



China's Age of Abundance: When Might it Run Out?

Shen Ke, Fudan University

Wang Feng, Fudan University

Cai Yong, University of North Carolina, Chapel Hill

(Regional Meeting on National Transfer Accounts in Asia, Feb. 2014)



Beginning of a New Era: Slowing down economic growth and the end of demographic dividend

- **Economically**

- Three decades of economic hyper-growth
- In 2012, China registered its annual economic growth rate below 8 percent

- **Demographically**

- The size of population aged 65 and above reached 126 million in 2012
- A decline of labor force population by 3.5 million in 2012
- Exhaustion of its demographic dividend in 2012 (Wang and Mason, 2008)



Motivating Questions

- **Changes in income, consumption, and savings at both the aggregate and individual levels in China**
- **Implications of rapid population aging on economic profiles in the future**



Methodology: National Transfer Account

- **Equation (deficit):**

$$C(x) - Y^l(x) = \tau^+(x) - \tau^-(x) + Y^A(x) - S(x)$$

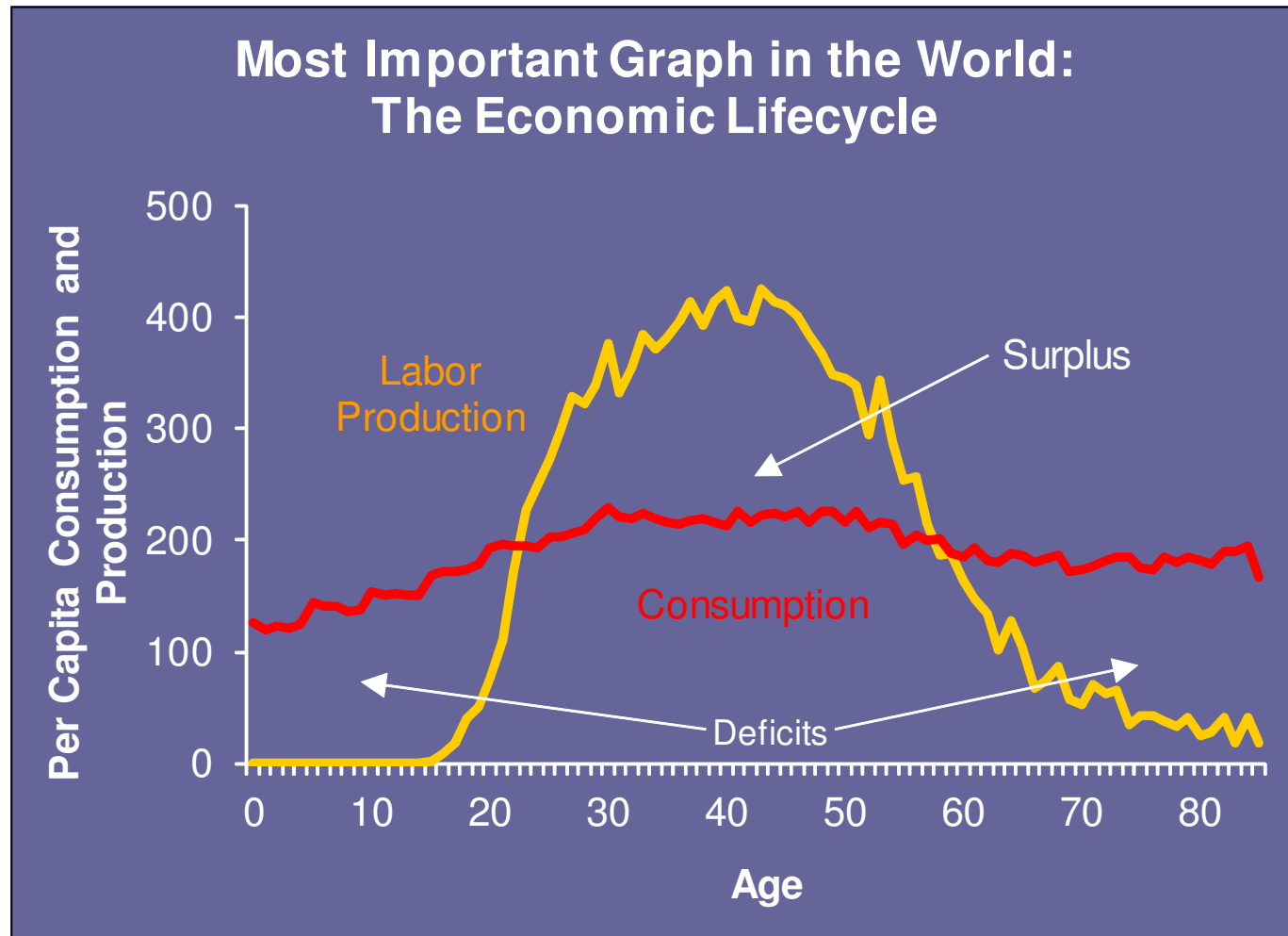
Lifecycle deficit = consumption (C) - labor income (Y^l)

= net transfers (τ) + asset income (Y^a) – savings (S)

