

2012 Oxford China and World Economy Forum

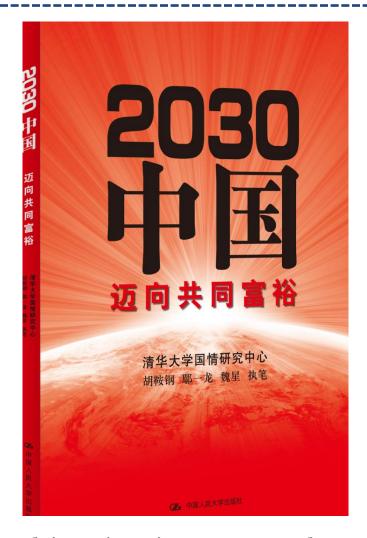
China and the World by 2030

A rising China towards common prosperity A changing world towards common prosperity

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May 9, 2012

- China in 2030 - a brand new book



People's University Press, October 2011

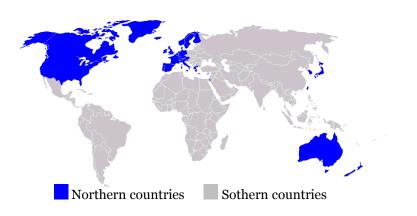


Springer, forthcoming in June 2012

- The World by 2030

- Global golden growth age
- Global industrial structure readjustment
- New round of economic globalization
- S&T and innovation revolution
- Global aging, fewchildren-ization and rapid urbanization
- Global green revolution

- The world influences China
- China also influences the world
- The world changes China
- China also changes the world
- Key definitions in this part
 - Northern countries
 - 34 advanced economies defined by IMF
 - Southern countries
 - Other less developed countries



- Global golden growth age

- During 1990 to 2030, the world will be enjoying the third economic growth golden age
- TFP driven by S&T and innovation, and human capital accumulation driven by education will be the main factors of economic growth

Global economic growth cycle (1820-2030)

Period	Annual growth	CV of	
renou	(%)	growth rate	
1820-1870	0.9	0.3	
1870-1913	2.1	0.4	
1913-1950	0.2	13.8	
1950-1973	4.9	0.2	
1973-1990	3.0	0.4	
1990-2030	3.5	_	

Global growth and its sources (1820-2030)

1990-	2010-	1990-
2010	2030	2030
3.1	3.5	3.3
2.5	3.5	3.0
1. 7	0.1	0.9
1.2	1.2	1.2
1.2	1.7	1.5
	2010 3.1 2.5 1.7 1.2	2010 2030 3.1 3.5 2.5 3.5 1.7 0.1 1.2 1.2

Note: 2020 and 2030 data is estimated by author.

Data source: Angus Maddison, Statistics on World Population, GDP and Per Capita GDP, 1-2008 AD, 2010,

http://www.ggdc.net/MADDISON/oriindex.htm.

- Global golden growth age

- Global economic landscape would be largely reversed
- Southern countries, represented by China and India will be emerging
- Economic share will be from 70/30 (north/south) to 30/70 (north/south)
- A typical U curve for southern countries
- By 2030, China will be top the world in terms of economic size and would be lump sum of all northern countries

GDP (PPP) shares the world total by selected countries (1820-2030)

Unit: %	1820	1870	1913	1950	1973	2000	2010	2020	2030
South	70.3	53.1	42. 1	39.5	39.9	43.0	52.4	60.5	66.9
Asian developing	56.5	36.1	22.2	15.3	15.8	29.2	40.9	49.1	58.2
China	33.0	17.1	8.8	4.6	4.6	11.8	20. 7	28.9	33.4
India	16.1	12.2	7.5	4.2	3.1	5.2	8.0	12.2	18.6
Russia	5.4	7.5	8.5	9.6	9.4	2.1	2.4	2.7	3.0
Brazil	0.4	0.6	0.7	1.7	2.5	2.7	2.6	3.6	5.1
North	29. 7	46.9	57.9	60.5	60.1	57.0	47.6	39.5	33.1
US	1.8	8.9	18.9	27.3	22.1	21.9	18.4	16.7	15.1
EU	23.3	32.0	35.8	27.1	27.1	21.5	18.1	15.7	13.1
Japan	3.0	2.3	2.6	3.0	7.8	7.2	5.4	4.4	3.2
China/US	18.3	1.9	0.5	0.2	0.2	0.5	1.1	1.7	2.2

Note: 2020 and 2030 data is estimated by author.

