China: Does Government Health and Education Spending Boost Consumption?

Presented by
Steven Barnett

Based on a forthcoming Working Paper by Steven Barnett and Ray Brooks.

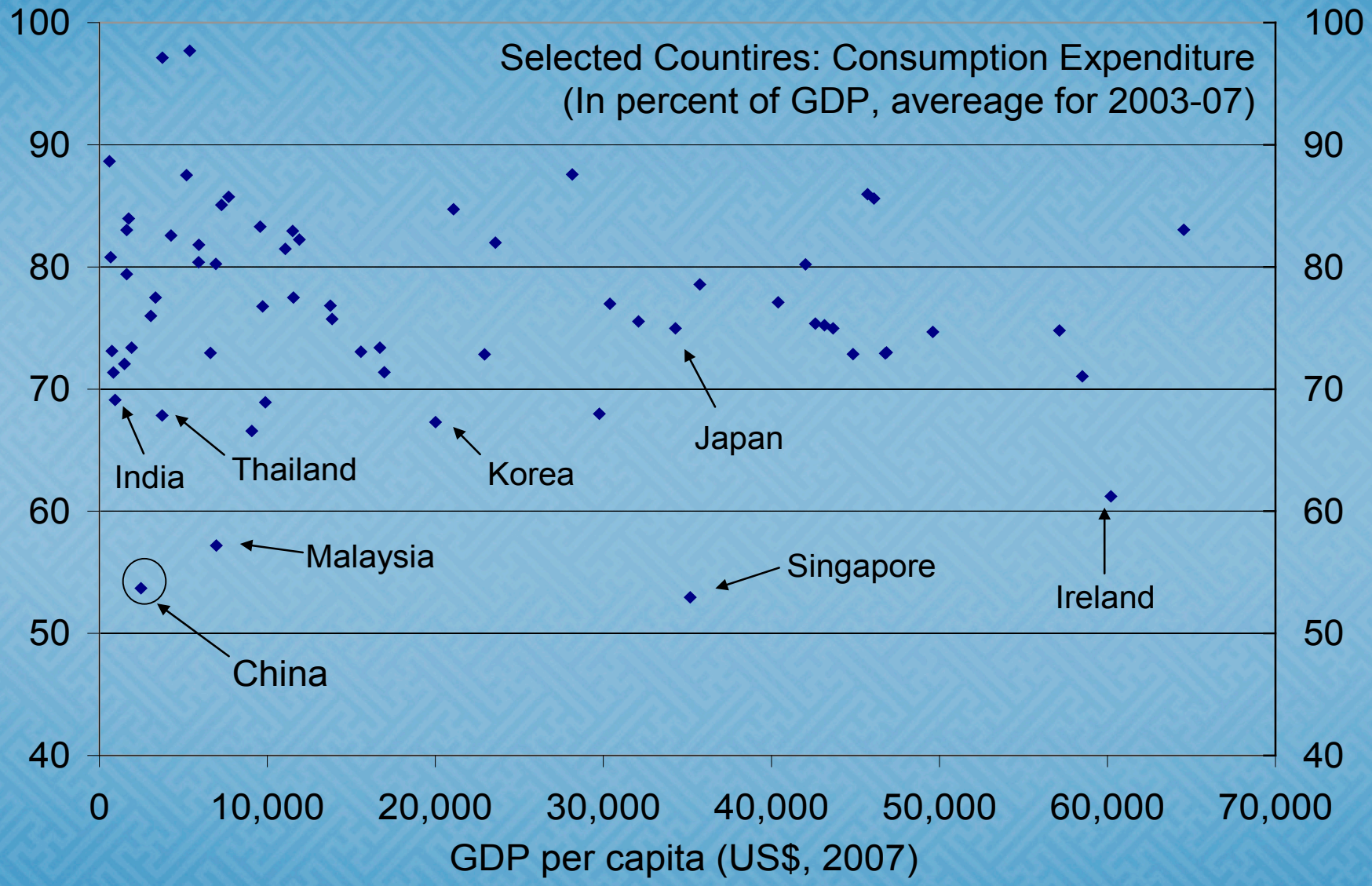
Summary

- Precautionary saving: An empirical look
- Health: Precautionary saving important
  - Quantitative impact is large
    - Government spends 1 RMB → saving falls 2 RMB
  - Holds for urban households (rural results mixed)
- Education: No empirical evidence
  - Results are statistically insignificant