- **The identity not only holds for per capita values at each age, but also holds for national aggregate values**

$$C - Y^l = \tau + Y^A - S$$

An illustrative example of NTA

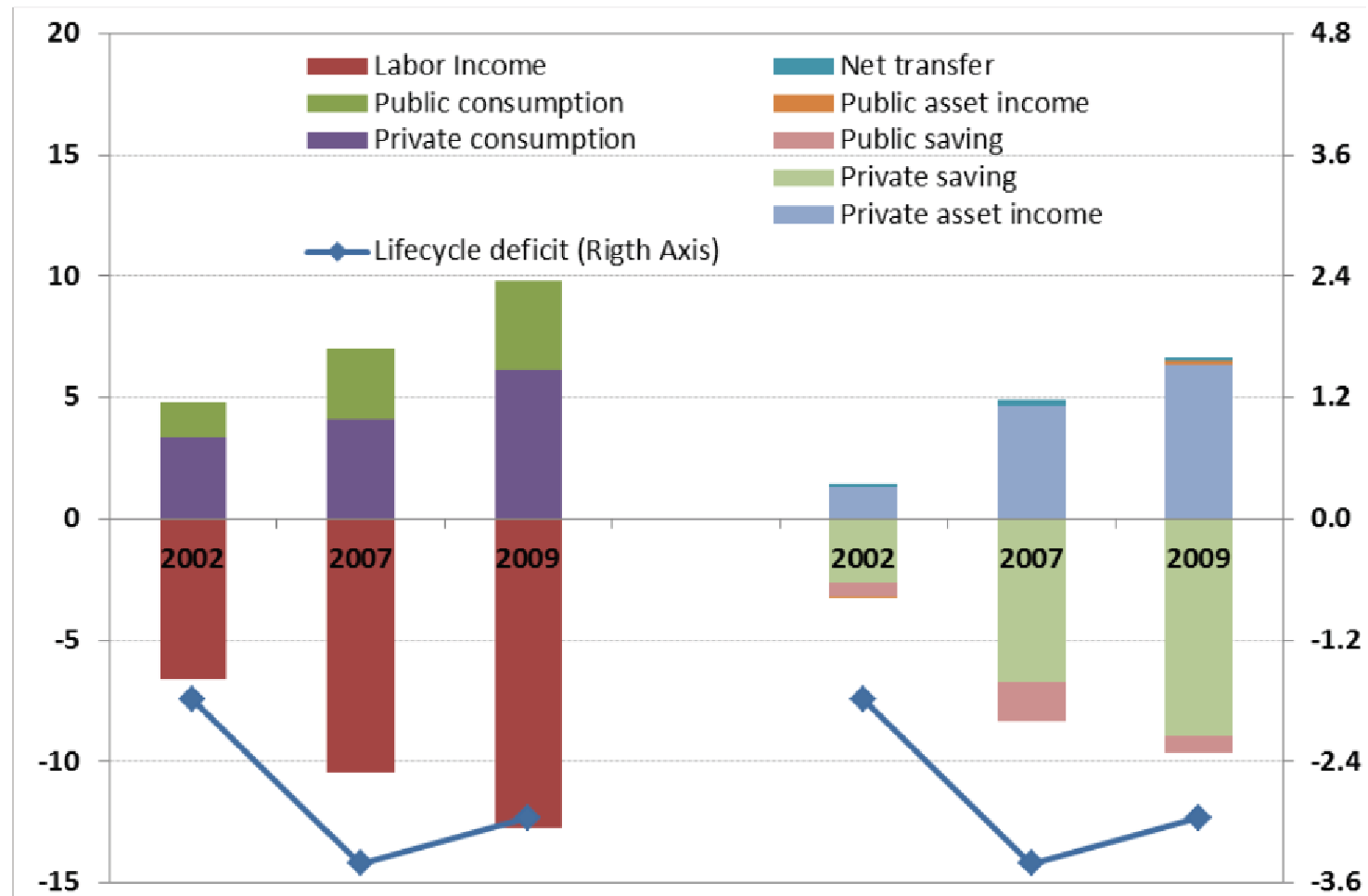




Data

- **Macro level:**
 - **officially released data in the System of National Accounts (SNA) and government financial statistics data for 2002, 2007, and 2009**
- **Micro level:**
 - **China Household Income Project (CHIP) survey for 2002 and 2007**
- **Population projection of United Nations**

Life-Cycle Deficit and Compositions: 2002, 2007, 2009 (Aggregate level)

