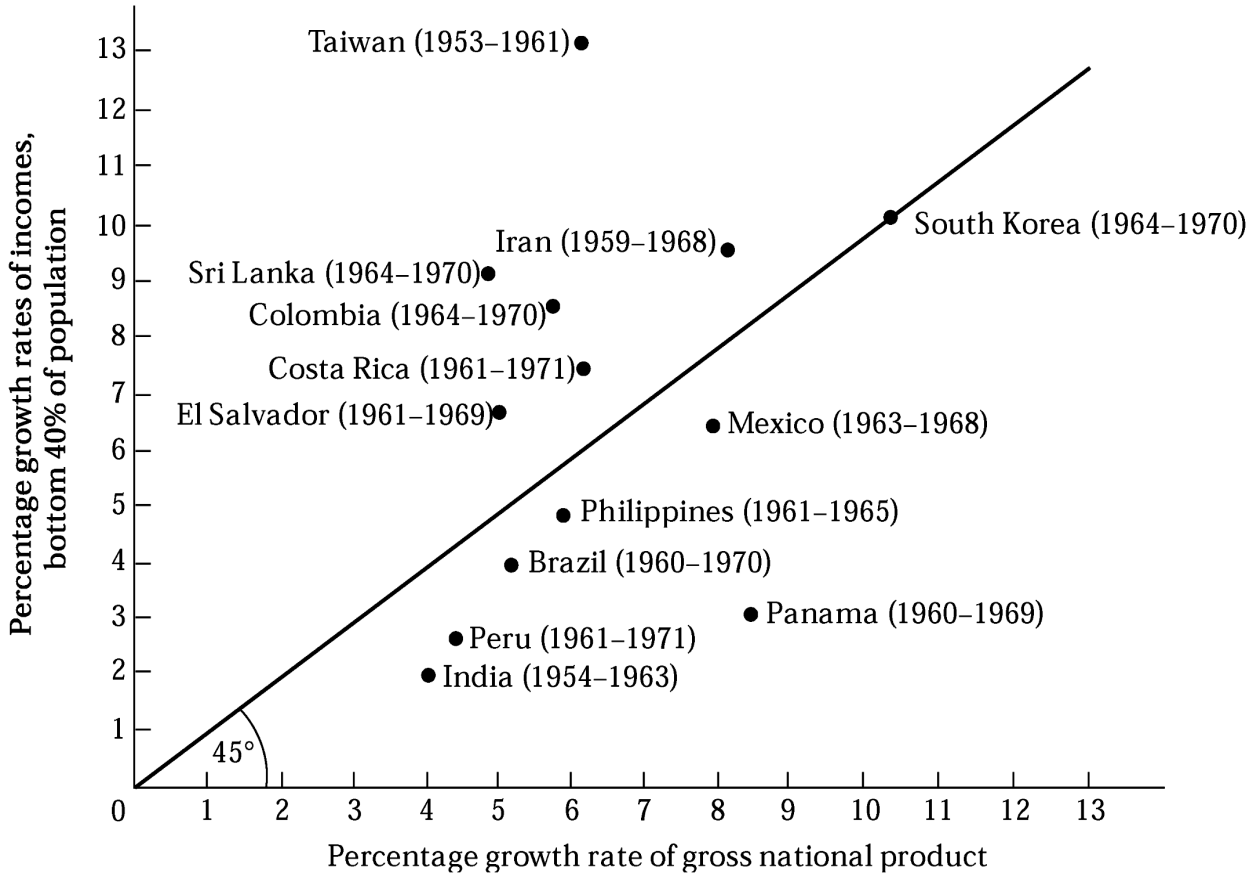


Source: Gary S. Fields, *Distribution and Development: A New Look at the Developing World* (Cambridge, Mass.: MIT Press, 2001), ch. 3, p. 44. © 2001 Massachusetts Institute of Technology, by permission of The MIT Press.