Data source: Angus Maddison, Statistics on World Population, GDP and Per Capita GDP, 1-2008 AD, 2010, http://www.ggdc.net/MADDISON/oriindex.htm.

- Global industrial structure readjustment

- Agriculture and industrial sectors will be continuously declining, and service sector will be emerging
- The driving forces for above changes are increasing labor productivities in agriculture and industrial sectors, and tradable manufacture goods are also increasing in international trade system

Global industrial structure (1960-2030)

Unit: %	1960	1980	2000	2010	2020	2030
Agriculture	8.8	6.6	3.6	2.9	2.4	2.1
Industry	38.2	37.0	28.9	27.0	22.1	20.0
Manufacture	29.0	25.1	19.2	16.8	12.4	11.2
Service	53.0	56.4	67.5	70.2	75.6	77.9

- Declines in agriculture means the less dependence on agriculture resources
- Declines in industry means less dependence on non-renewable energies and raw materials
- Increases in service means more dependent on knowledge factors, such as S&T, education and information, which will be the main driven forces of future economic growth

Note: 2020 and 2030 data is estimated by author. Data source: World Bank, World Development Indicator 2011.

- New round of economic globalization

- International trade will be continuously grow, by 2030, export will share 53.4% of the world total GDP
- International workshop will mobilize from northern countries to southern countries, export structure will be 30/70 (north/south) by 2030
- Simultaneously, southern countries will also be the world market, import structure will be 40/60 (north/south) by 2030
- China will become net import country before 2020

Export shares the world total (1870-2030)

Unit: %	1870	1950	1973	1998	2010	2020	2030
South	28.1	37.6	39.2	41.4	62.2	68.0	72.0
China	2.8	2.1	0.7	3.3	10.4	18.0	24.0
India	6.9	1.9	0.6	0.7	1.4	2.4	5.0
Russia	0.0	2.2	3.4	2.1	2.5	2.7	3.5
Brazil	1.7	1.2	0.6	0.9	1.3	1.7	2.9
North	71.9	62.4	60.8	58.6	37.8	32.0	28.0
US	5.0	14.6	10.3	12.8	8.4	10.0	9.0
EU	60.4	38.9	43.2	38.1	15.7	14.0	12.0
Japan	0.1	1.2	5.6	5.9	5.1	5.0	4.0

Import shares the world total (1870-2030)

1950	1980	2000	2010	2020	2030
28.9	24.5	29.9	41.6	50.0	60.0
0.9	1.0	3.3	9.1	19.0	27.0
1.7	0.7	0.8	2.1	4.5	6.8
		0.7	1.6	2.0	2.5
1.7	1.2	0.9	1.2	1.5	1.8
71.1	75∙5	70.1	58.4	50.0	40.0
15.0	12.4	18.7	12.8	10.5	9.5
		38.4	34.7	30.0	25.0
1.5	6.8	5.6	4.5	4.0	3.5
	28.9 0.9 1.7 1.7 71.1 15.0	28.9 24.5 0.9 1.0 1.7 0.7 1.7 1.2 71.1 75.5 15.0 12.4	28.9 24.5 29.9 0.9 1.0 3.3 1.7 0.7 0.8 0.7 0.7 1.7 1.2 0.9 71.1 75.5 70.1 15.0 12.4 18.7 38.4	28.9 24.5 29.9 41.6 0.9 1.0 3.3 9.1 1.7 0.7 0.8 2.1 0.7 1.6 1.7 1.2 0.9 1.2 71.1 75.5 70.1 58.4 15.0 12.4 18.7 12.8 38.4 34.7	28.9 24.5 29.9 41.6 50.0 0.9 1.0 3.3 9.1 19.0 1.7 0.7 0.8 2.1 4.5 0.7 1.6 2.0 1.7 1.2 0.9 1.2 1.5 71.1 75.5 70.1 58.4 50.0 15.0 12.4 18.7 12.8 10.5 38.4 34.7 30.0

Note: 2020 and 2030 data is estimated by author.