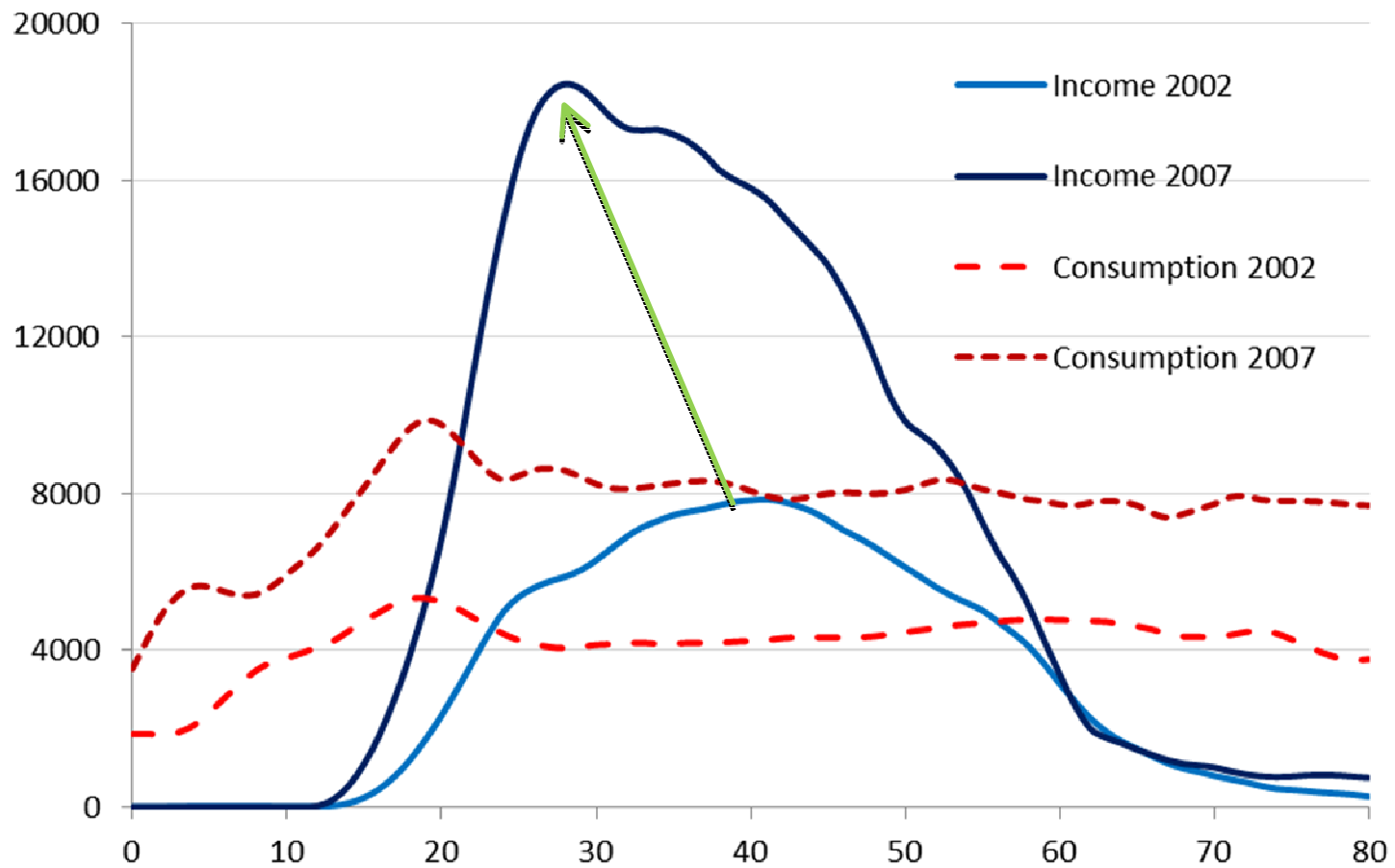


Unit: Trillion RMB, 2002 prices

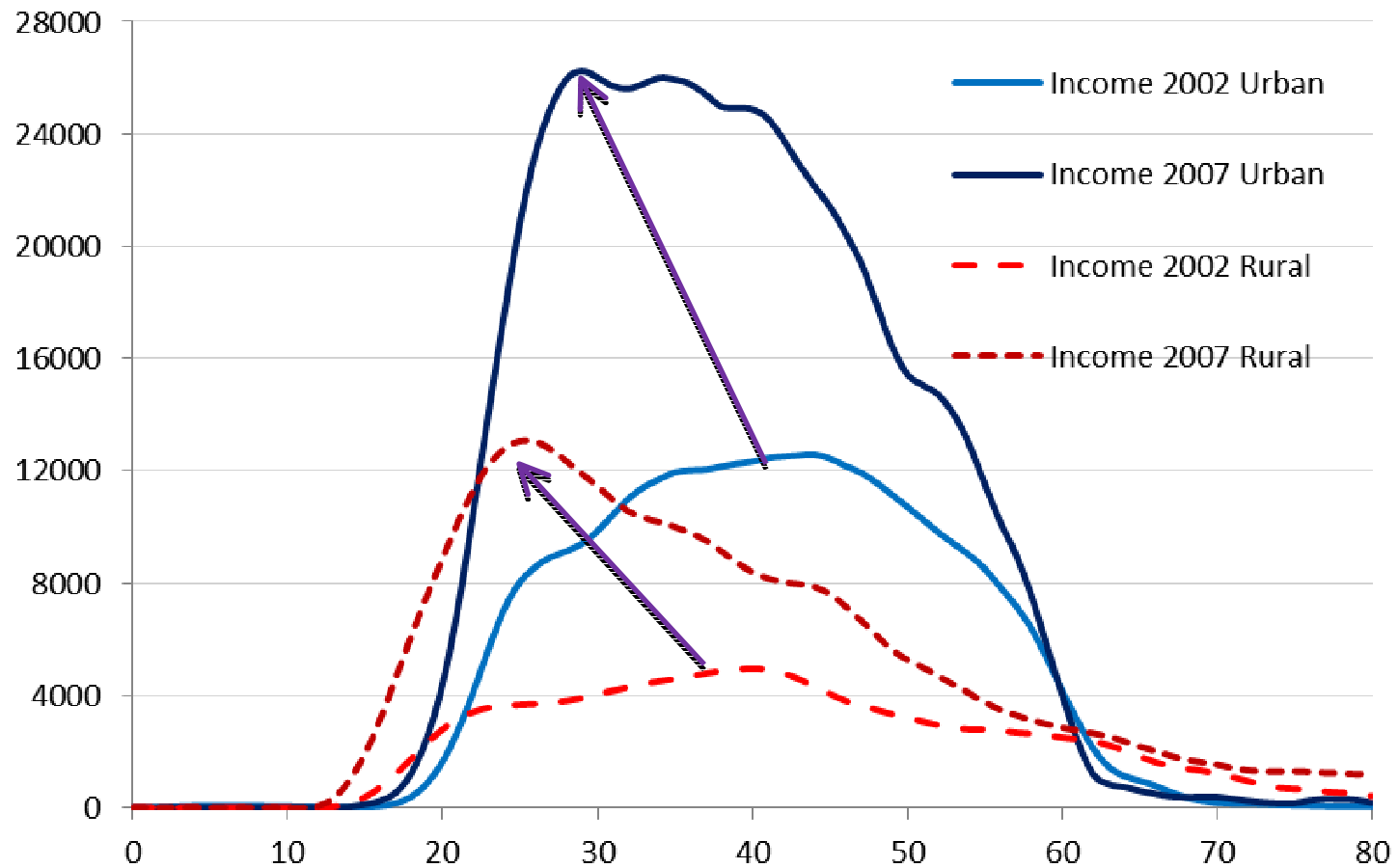
Lifecycle deficit and age reallocation in 2002, 2007 and 2009 (Unit: trillion RMB)