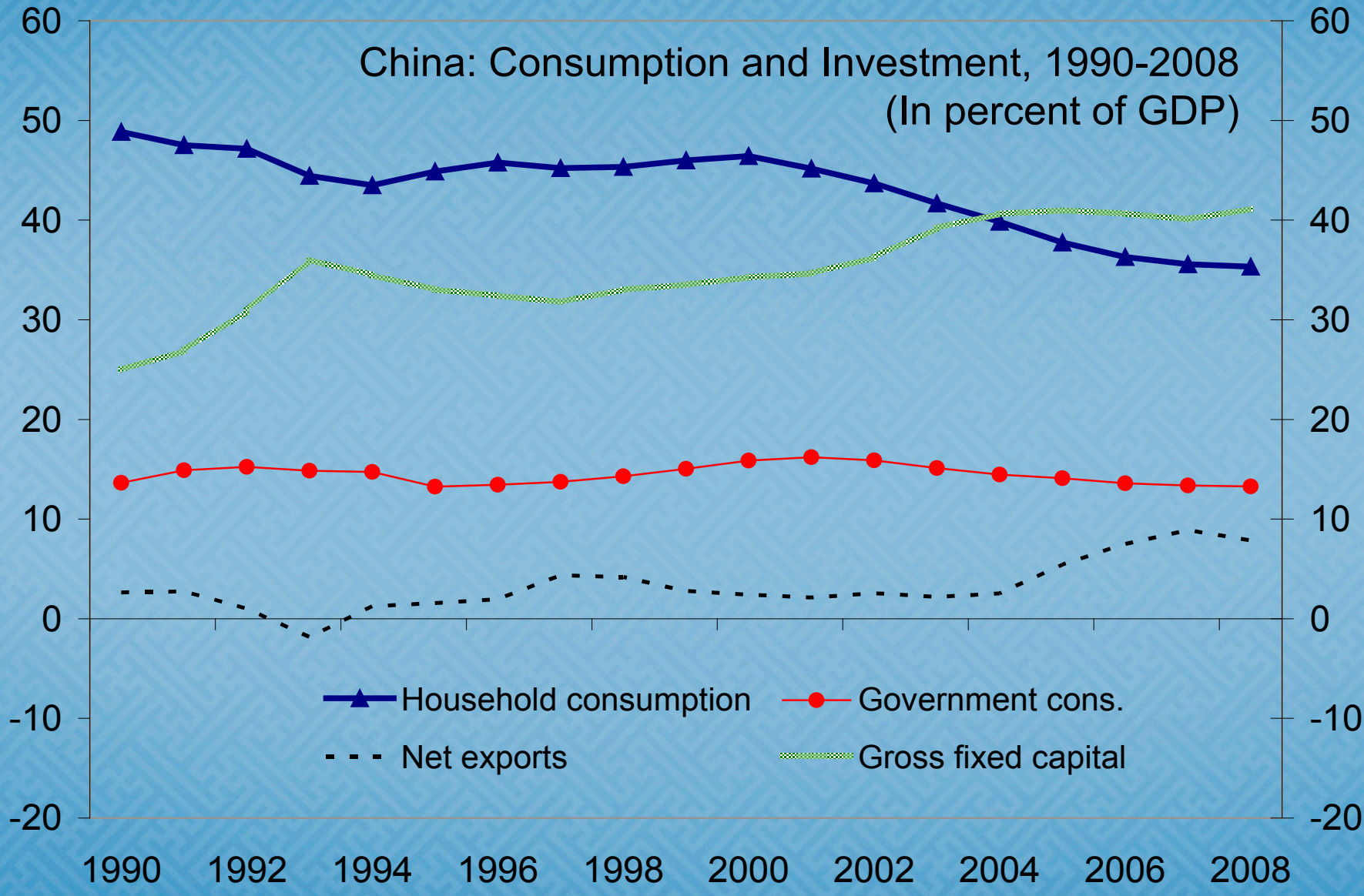
Outline

- Stylized facts
- Empirical findings