- 1 = Brazil: Inverted-U
- 4 = HK（China）: U
- 5 = Singapore: U

Growth and Inequality

Figure 5.10 Comparison of Gross National Product Growth Rates and Income Growth Rates of the Bottom 40 Percent of the Population in Selected Less Developed Countries and regions

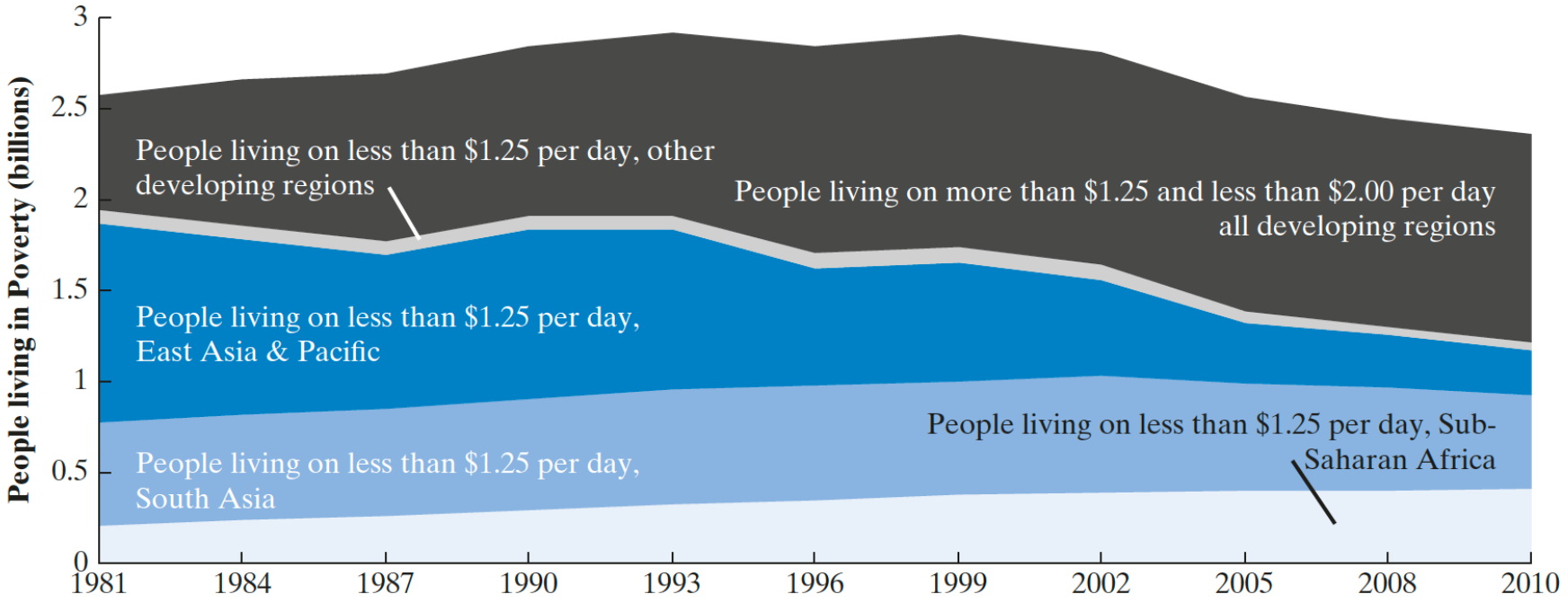


5.3 Absolute Poverty: Extent and Magnitude

- Progress on Extreme Poverty
  - Clear progress on $1.25-a-day headcount
  - Less clear progress on $2.00-per-day headcount (see Figure 5.14)
  - Incidence of extreme poverty is uneven (e.g. India)

Figure 5.14 Global and Regional Poverty Trends

FIGURE 5.12 Global and Regional Poverty Trends, 1981–2010



Source: Figure drawn using data from PovcalNet/World Bank; data downloaded 13 February 2014 from http://iresearch.worldbank.org/PovcalNet/index.htm?1.