	2002	2007	2009	Annual change 2002-2007	Annual change 2007-2009
Lifecycle deficit	-1.79	-3.41	-2.96	13.8%	-6.8%
Consumption	4.79	7.02	9.78	7.9%	18.0%
Public consumption	1.43	2.91	3.62	15.3%	11.5%
Education	0.26	0.56	0.77	16.6%	17.3%
Health	0.13	0.35	0.63	21.9%	34.2%
Other	1.04	2.00	2.23	14.0%	5.6%
Private consumption	3.36	4.10	6.16	4.1%	22.6%
Education	0.46	0.44	0.59	-0.9%	15.8%
Health	0.21	0.26	0.39	4.4%	22.5%
Other	2.70	3.40	5.18	4.7%	23.4%
Less: Labor Income	6.58	10.43	12.74	9.7%	10.5%
Lifecycle age reallocation	-1.79	-3.41	-2.96	13.8%	-6.8%
Net transfer	0.11	0.23	0.16	15.9%	-16.6%
Asset income	1.30	4.68	6.50	29.2%	17.9%
Public asset income	-0.04	0.02	0.16		182.8%
Private asset income	1.34	4.65	6.35	28.3%	16.9%
Less: Saving	3.20	8.32	9.62	21.1%	7.5%
Public saving	0.58	1.59	0.68	22.3%	-34.6%
Private saving	2.61	6.73	8.94	20.9%	15.3%

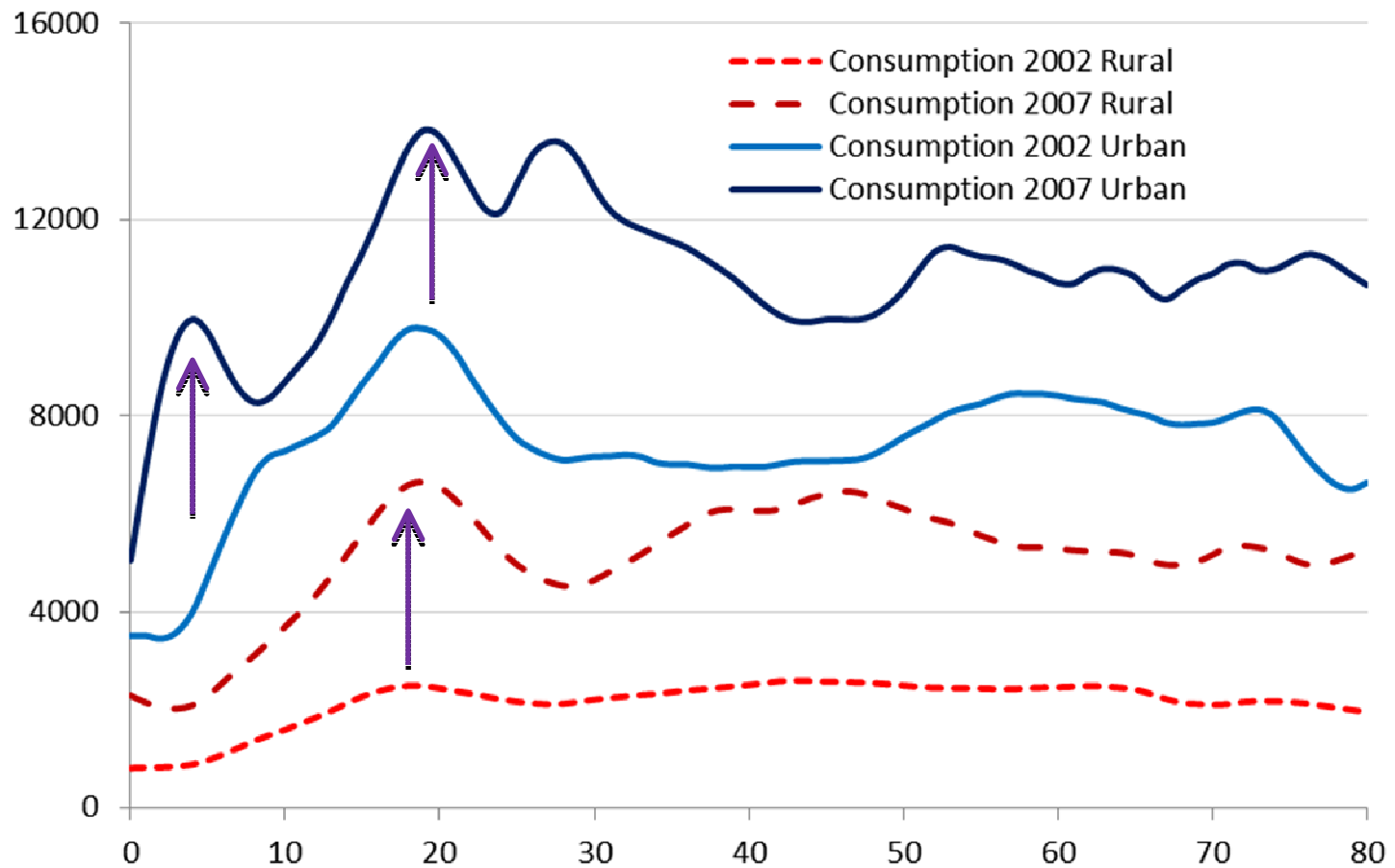
Micro level change: Per Capita Income and consumption



