

The Scale Effects of China's Economic Rise



Angang HU
Tsinghua University
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EAI Seminar

Issues for Discussion



- ❑ **China's change in the pattern of the world's economy**
- ❑ **China's particularity in influencing the world's economy**
- ❑ **Similarity and Differentia between China's rising and rising of United States or Japan**

Agenda



- Scale effect of population
- Scale effect of labor force and employment
- Scale effect of economy
- Scale effect of market and trade
- Scale effect of resource consumption
- China's Development Costs
- Conclusion

Scale effect of population



- The rising of China and India are the rising with the largest scale of population in the world's history
- The rising of China and India means two economies with population doubles that of developed countries take-off and accelerate their industrialization, urbanization, informization and modernization

Scale effect of population



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Table1 Population, GDP and export of four economies at take-off

	United States (1870—1913)	Japan (1950—1973)	China (1978—2001)	India (1990—2001)
Population (10 thousands)				
Initial stage	4024	8381	96259	83900
End stage	9761	10871	127627	1023590
GDP as share of the world (%)				
Initial stage	8.8	3.0	4.9	4.0
End stage	18.9	7.8	12.3	5.4
Export as share of the world (%)				
Initial stage	4.44	0.60	0.45	0.52
End stage	8.12	5.29	3.92	0.84

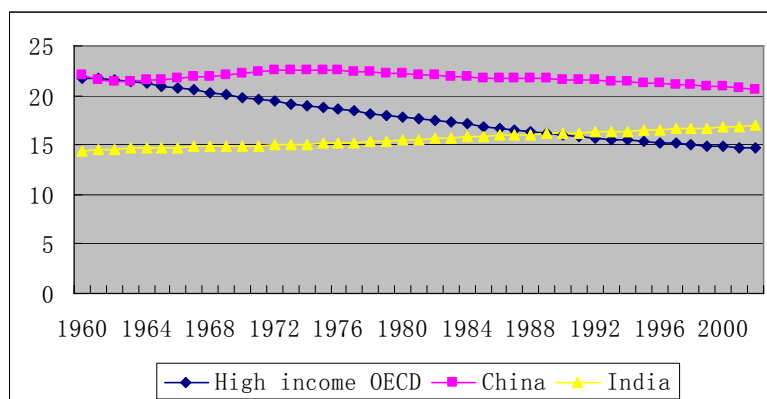
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Population of China, India and Developed Countries as share of the world

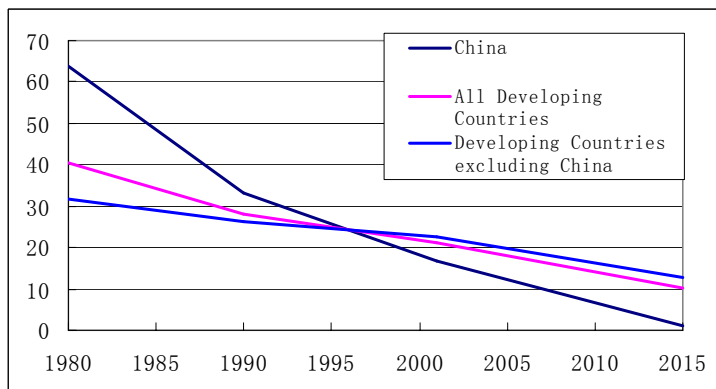
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Proportion of People Living on less than \$1 a day (%)

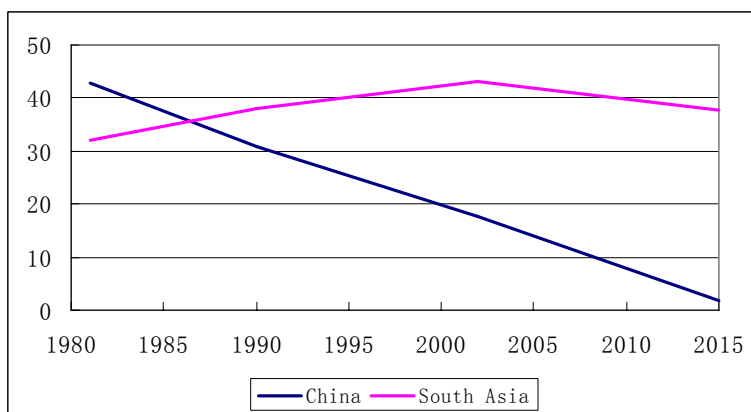
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People Living on less than \$1 a day as Share of the World (%)