Data source: Angus Maddison, 1995. Monitoring the World Economy 1820-1992, OECD Development Centre, Paris; Angus Maddison, 2001. The World Economy: A Millennial Perspective, OECD Development Centre, Paris; International Trade Statistics.

- New round of economic globalization

- FDI will flow more into southern countries, by 2030 it will be 25/75 (north/south) in terms of FDI flow
- BRICS, in particular, China will be the new sources of international investment

FDI inflow shares the world total (1870-2030)

	1970	1980	1990	2000	2009	2020	2030
South	28.9	13.9	16.9	18.8	49.2	60.0	<i>7</i> 5.0
China		0.1	1.7	2.9	8.5	15.0	20.0
North	71.1	86.1	83.1	81.2	50.8	40.0	25.0
NAFT	25.4	45.9	28.2	28.5	14.5	10.0	10.0

- Now China is the fifth FDI outflow country in the world
- By 2020, China's FDI outflow will reach 3 trillion USD, shares about 5% of its GDP
- By 2030, China's FDI outflow will reach 4.5-5 trillion, to be the largest FDI outflow country in the world

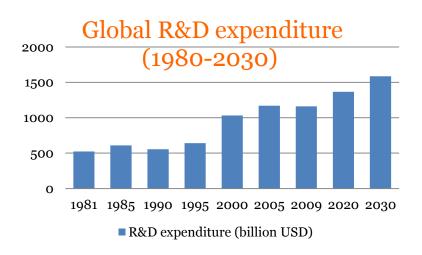
Note: 2020 and 2030 data is estimated by author. Data source: UNCTAD Stat.

- S&T and innovation revolution

- Global S&T and innovation activities will be bouncing, such scientific paper publication, patent application will be rapid increasing
- S&T personnel will be growing, and to be the key source for S&T and innovation
- R&D input will be increasing as well, by 2030, R&D expenditure will share 3% of the world total GDP
- High-tech trade will share up to 30% of total manufacture trade by 2030

S&T personnel (full-time researchers) (1980-2030)

Unit: thousand persons	1980	1990	2000	2005	2007	2020	2030
China	320	350	690	1110	1420	3000	4500
US	650	9240	1260	1360	1430	1800	2200
EU			1090	1290	1450	1800	2300
Japan	630	910	1050	1010	1050	1200	1500
Russia			510	470	470	600	800
World			6880	8230	7210	10000	15000



Note: 2020 and 2030 data is estimated by author. Data source: Various sources.

- Global aging, few-children-ization and rapid urbanization

- Median age of global population will increase from 29.2 in 2010 to 34.1 in 2030, and 65+ population will increase from 7.6% in 2010 to 11.7% in 2030
- 0-14 population will decrease from 26.8% in 2010 to 22.9% in 2030
- Population will be mobilizing from rural to urban, by 2030, 59% of total population will live in urban area

Working age population shares the world total

Unit: %	1950	1970	1990	2000	2010	2020	2030
South	74.6	77.4	81.9	83.8	85.4	86.8	88.0
Asian developing	50.4	52.0	56.8	58.1	59.2	59.4	58.6
China	22.0	21. 7	23.3	22.2	21.4	19.7	17.7
India	14.4	14.6	15.7	16.7	17.5	18.3	19.0
Russia	4.3	4.1	3.1	2.6	2.3	1.9	1.6
Brazil	2.0	2.5	2.8	2.9	2.9	2.9	2.8
North	25.4	22.6	18.1	16.2	14.6	13.2	12.0
US	6.7	6.1	5.1	4.9	4.6	4.3	4.1
EU	13.1	10.8	8.0	6.9	6.2	5.5	4.9
Japan	3.2	3.4	2.6	2.2	1.8	1.5	1.3