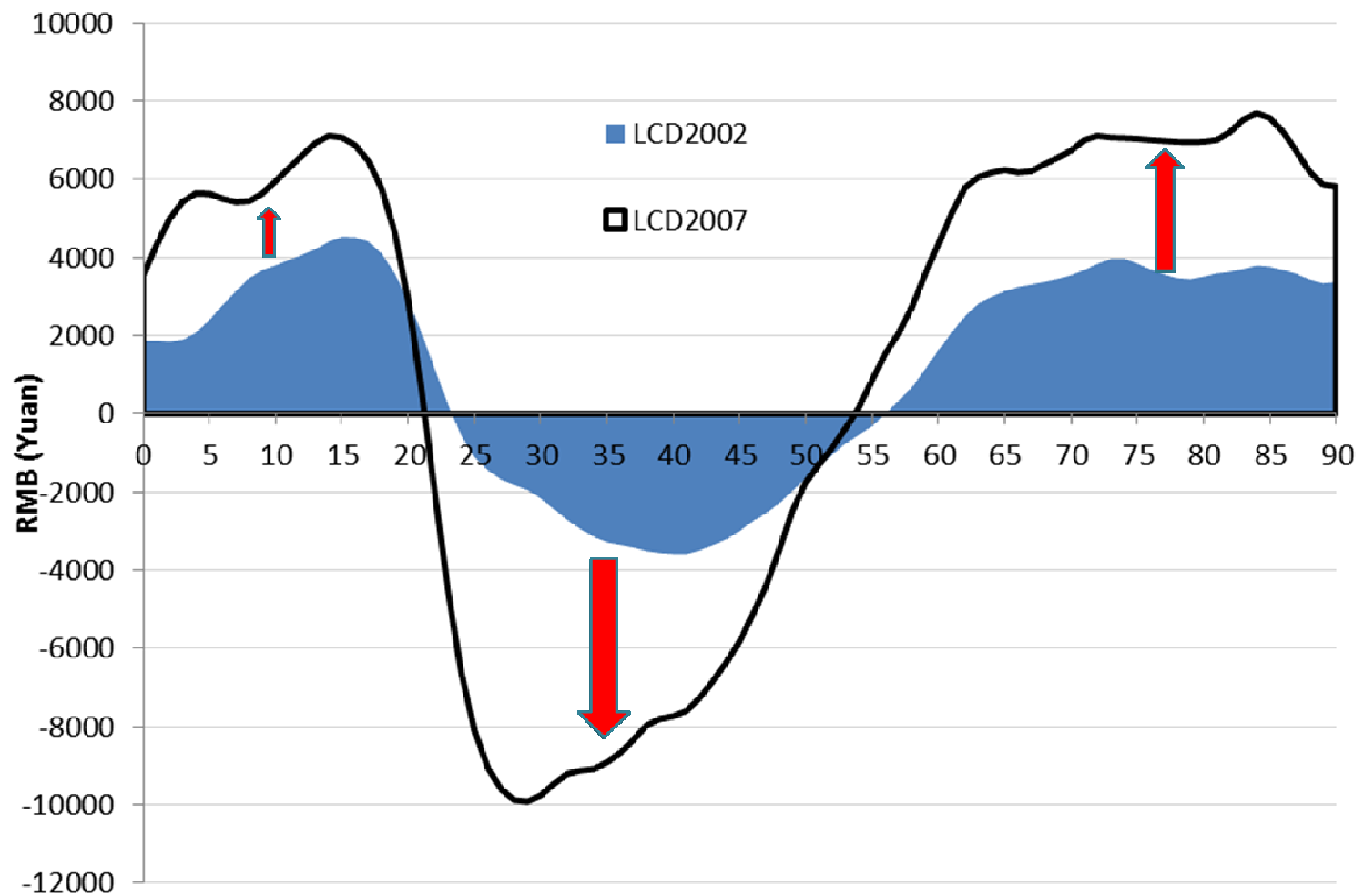
Micro level change: Income by urban and rural, 2002 and 2007