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Scale effect of population



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Table2 Poverty People and Poverty Rate in Developing Countries (1990—2015)

	Poverty People (Million)			Poverty Rate (%)		
	1990	2002	2015	1990	2002	2015
East Asia and Pacific	472	214	14	29.6	14.9	0.9
China	375	180	11	33.0	16.6	1.2
Europe and Central Asia	2	10	4	0.5	3.6	0.4
Latin America and Caribbean	49	42	29	11.3	9.5	6.9
Middle East and N. Africa	6	5	3	2.3	2.4	0.9
South Asia	462	437	232	41.3	31.3	12.8
Sub-Saharan Africa	227	303	336	44.6	46.4	38.4
Total	1218	1011	617	27.9	21.1	10.2
Excluding China	844	831	606	26.1	22.5	12.9

Notes: Poverty People means People Living on less than \$1 a day

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Scale effect of labor force and employment



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□ China's labor force that participates the global economy may bring the most profound change in 50 years or even 100 years will greatly increases the world's potential production and that is because China owns large amount of cheap labor force and open economy.

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Scale effect of labor force and employment



- China and India has not only large scale of population but also very high participating rate of labor force.
- China's of labor force not only has a large amount but also transfers from sectors of low productivity to sectors of high productivity.

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Scale effect of labor force and employment



Table3 Labor force of China and India as share of the world (%)

	1960	1970	1980	1990	2002
High Income OECD	20.45	19.31	17.93	16.47	15.03
China(a)	25.60	25.76	26.45	27.10	25.40
China(b)			6.50	10.42	12.17
India	14.41	14.62	14.71	14.54	15.53

a Total labor force; b Labor force in non-agricultural sectors

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Scale effect of increasing economy



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- China's rising today (1978-2020) is like the rising of United States a century ago (1870-1913) :they both have high economic growth rate and high contribution rate to the world's GDP growth.
- China's contribution rate of the world's GDP growth reaches 27% from 1990-2002 and equals the sum of India, Brazil and Russia.

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Scale effect of increasing economy



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Table4 Contribution Rate to World's Economic Increase of Four Economies

	1980—1990	1990—2002	1980—2002
China	12.25	27.09	21.31
Japan	10.56	2.78	5.81
Germany	3.92	2.48	3.04
United States	21.25	20.99	21.09
World	100	100.00	100.00

Notes: GDP is according 1995 International Dollar (Purchasing Power Price)

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Scale effect of increasing economy



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- In 2005, the GDP of China and India as the share of the world may close to the 29 European countries and may exceed later.
- Till 2020, there will form five major economies, China, United States, EU, India and Japan, and their GDP as the share of the world will reaches 60%.

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Scale effect of increasing economy



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Table5 GDP of China and India as Share of the World (%)

	1975	1980	1985	1990	1995	2001
Western Europe	25.04	24.19	22.77	22.24	21.28	20.30
China	4.81	5.22	6.95	7.78	10.45	12.29
India	3.27	3.18	3.54	4.05	4.66	5.38
Total of China & India	8.08	8.40	10.49	11.83	15.11	17.67

Notes: Western Europe includes Austria, Belgium, Denmark, Finland, France, Germany, Italy, Netherlands, Norway, Sweden, Switzerland, United Kingdom, Ireland, Greece, Portugal, Spain and other 13 small Western Europe countries

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Table6 GDP Growth Per Capita of Different Regions (1980—2015, %)