Urban population shares the world total

Unit: %	1950	1970	1990	2000	2010	2020	2030
South	52.4	61.5	71.7	75.1	77.6	79.8	81.8
Asian developing	26.5	30.7	39.2	43.3	46.4	48.5	50.1
China	8.8	10.7	13.4	16.0	19.1	21.0	22.9
India	8.7	8.2	9.8	10.2	10.5	11.1	12.0
Russia	6.2	6.1	4.8	3.8	2.9	2.4	2.0
Brazil	2.7	4.0	4.9	5.0	4.9	4.5	4.0
North	47.6	38.5	28.3	24.9	22.4	20.2	18.2
US	13.9	11.6	8.5	8.0	7.5	7.0	6.6
EU	21.5	16.1	11.2	9.2	8.2	7.3	6.5
Japan	4.0	4.2	3.4	2.9	2.4	2.1	1.7

Note: 2020 and 2030 data is estimated by author.

Data source: Population Division of the Department of Economic and Social Affairs of the United Nations Secretariat, World Population Prospects: The 2010 Revision, http://esa.un.org/unpd/wpp/index.htm.

- Global green revolution

- Global energy consumption structure will be under adjustment, and green energy will be promising direction
- Southern countries will be becoming main consumer of global energy
- Climate change will be common challenge for every country, and global carbon emission will be reaching its peak around 2020-2030

Global primary energy consumption structure (1980-2030)

Coal 24.8 22.9 26.5 28.4 28.9 2 Oil 43.0 36.5 34.1 31.4 30.5 29 Gas 17.1 20.8 20.9 20.8 20.8 2 Nuclear 2.6 6.7 5.9 6.0 5.9 9 Hydra 2.0 2.2 2.2 2.4 2.4 2 Bio and 10.4 10.2 0.8 0.0 0.0 0.0							
Oil 43.0 36.5 34.1 31.4 30.5 29 Gas 17.1 20.8 20.9 20.8 20.8 2 Nuclear 2.6 6.7 5.9 6.0 5.9 Hydra 2.0 2.2 2.2 2.4 2.4 Bio and	Unit: %	1980	2000	2007	2015	2020	2030
Gas 17.1 20.8 20.9 20.8 20.8 2 Nuclear 2.6 6.7 5.9 6.0 5.9 Hydra 2.0 2.2 2.2 2.4 2.4 2.4 Bio and	Coal	24.8	22.9	26.5	28.4	28.9	29.1
Nuclear 2.6 6.7 5.9 6.0 5.9 Hydra 2.0 2.2 2.2 2.4 2.4 2 Bio and	Oil	43.0	36.5	34.1	31.4	30.5	29.8
Hydra 2.0 2.2 2.2 2.4 2.4 2.8 Bio and	Gas	17.1	20.8	20.9	20.8	20.8	21.2
Bio and 10.4 10.2 0.8 0.0 0.0	Nuclear	2.6	6.7	5.9	6.0	5.9	5.7
10.4 10.2 0.8 0.0 0.0	Hydra	2.0	2.2	2.2	2.4	2.4	2.4
renewasie	Bio and renewable	10.4	10.3	9.8	9.9	9.9	9.6
Other 0.2 0.5 0.6 1.2 1.6	Other	0.2	0.5	0.6	1.2	1.6	2.2

Primary energy consumption shares the world total (1980-2030)

1980	2000	2007	2015	2020	2030
44.0	47.6	54.2	59.5	62.1	65.4
8.3	11.0	16.4	20.6	22.1	22.8
2.9	4.6	5.0	5.7	6.2	7.7
4.0	4.6	4.6	4.7	4.7	4.9
56.0	52.4	45.8	40.5	37.9	34.6
24.9	22.8	19.5	17.0	15.8	14.3
	16.8	14.6	12.7	11.8	10.6
4.8	5.2	4.3	3.6	3.3	2.9
	44.0 8.3 2.9 4.0 56.0 24.9	44.0 47.6 8.3 11.0 2.9 4.6 4.0 4.6 56.0 52.4 24.9 22.8 16.8	44.0 47.6 54.2 8.3 11.0 16.4 2.9 4.6 5.0 4.0 4.6 4.6 56.0 52.4 45.8 24.9 22.8 19.5 16.8 14.6	44.0 47.6 54.2 59.5 8.3 11.0 16.4 20.6 2.9 4.6 5.0 5.7 4.0 4.6 4.6 4.7 56.0 52.4 45.8 40.5 24.9 22.8 19.5 17.0 16.8 14.6 12.7	44.0 47.6 54.2 59.5 62.1 8.3 11.0 16.4 20.6 22.1 2.9 4.6 5.0 5.7 6.2 4.0 4.6 4.6 4.7 4.7 56.0 52.4 45.8 40.5 37.9 24.9 22.8 19.5 17.0 15.8 16.8 14.6 12.7 11.8