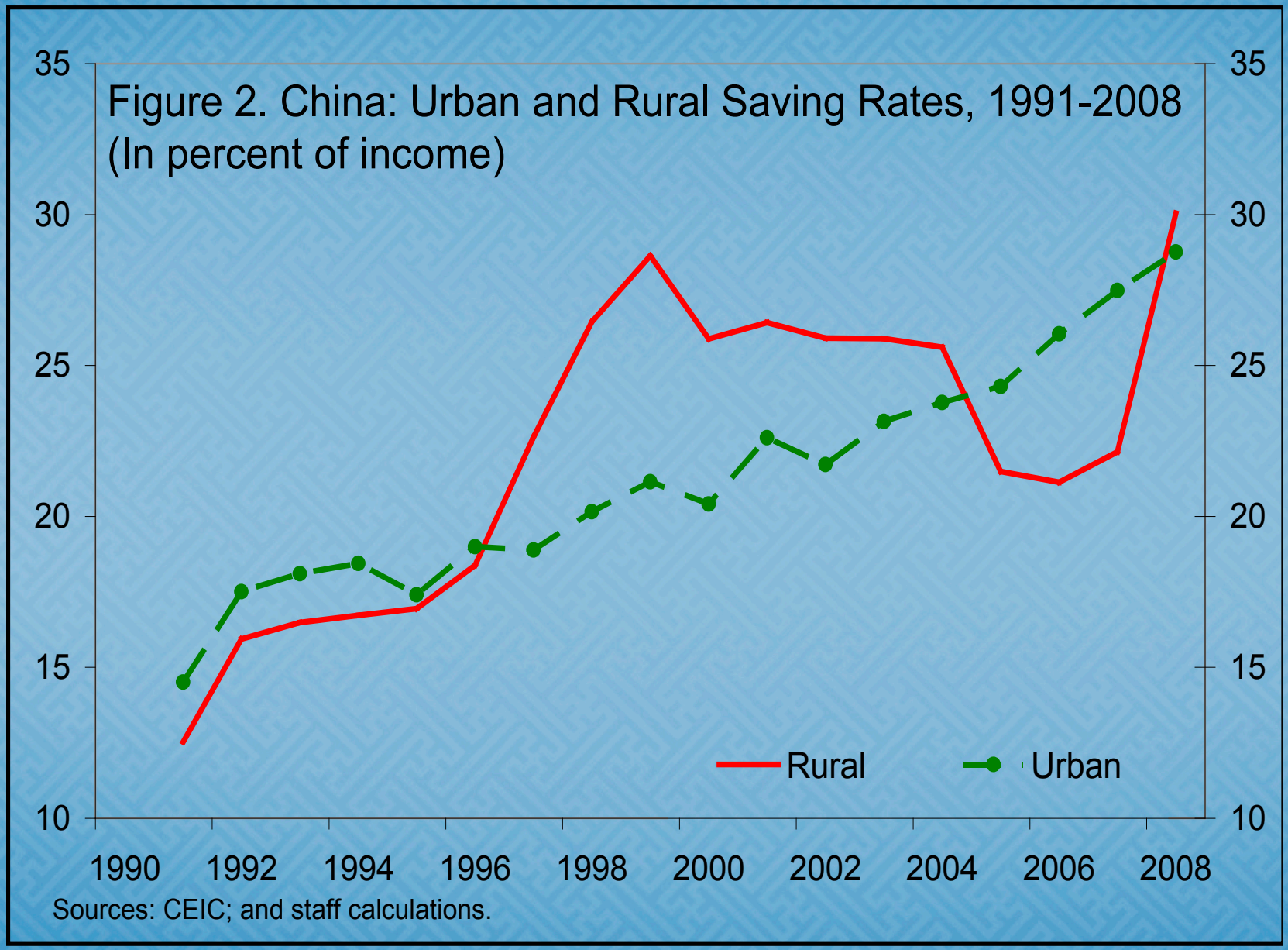
Consumption in China is low relative to other countries.