Table 5.5 Regional Poverty Incidence

Country	Year	P_0 (Head-count ratio, %) at $1.90 per day	P_2 (squared poverty gap, %) at $1.90 per day	P_0 (Head-count ratio, %) at $3.80 per day	P_2 (squared poverty gap, %) at $3.80 per day
Bangladesh	2016	14.77	0.78	65.15	9.97
Brazil	2017	4.83	1.03	12.28	2.96
Burundi	2013	71.79	15.99	92.67	39.65
Chad	2011	38.43	8.14	73.99	22.88
China	2015	0.73	0.07	11.78	0.91
Colombia	2017	3.92	0.96	14.97	2.79
Côte d'Ivoire	2015	28.21	4.30	66.32	16.49
Dominican Republic	2016	1.64	.25	9.21	1.17
Ethiopia	2015	27.34	3.28	71.85	15.90
Guatemala	2014	8.66	1.14	31.58	5.64
India	2011	21.23	1.28	70.96	12.81
Laos PDR	2012	22.75	1.80	69.17	13.27
Mali	2009	49.65	6.52	85.98	25.79
Mexico	2016	2.17	0.32	12.01	1.58
Niger	2014	44.51	5.56	83.56	23.65
Pakistan	2015	3.94	0.10	49.07	4.70
Rwanda	2016	55.50	9.74	84.83	29.81
South Africa	2014	18.89	2.90	44.30	10.88
Vietnam	2016	1.97	0.12	13.07	1.46
Yemen	2014	18.82	1.57	63.61	11.46

Source: Data from World Bank, "PovcalNet," http://iresearch.worldbank.org/PovcalNet/povOnDemand.aspx. All data are the most recent as of date accessed: 15 June 2019.

5.4 Economic Characteristics of High-Poverty Groups

- Rural poverty
- Women and poverty
- Ethnic minorities, indigenous populations, and poverty

Table 5.7 Poverty: Rural versus Urban

Region and Country	Survey Year	Percentage below National Poverty Line		
		Rural Population	Urban Population	National Population
Sub-Saharan Africa				
Benin	2003	46.0	29.0	39.0
Burkina Faso	2003	52.4	19.2	46.4
Cameroon	2007	55.0	12.2	29.9
Malawi	2005	55.9	25.4	52.4
Tanzania	2001	38.7	29.5	35.7
Uganda	2006	34.2	13.7	31.1
Zambia	2004	72.0	53.0	68.0
Asia				
Bangladesh	2005	43.8	28.4	40.0
India	2000	30.2	24.7	28.6
Indonesia	2004	20.1	12.1	16.7
Uzbekistan	2003	29.8	22.6	27.2
Vietnam	2002	35.6	6.6	28.9
Latin America				
Bolivia	2007	63.9	23.7	37.7
Brazil	2003	41.0	17.5	21.5
Dominican Republic	2007	54.1	45.4	48.5
Guatemala	2006	72.0	28.0	51.0
Honduras	2004	70.4	29.5	50.7
Mexico	2004	56.9	41.0	47.0
Peru	2004	72.5	40.3	51.6

Source: World Bank, *World Development Indicators, 2010* (Washington, D.C.: World Bank, 2010), tab. 2.7.

Table 5.8 Indigenous Poverty in Latin America

Population below the Poverty Line (%), Early 1990s			Change in Poverty (%), Various Periods		
Country	Indigenous	Nonindigenous	Period	Indigenous	Nonindigenous
Bolivia	64.3	48.1	1997–2002	0	−8
Guatemala	86.6	53.9	1989–2000	−15	−25
Mexico	80.6	17.9	1992–2002	0	−5
Peru	79.0	49.7	1994–2000	0	+3

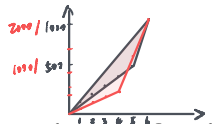
Sources: Data for left side of table from George Psacharopoulos and Harry A. Patrinos, "Indigenous people and poverty in Latin America," *Finance and Development* 31 (1994): 41, used with permission; data for right side of table from Gillette Hall and Harry A. Patrinos, eds., *Indigenous Peoples, Poverty, and Human Development in Latin America, 1994–2004* (New York: Palgrave Macmillan, 2006).

5.5 Policy Options on Income Inequality and Poverty: Some Basic Considerations

- Areas of Intervention 干预
  - Altering the functional distribution
  - Mitigating the size distribution
  - Moderating (reducing) the size distribution at upper levels
  - Moderating (increasing) the size distribution at lower levels

5.5 Policy Options on Income Inequality and Poverty: Some Basic Considerations

- Policy options
  - Changing relative factor prices
  - Progressive redistribution of asset ownership
  - Progressive taxation
  - Transfer payments and public provision of goods and services



Exercise: Consider the following income distributions

a. Plot the Lorenz curves for 1990 and for 2000. Be sure to label your graph clearly.