Note: 2020 and 2030 data is estimated by author. Data source: International Energy Agency, World Energy Outlook 2009.

- A changing world towards common prosperity

- Decline of poverty incident rate
- Increase of per capita income
- Significant increase of human development level
- By 2030, the world will
 - Reduce the inequality
 - Alleviate poverty
 - Increase human development level

Catch-up index of GDP per capita (North countries=100, 1950-2030)

	1950	1970	2000	2010	2020	2030
South	20.5	17.1	13.5	18.1	24.1	34.4
Asian developing	11.8	10.0	13.5	21.0	29.6	44.4
China	8.3	7.1	15.2	31.5	55.0	85. 7
India	11.3	7.0	8.1	13.3	23.2	43.6

Poverty incident rate (1.25 USD per person per day, 1990-2030)

	1990	2005	2015	2020	2030
China	60.2	15.9	<5	1.0	
India	51.3	41.6	22.0	15.0	<10
Developing countries	46.0	27.0	<15	<10	<5

 By 2030, the world will be entering high human development level as a whole

Note: 2020 and 2030 data is estimated by author.

Data source: Angus Maddison, 2010; Population Division of the Department of Economic and Social Affairs of the United Nations Secretariat, World Population Prospects: The 2010 Revision, http://esa.un.org/unpd/wpp/index.htm; World Bank, World Development Indicator 2011.

- A changing world towards common prosperity

- Toward a common prosperous world, we must work together
 - For a peaceful world
 - For a harmonious world
 - For a common-rich world
 - For a green world

- A rising China towards common prosperity

China by 2030

- An economic superpower
 - The largest economy, the largest consumption market, the largest modern industrial system, the largest urbanization, and the largest infrastructure system
- An innovative country
 - A human resource superpower, a talent superpower, a S&T and innovation superpower, and a infrastructure superpower
- A high human developed country
 - A high income country, a well educated country, a healthy country, and a high human developed country
- A common-rich society
 - An equal society with low urban-rural inequality and low regional disparity, a service equalized society, and full coverage of social security
- A green country
 - A forestry country, a beautiful country with clean water and blue sky

- A rising China towards common prosperity

- China will be the world's largest economy very soon
 - By 2020, whatever measurements are applied, China will surpass US as the largest economy, and will be 1.04-1.74 times of US GDP
 - By 2030, by different types of measurement, China will be 2.2-2.5 times of US in terms of GDP

GDP in China and US and its catch-up index (2000-2030)