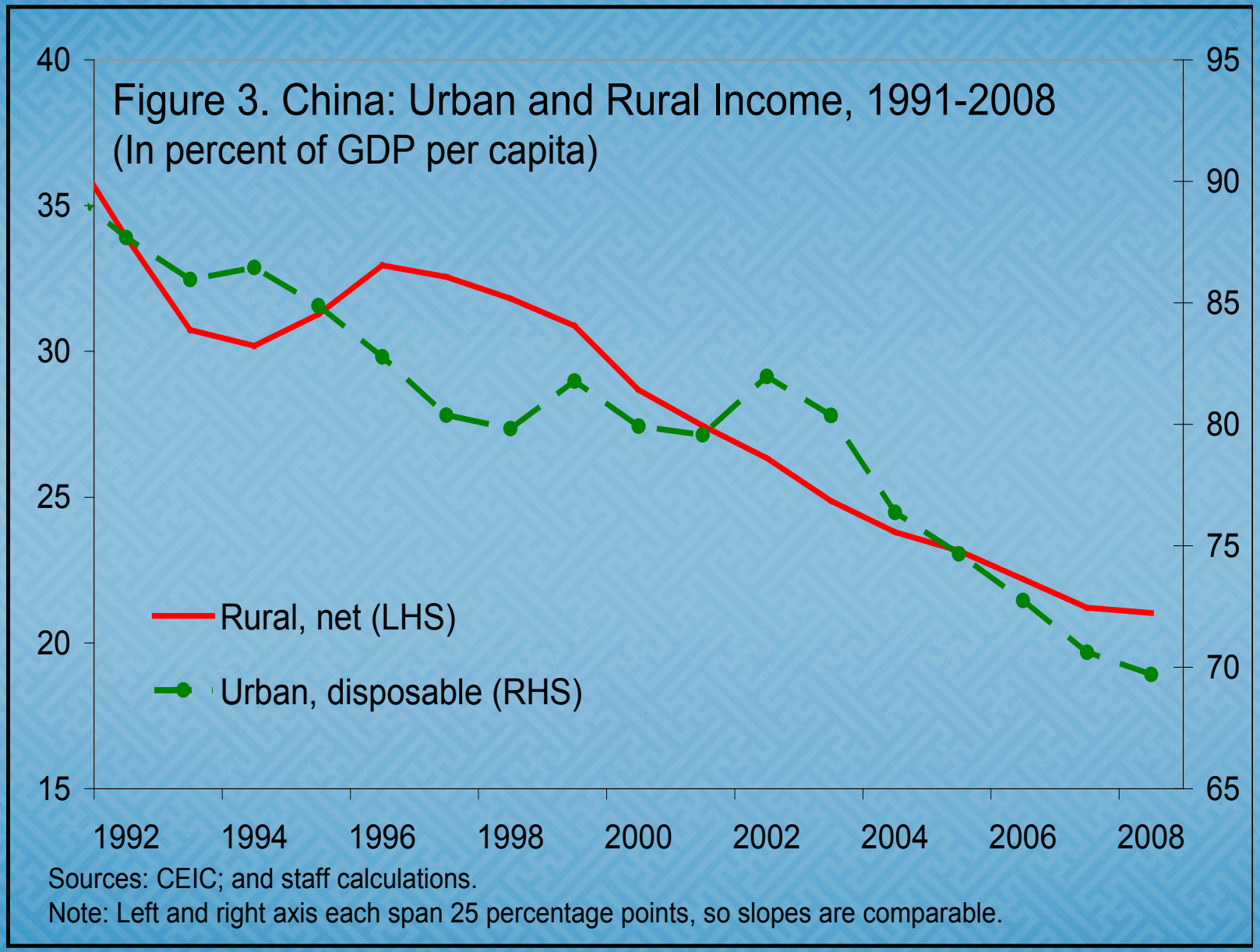
Household consumption has been falling, due…