	1980—1990	1991—2000	2001—2006	2006—2015
World	1.3	1.2	1.5	2.1
High Income	2.5	1.8	1.6	2.4
United States	2.3	2.0	1.8	2.5
Japan	3.4	1.1	1.1	1.9
European Union	2.1	1.8	1.4	2.3
Developing Countries	0.7	1.5	3.7	3.5
East Asia and Pacific	5.8	6.3	6.4	5.3
China	7.7	8.9	8.0	7.8
Europe and Central Asia	0.9	-1.8	5.0	3.5
Latin America and Caribbean	-0.9	1.6	1.2	2.3
Middle East and N. Africa	-1.1	1.0	2.5	2.6
South Asia	3.3	3.2	4.5	4.2
Sub-Saharan Africa	-1.1	-0.5	1.8	1.6

Notes: Data of China is the estimation of Author.

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Scale effect of market and trade



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- In the last 27 years, China has changed from a closed economy to an open economy and has participated and influenced global economy and trade.
- China also accelerates its trade liberalization in decreasing its tariff rate to 9.8% in 2005, abolishing most non-tariff barriers and implement flexible exchange.

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Scale effect of market and trade

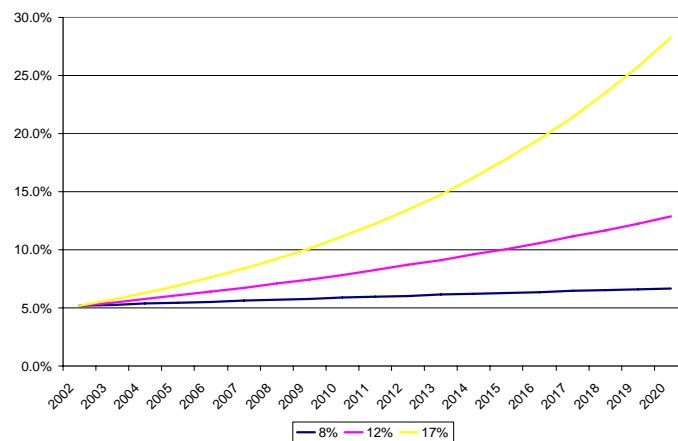
Table7 Export and Import of Main Economies as Share of the World (%)

	1950	1960	1970	1980	1990	2000	2004
Export							
World	100.0	100.0	100.0	100.0	100.0	100.0	100.0
China	0.9	2.0	0.7	0.9	1.8	3.9	6.5
Germany	3.2	8.8	10.8	9.5	12.2	8.6	10.0
India	1.8	1.0	0.6	0.4	0.5	0.7	0.8
Japan	1.3	3.1	6.1	6.4	8.3	7.4	6.2
United States	16.6	15.8	13.6	11.1	11.4	12.1	9.0
Import							
World	100.0	100.0	100.0	100.0	100.0	100.0	100.0
China	0.9	1.9	0.7	1.0	1.5	3.4	5.9
Germany	4.2	7.4	9.1	9.1	10.0	7.4	7.6
India	1.7	1.7	0.6	0.7	0.7	0.8	1.0
Japan	1.5	3.3	5.7	6.8	6.6	5.7	4.8
United States	15.1	11.9	12.9	12.4	14.6	18.8	16.1

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Scale effect of market and trade



China's Trade as share of the World under Different Scenarios

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Scale effect of market and trade



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Table8 Contribution Rate to World's Export Increase of Four Economies

	1980—1990	1990—2002	1980—2002
China	1.96	7.66	6.08
Japan	8.67	4.67	5.78
Germany	10.68	9.55	9.87
United States	12.71	9.87	10.66
World	100	100	100

Notes: Export is according 1995 Dollar (Constant Price)

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Scale effect of resource consuming



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□ China is a “superpower” of the world’s resource consumption.