	2000	2010	2015	2020	2025	2030		
GDP (trillion USD)								
China	1.2	5.8	11.5	22.7	38.8	66.4		
US	9.9	14.7	17.9	21.9	26.6	32.5		
China	3.0	9.8	15.6	24.7	35.7	51.6		
US	9.9	14.5	16.4	18.5	21.0	23.7		
China	4.3	10.7	15.0	21.1	26.9	34.4		
US	8.0	9.5	10.7	12.2	13.8	15.6		
Catch-up index (US=100)								
Current exchange rate		39.6	64.1	103.9	145.7	204.4		
PPP (current price)		67.8	95.2	133.5	170.3	217.4		
PPP (1990 intl \$)		112.9	140.0	173.5	195.7	220.8		
	China US China US China US Catch nge rate price)	GDP (tri China 1.2 US 9.9 China 3.0 US 9.9 China 4.3 US 8.0 Catch-up innege rate 12.1 price) 30.2	GDP (trillion UChina 1.2 5.8 US 9.9 14.7 China 3.0 9.8 US 9.9 14.5 China 4.3 10.7 US 8.0 9.5 Catch-up index (Uspecial description) 30.2 67.8	GDP (trillion USD) China 1.2 5.8 11.5 US 9.9 14.7 17.9 China 3.0 9.8 15.6 US 9.9 14.5 16.4 China 4.3 10.7 15.0 US 8.0 9.5 10.7 Catch-up index (US=100 1) nge rate 12.1 39.6 64.1 price) 30.2 67.8 95.2	GDP (trillion USD) China 1.2 5.8 11.5 22.7 US 9.9 14.7 17.9 21.9 China 3.0 9.8 15.6 24.7 US 9.9 14.5 16.4 18.5 China 4.3 10.7 15.0 21.1 US 8.0 9.5 10.7 12.2 Catch-up index (US=100) nge rate 12.1 39.6 64.1 103.9 price) 30.2 67.8 95.2 133.5	China 1.2 5.8 11.5 22.7 38.8 US 9.9 14.7 17.9 21.9 26.6 China 3.0 9.8 15.6 24.7 35.7 US 9.9 14.5 16.4 18.5 21.0 China 4.3 10.7 15.0 21.1 26.9 US 8.0 9.5 10.7 12.2 13.8 Catch-up index (US=100) nge rate 12.1 39.6 64.1 103.9 145.7 price) 30.2 67.8 95.2 133.5 170.3		

Note: 2020 and 2030 data is estimated by author.

Data source: World Bank, World Development Indicator 2011; Angus Maddison, Statistics on World Population, GDP and Per Capita GDP, 1-2008 AD, 2010,

http://www.ggdc.net/MADDISON/oriindex.htm.Population Division of the Department of Economic and Social Affairs of the United Nations Secretariat, World Population Prospects: The 2010 Revision, http://esa.un.org/unpd/wpp/index.htm.

- A rising China towards common prosperity

- China will become high income status
 - By 2030, China's GDP per capita will be 52.0-56.2% of the US
 - China will be reaching high income level between 2020-2030

GDP per capita in China and US and its catch-up index (2000-2030)

		2000	2010	2015	2020	2025	2030			
GDP per Capita (USD)										
Current	China	925	4249	8220	16025	27255	46670			
exchange rate	US	35040	47390	55360	64838	76177	89798			
PPP	China	2305			17448					
(current price)	US	35040	46626							
PPP	China	3335			14883					
(1990 intl \$)	US	28433	30589	33166	36053	39314	43014			
Catch-up index (US=100)										
Current exchan	2.6	9.0	14.8	24.7	35.8	52.0				
PPP (current)	6.6	15.4	22.0	31.8	41.8	55.3				
PPP (1990 in	11.7	25.6	32.4	41.3	48.1	56.2				

GDP and GDP per capita index and growth rate in China (2000-2030)

	1978		2010	2020	2030	1978-2010 annual growth (%)	2010-2030 annual growth (%)	1978-2030 annual growth (%)
GDP		1	20.6	44.4	87.4	9.9	7.5	9.0
GDP per capita		1	14.7	30.3	62.5	8.8	7.0	8.3

Note: 2020 and 2030 data is estimated by author.

Data source: World Bank, World Development Indicator 2011; Angus Maddison, Statistics on World Population, GDP and Per Capita GDP, 1-2008 AD, 2010, http://www.ggdc.net/MADDISON/oriindex.htm.Population Division of the Department of Economic and Social Affairs of the United Nations Secretariat, World Population Prospects: The 2010 Revision, http://esa.un.org/unpd/wpp/index.htm.

- Summary

- Common prosperous country
 - Economically powerful country with billions population
 - Innovative country with billions population
 - Common-rich country with billion population
 - Beautiful country built up by all Chinese
- Common prosperous world
 - Big development
 - Big convergence
 - Big reversion
 - Big transformation
- China will be
 - The most powerful engine for global economic development
 - The new donor of international development assistance
 - The leading country of global big transformation