in part to rising saving …



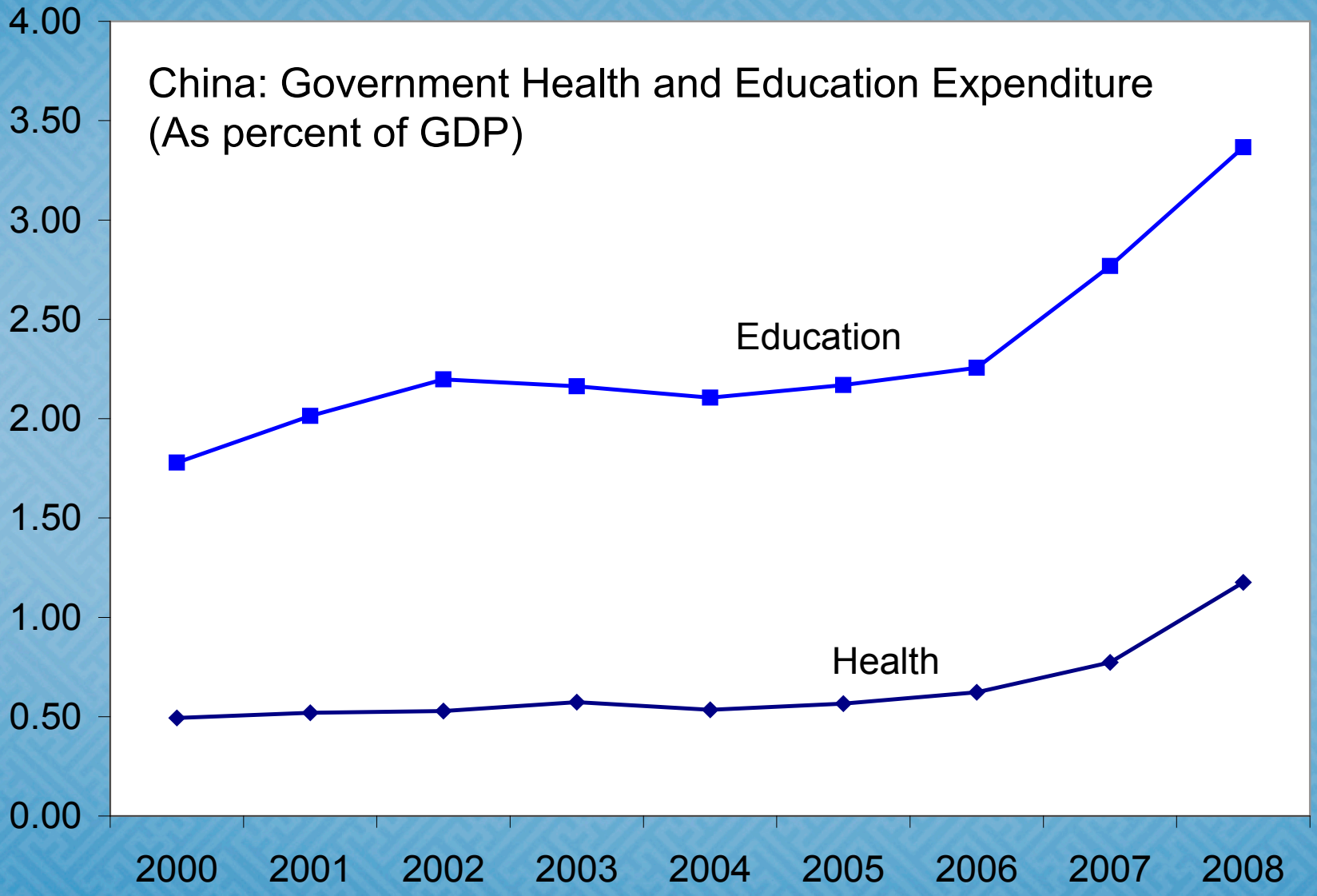
…and household income growing slower than GDP.