Micro level change: Consumption by urban and rural, 2002 and 2007



Micro level change: Lifecycle deficit, 2002 and 2007

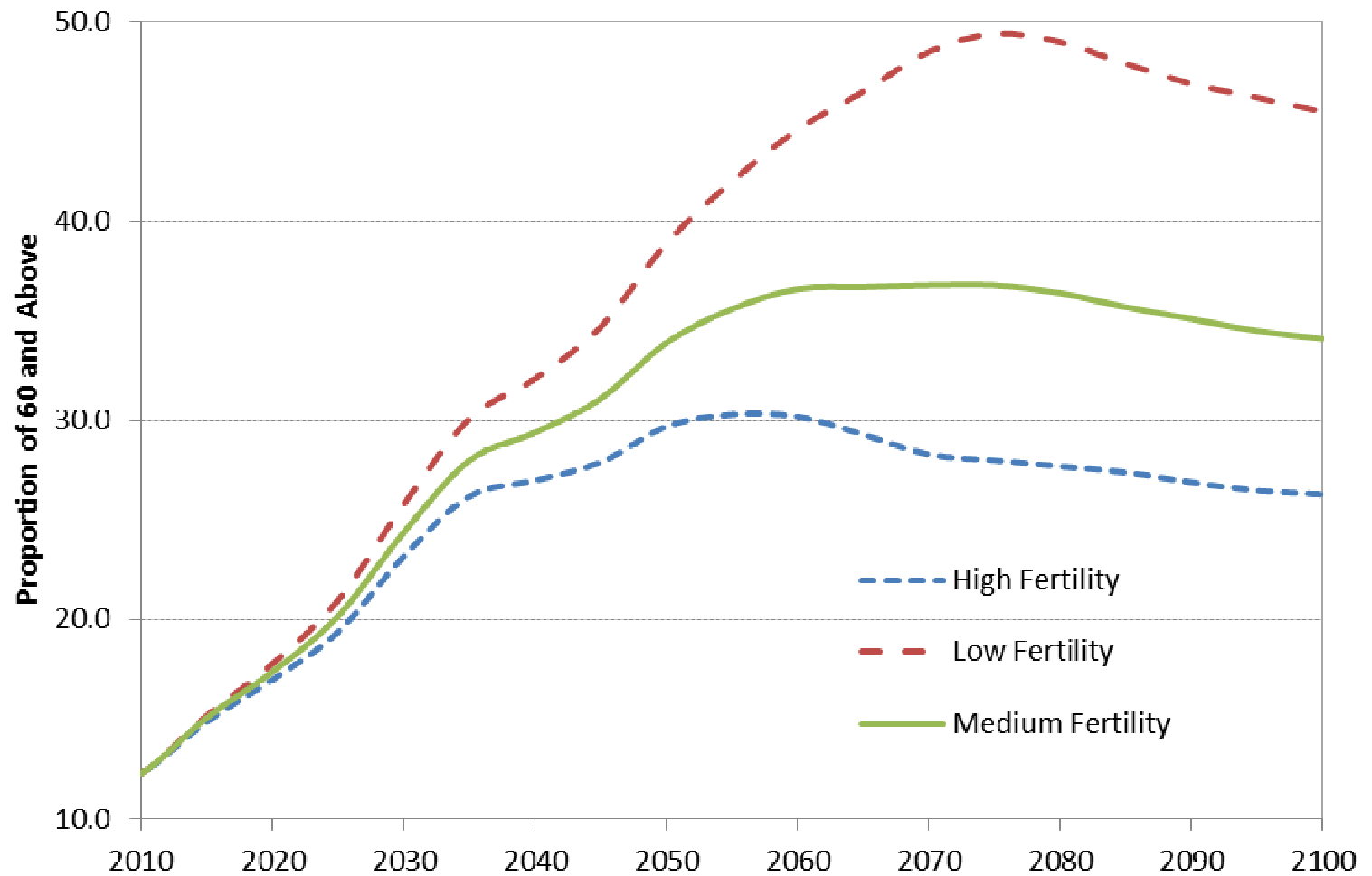




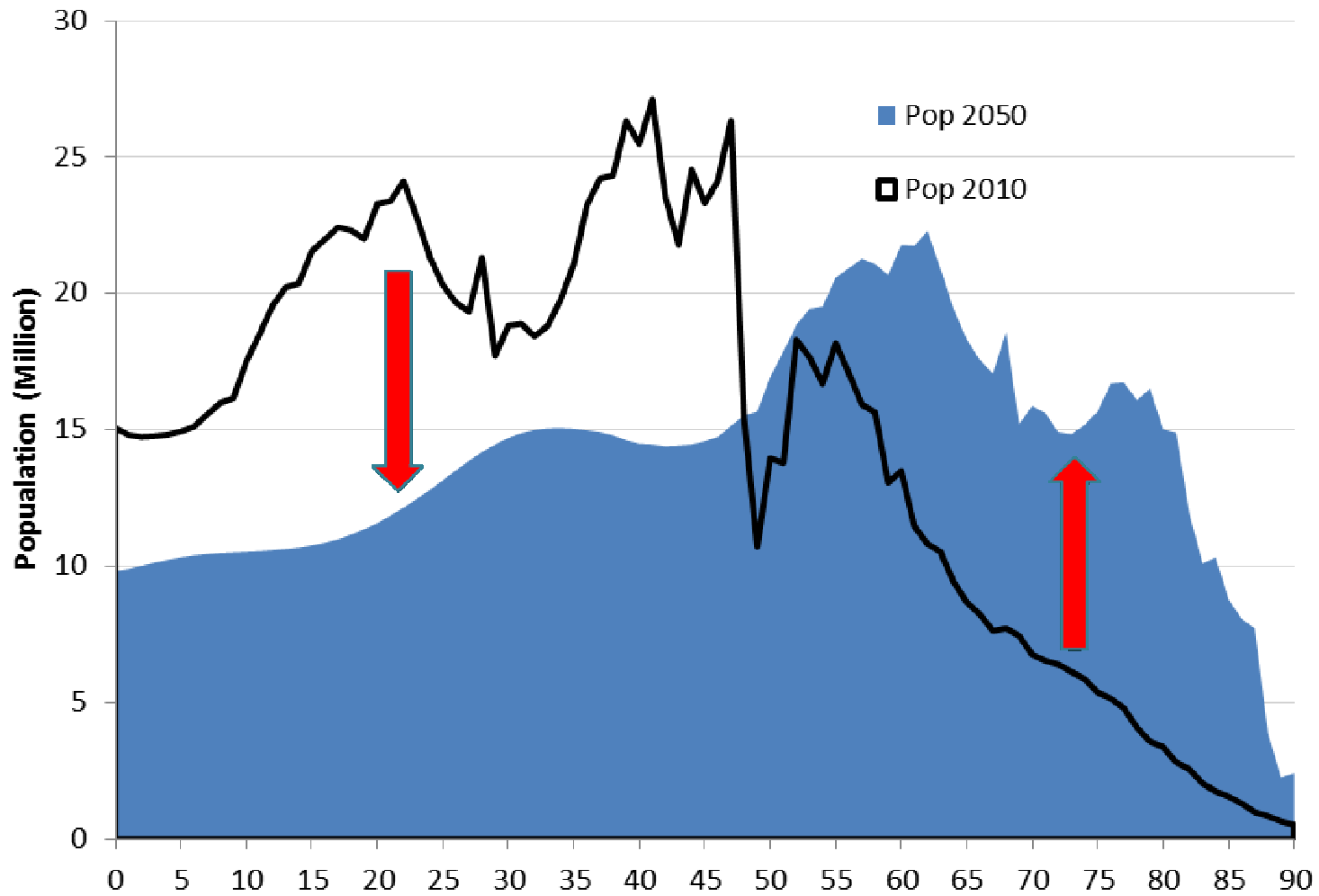
Population Aging

- **Rapid aging as a result of mortality reduction and decreased fertility.**
- **Aging is happening at a faster speed than expected.**
 - China's population aged 60+ accounted for 13.26% of the total population in 2010, up by 2.9 percentage points in one decade
 - Population aged 65+ accounted for 8.9% of the total population, up by 1.9 percentage points compared with 2000
 - Both numbers are higher than the official Chinese government's projections and that of the United Nation's (Cai, 2013).