Table9 Product and Resource Consumption as Share of the World (%)

	GDP ¹	Industrial Value Added ¹	Steel Consumption ¹	Coal Consumption ²	Oil Consumption ²
China	11.8	22	26.62	34.44	8.19
India	5.9	5.7	3.61	7.37	3.17
Japan	6.6	7.1	7.94	4.35	6.41
Russia	2.7	3.3	2.77	3.81	3.41
USA	20.1	16.5	10.71	20.31	24.89

Notes: 1 Data of 2003; 2 Data of 2004

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Scale effect of resource consuming



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□ China is also a “superpower” of the world’s resource consumption growth.

Table10 Resource Consumption Growth as Share of the World 1994-2004 (%)

	Energy	Coal	Oil	Steel
China	30.01	59.14	28.27	54.57
India	7.33	11.96	9.22	5.25
Japan	1.82	6.55	-4.60	-0.93
Russia	-1.79	-3.46	-6.08	2.32
USA	13.50	10.56	22.71	-5.44
EU	9.61	-5.80	8.97	9.50

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Scale effect of resource consuming



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□ China is also a great pollution emitter

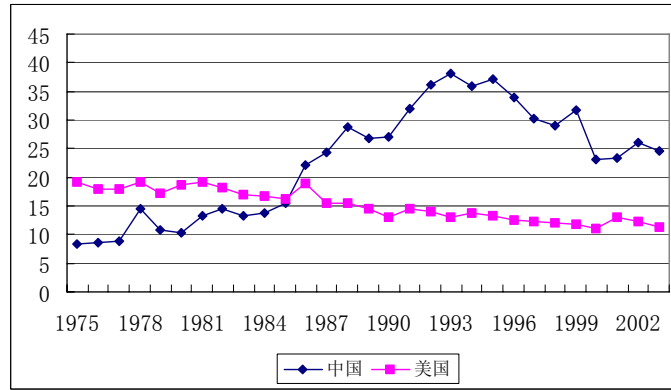
Table11 Pollution Emission as Share of World's Total and Growth

	CO ₂		Organic Waste water	
	As Share of World's Total	As Share of World's Growth 1990-2000	As Share of World's Total	As Share of World's Growth 1990-2000
China	12.16	5.93	28.59	-39.71
India	4.67	6.03	7.29	8.18
Japan	5.16	1.73	6.14	-10.68
Russia	6.26	--	6.13	--
USA	24.42	11.98	9.07	-28.43
EU	10.52	14.11	--	--

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Scale effect of resource consuming



Natural Capital Lost of China and US as Share of the World

China's Development Costs

	Content	As Share of GDP	Based Year
Ecology Cost	Economic lost of natural disaster	3—5%	1990-2000
Natural Capital Loss	Energy, mineral and net forest depletion, CO ₂ Damage	5—7%	2000-2002
Unemployment Cost	Economic lost of urban high unemployment	7—8%	1999-2000
	Opportunity cost of otiose rural labor force	20-33%	1996-2000
Social Cost	Economic cost of crime, disputation, and lawsuits	17.2%	1998-2002
	Economic cost of counterfeit, pirated edition and tortious	2—3%	2000
Corruption Cost	Economic cost of corruption and monopoly	13-17%	2000

Conclusion: Autonomic Rising



- ❑ China cannot go along the traditional rising way of development countries but has to innovate its own way.
- ❑ China has risen with high speed, large scale, uneven development in complex environment, which has become a specific model of rising, the “China Road.”

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Conclusion: Self-constrained Rising



- ❑ The influence of China’s rising to the world has become more and more notable, which is a super scale rising never happens in the world’s history. It can become both great opportunity and challenge to all countries’ development.
- ❑ China has enough capacity and ways to settle its problem of development and decrease the negative externality to all countries.

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Conclusion: Green Rising



- Among the five scale effects, the former four is more of positive externality and the last is more of negative externality. Considering the influence of China's rising to the world, the positive is much larger than the negative.
- If China can choose green development and go along green rising, the negative externality will greatly fall and even become positive one.

Conclusion: Peaceful Rising



- China has been experiencing a stage of strategic opportunity and of fast rising.
- China creates a great new development opportunity for the world but not a threat.
- China's rising will not only change China itself but also reshape the whole world.