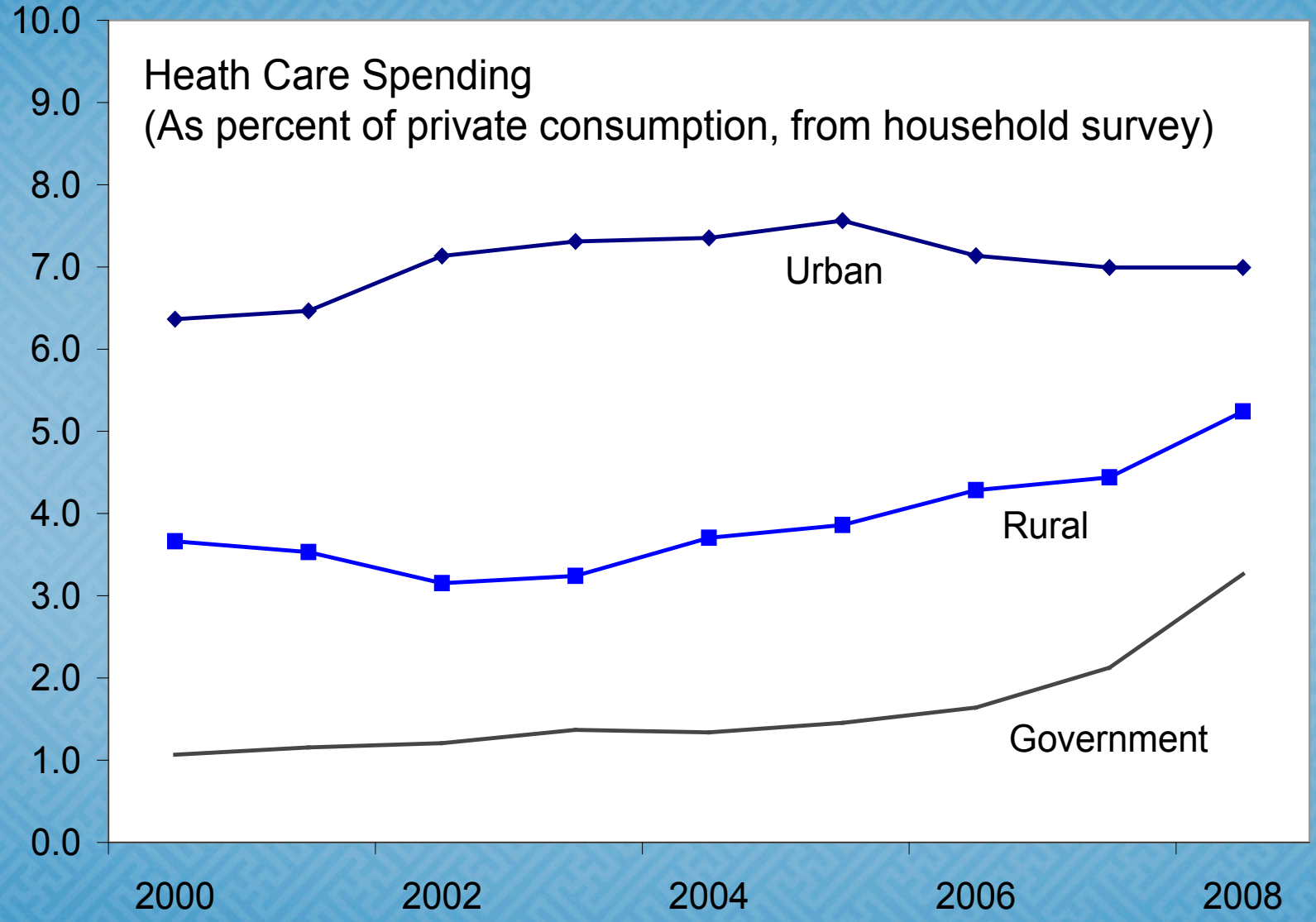
Sources: CEIC; and staff calculations.

Note: Left and right axis each span 25 percentage points, so slopes are comparable.