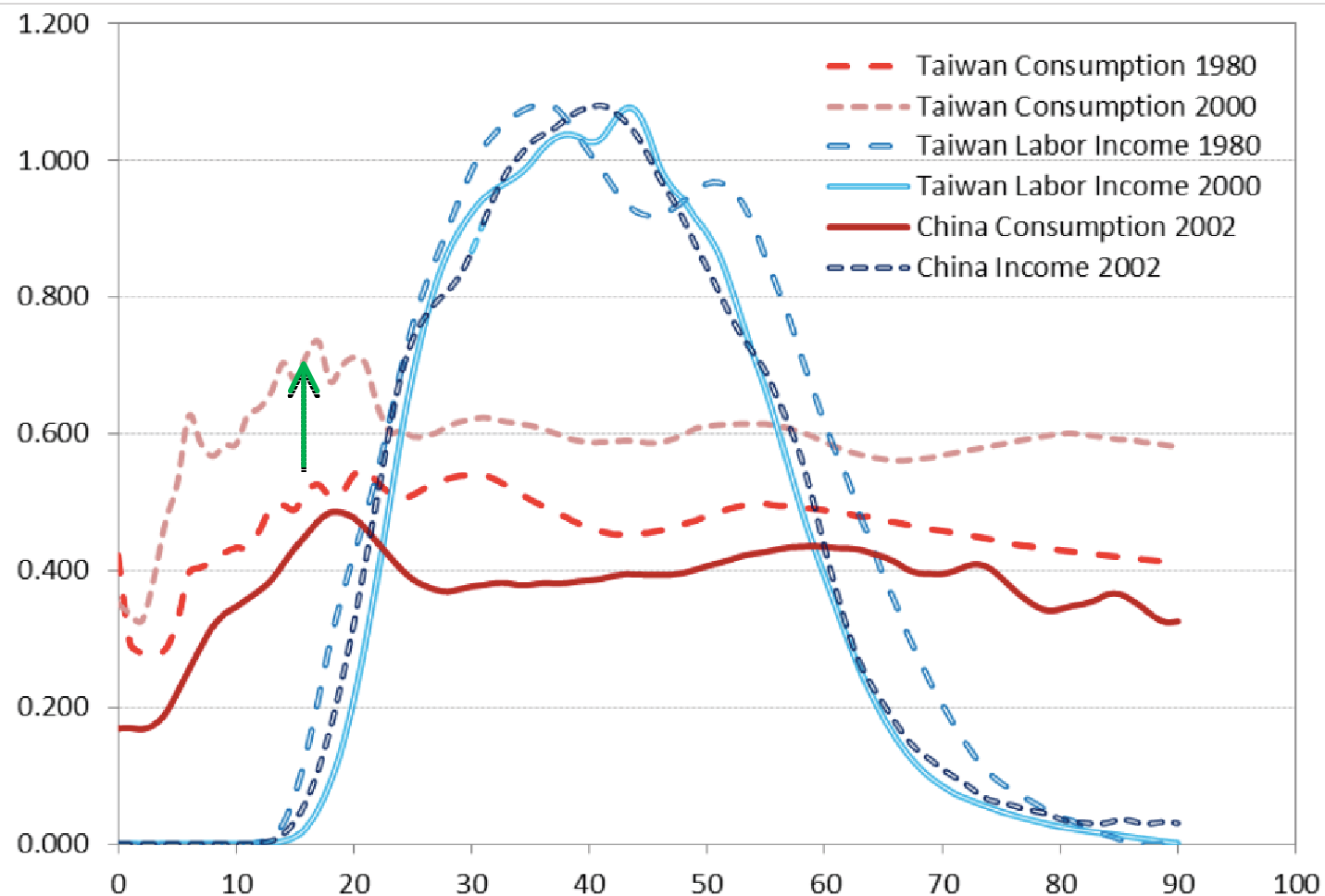
Population Aging



Population Aging

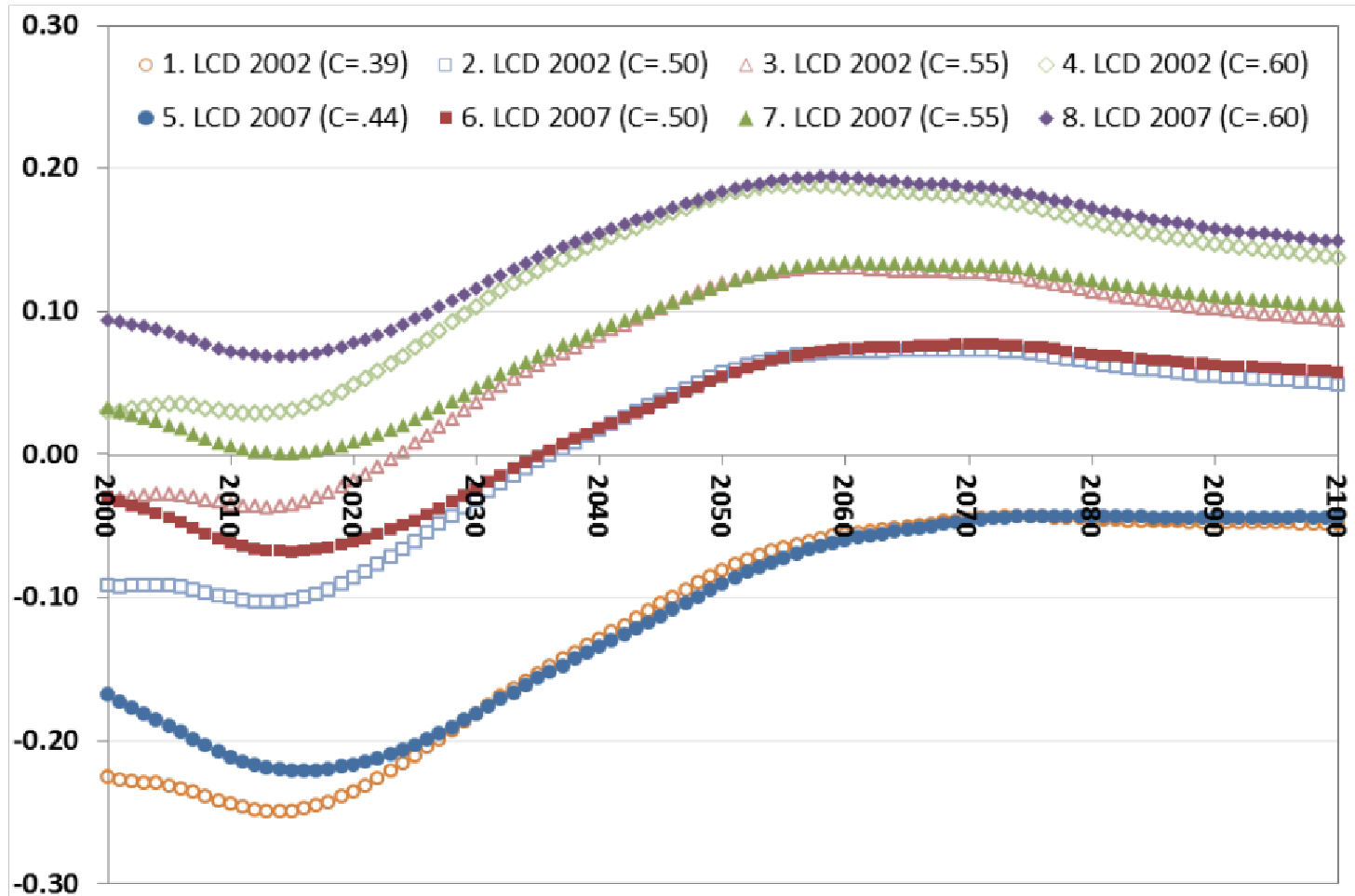


Comparison with Taiwan: NTA Normalized Profiles (China 2002 with Taiwan 1980/2000)



Using prime working age (30-49) as index, the levels of consumption as percentage of prime working age labor income are 48 %, for Taiwan 1980, 60%for Taiwan 2000; and 39% for China 2002, and 44% for China 2007.

When will the Surplus Run Out? Effects of Population Aging and Consumption Change



The projections suggest that China's age of abundance will end before 2035 if China keeps its level of consumption at 50-55% of labor income.



Conclusions

- **China's economic boom and favorable population age structure have led to an age of abundance.**
- **China's life-cycle surplus will be depleted in front of the eyes of the current generation.**
 - Rapid population aging
 - Increase in private consumption is picking up speed
- **How can China face the inevitable arrival of lifecycle deficit?**
 - Continued improvement in education and investment in technological innovation
 - Postponing retirement



Thanks for your attention!

shenke@fudan.edu.cn