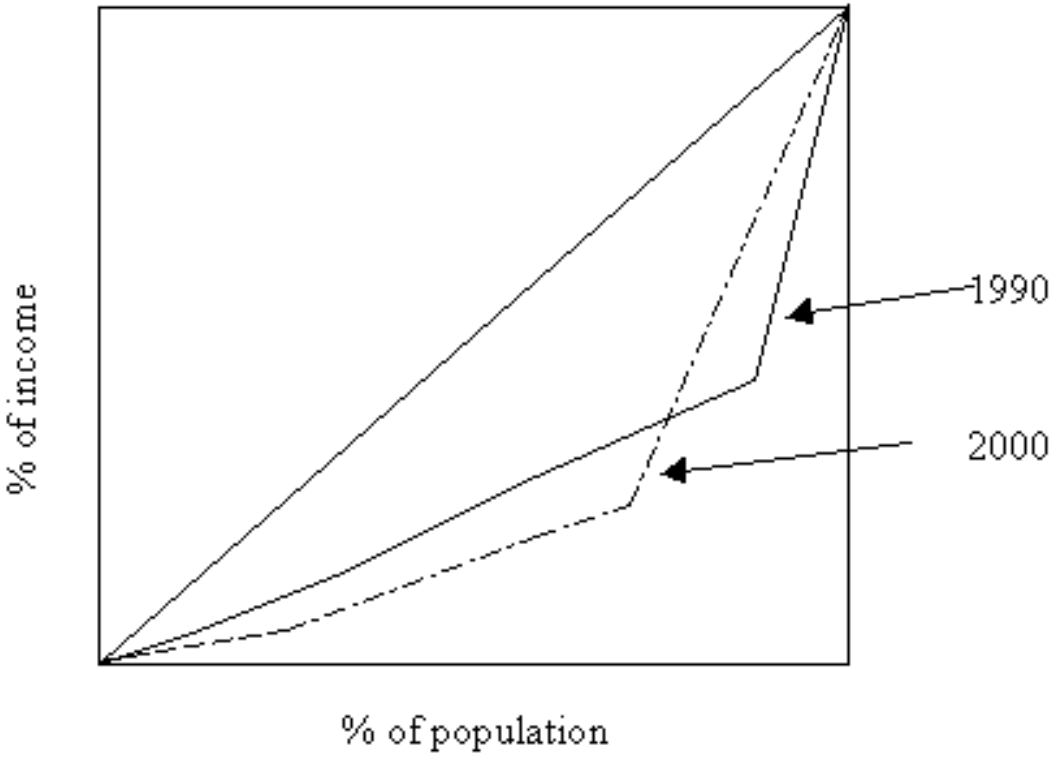
b. Calculate the Gini coefficient for 1990 and for 2000 (the area between the Lorenz curve and the outside of the box is 0.33 for 1990 and 0.27 for 2000). $\frac{0.5-0.33}{0.5}=0.34$ $\frac{0.5-0.27}{0.5}=0.46$

c. What do you conclude about changes in income inequality from 1990 to 2000? ↑ more unequal

Individual	Income in 1990	Income in 2000
1	100	100
2	100	100
3	100	100
4	100	100
5	100	800
6	500	800
Total Income	1000	2000

Answers

a. The critical feature in this problem is that the Lorenz curves cross. This is the 'modern sector enlargement' model.



Answers

b) The Gini coefficient is defined as: A/A+B.

For 1990, area A should be 0.5 – 0.33 = 0.17. This means the Gini for 1990 should be 0.17/0.5 = 0.34.

For 2000, area A = 0.5 – 0.27 = 0.23, and the Gini = 0.23/0.5 = 0.46.

c) More unequal

1. The functional distribution of income refers to the distribution of income between

A: individuals or households.

B: rural individuals or households.

C: urban individuals or households.

D: the factors of production (land, labor and capital)

2. The absolute poverty line

A: decreases as real income grows.

B: shows the average income of the lowest income group.

C: can be measured with the Lorenz curve.

D: none of the above.