Government health & education spending is rising



Health spending trends differ in rural and urban areas



Precautionary Saving & Consumption

- Precautionary saving just 1 piece of puzzle
  - Household income more important than saving
    - Explains 60+% of fall in consumption to GDP ratio
    - See also Aziz and Cui (2007)
  - *Changes* in precautionary motives
    - Could be part of the story (breaking of “iron rice bowl”)
    - But cannot explain trend decline in consumption ratio
- Reducing precautionary motives important
  - Boost consumption by lowering saving
  - Social benefits

Empirical Strategy

- Provincial data
  - Exploit variations in social spending and saving
  - Household survey data
  - Provincial government spending data
- OLS regressions on pooled data (1994-2007)
  - Δ saving rate = *beta* * Δ social spending per capita
  - Separate regressions for urban and rural
  - Full set of time and province dummy variables

Interpretation

- Competing effects social spending on saving
  - Substitution effect
    - More government spending → less need for private
    - So saving rate would *rise*
  - Precautionary motive
    - More government spending → less need to self-insure
    - Saving falls
- Ex-ante "beta" could be either + or -
  - Negative "beta" → precautionary motives
  - -2 means household saving falls 2 for G increase of 1

Table 1. Urban Households: Saving and Government Spending

	Sample: 1994-2007				Sample: 2003-2007			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Health								
Estimate	-2.10	...	-1.92	...	-1.94	...	-2.06	...
(Standard error)	(0.72)	...	(0.86)	...	(0.60)	...	(0.58)	...
[P-val]	[0.00]	...	[0.03]	...	[0.00]	...	[0.00]	...
Education								
Estimate	...	-0.78	-0.44	...	...	0.42	0.66	...
(Standard error)	...	(1.10)	(1.07)	...	...	(1.20)	(1.07)	...
[P-val]	...	[0.48]	[0.68]	...	...	[0.73]	[0.54]	...
Health & education								
Estimate	...	...	...	-0.90	...	...	...	-0.41
(Standard error)	...	...	...	(0.63)	...	...	...	(0.89)
[P-val]	...	...	...	[0.16]	...	...	...	[0.64]
R-squared	0.24	0.22	0.25	0.24	0.19	0.18	0.19	0.18
# Obs.	285	304	285	285	150	150	150	150

Sources: CEIC; and staff estimates

Note: All variables are in first differences. The dependent variable is the saving rate, and government spending variables are per capita spending expressed as a share of per capita urban disposable income (lagged one period). Pooled Provincial data are used, with fixed and time effects.

Table 2. Rural Households: Saving and Government Spending

	Sample: 1996-2007				Sample: 2003-2007			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Health								
Estimate	0.51	...	0.22	...	0.37	...	0.06	...
(Standard error)	(0.59)	...	(0.58)	...	(0.67)	...	(0.64)	...
[P-val]	[0.39]	...	[0.70]	...	[0.58]	...	[0.93]	...
Education								
Estimate	...	0.45	0.49	...	...	0.91	0.90	...
(Standard error)	...	(0.36)	(0.38)	...	...	(0.61)	(0.54)	...
[P-val]	...	[0.22]	[0.20]	...	...	[0.14]	[0.10]	...
Health & education								
Estimate	...	…	...	0.39	...	...	...	0.53
(Standard error)	...	...	...	(0.29)	...	...	...	(0.47)
[P-val]	...	...	...	[0.18]	...	...	...	[0.27]
R-squared	0.36	0.37	0.36	0.36	0.31	0.32	0.32	0.32
# Obs.	285	304	285	285	150	150	150	150

Sources: CEIC; and staff estimates

Note: All variables are in first differences. The dependent variable is the saving rate, and government spending variables are per capita spending expressed as a share of per capita urban disposable income (lagged one period). Pooled Provincial data are used, with fixed and time effects.

What About Other Results?

- Education
  - Public spending growing slower than demand
  - Mix of government spending
    - Primary/secondary (substitution effect)
    - Higher education (precautionary motives)
- Rural health
  - Data (no breakdown of government spending)
  - Lower income levels

High Income Provinces

- Robustness check
- Results
  - Urban households: Unchanged
  - Rural households: Different
    - Precautionary saving important in high-income
      - Size of impact similar to urban households
      - Still no evidence in other provinces

➔Health: Precautionary motives important for households in urban and high-income rural areas