

# Vietnam: The Next Asian Tiger

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## Vietnam as a nascent Asian Tiger

Vietnam has grown impressively since 1986, but is still a relatively poor country in absolute terms.

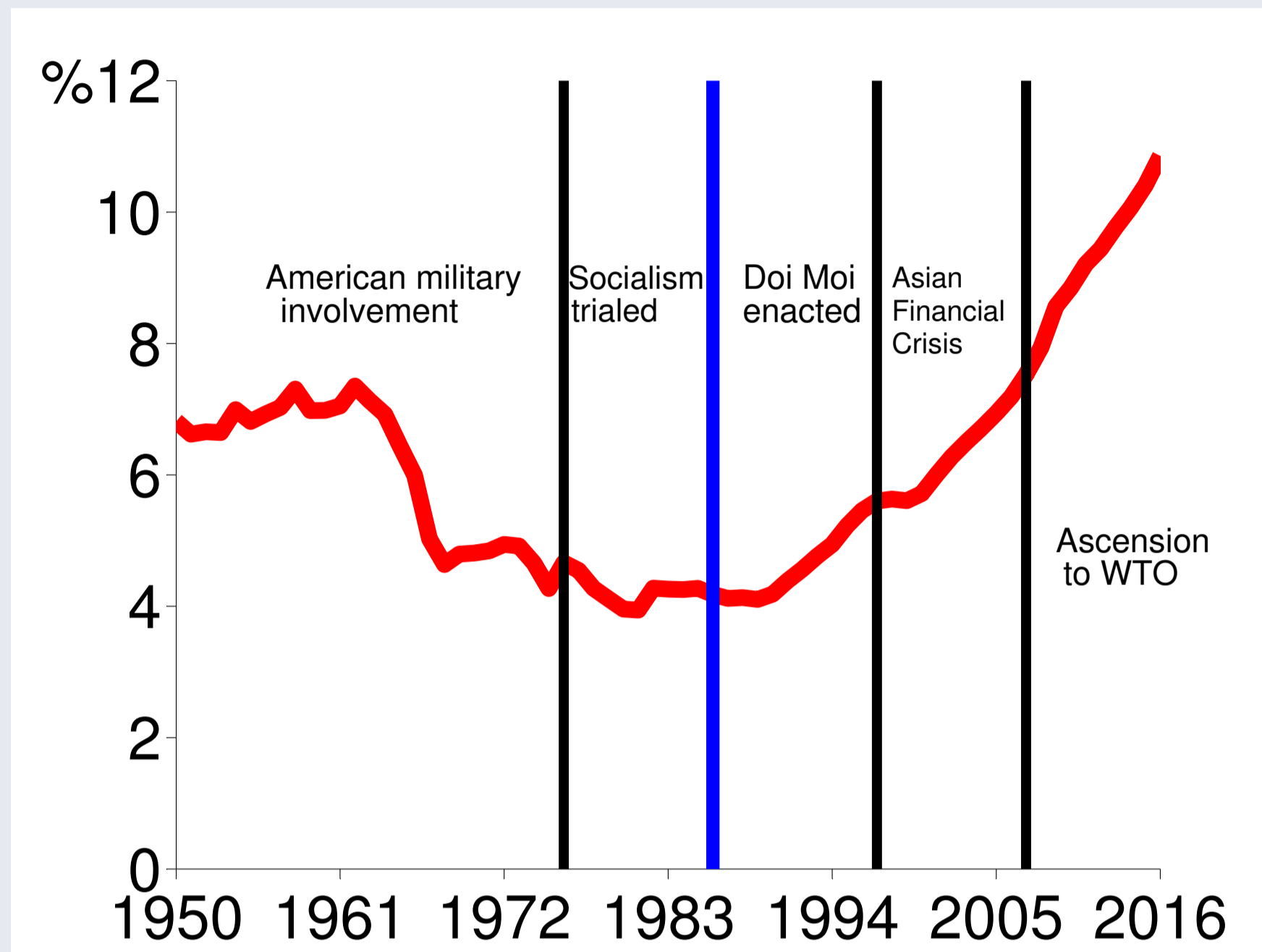


Figure 1: GDP per capita as a percentage of the U.S.

## Importance of labour productivity

$$\frac{(Y/P)_t}{\text{GDP per capita}} = \frac{(Y/L)_t}{\text{Labour productivity}} \times \frac{(L/WP)_t}{\text{Employment rate}} \times \frac{(WP/P)_t}{\text{Demographics}}$$

Table 1: GDP per capita decomposition (%)

1970-1985					1986-2014				
Country	Y/P	Y/L	L/WP	WP/P	Country	Y/P	Y/L	L/WP	WP/P
Vietnam	1.9	1.0	0.4	0.6	Vietnam	5.6	4.7	0.01	0.8
ASEAN	4.2	3.1	0.5	0.6	ASEAN	4.4	4.0	-0.1	0.5
China	3.8	2.3	0.6	0.9	China	6.0	5.6	-0.2	0.5

- The improvement in GDP per capita since *Doi Moi* can largely be attributed to progress made in labour productivity.

## A notable absence of TFP growth since 1997!

$$y_t = \text{Labour productivity} = TFP_t \times \frac{k_t^\alpha}{\text{capital deepening}} \times \frac{h_t^{1-\alpha}}{\text{human capital}}$$

Table 2: Contributions to labor productivity growth (%)

Period	y	A	k	h
1970-1985	100	81.0	-17.4	36.3
1986-1996	100	27.2	66.1	6.7
1997-2014	100	-17.4	92.9	24.5

- A negative contribution from the TFP component acted as a headwind to growth in output per worker during 1997-2014.

## Deagriculturalization: Historical comparisons

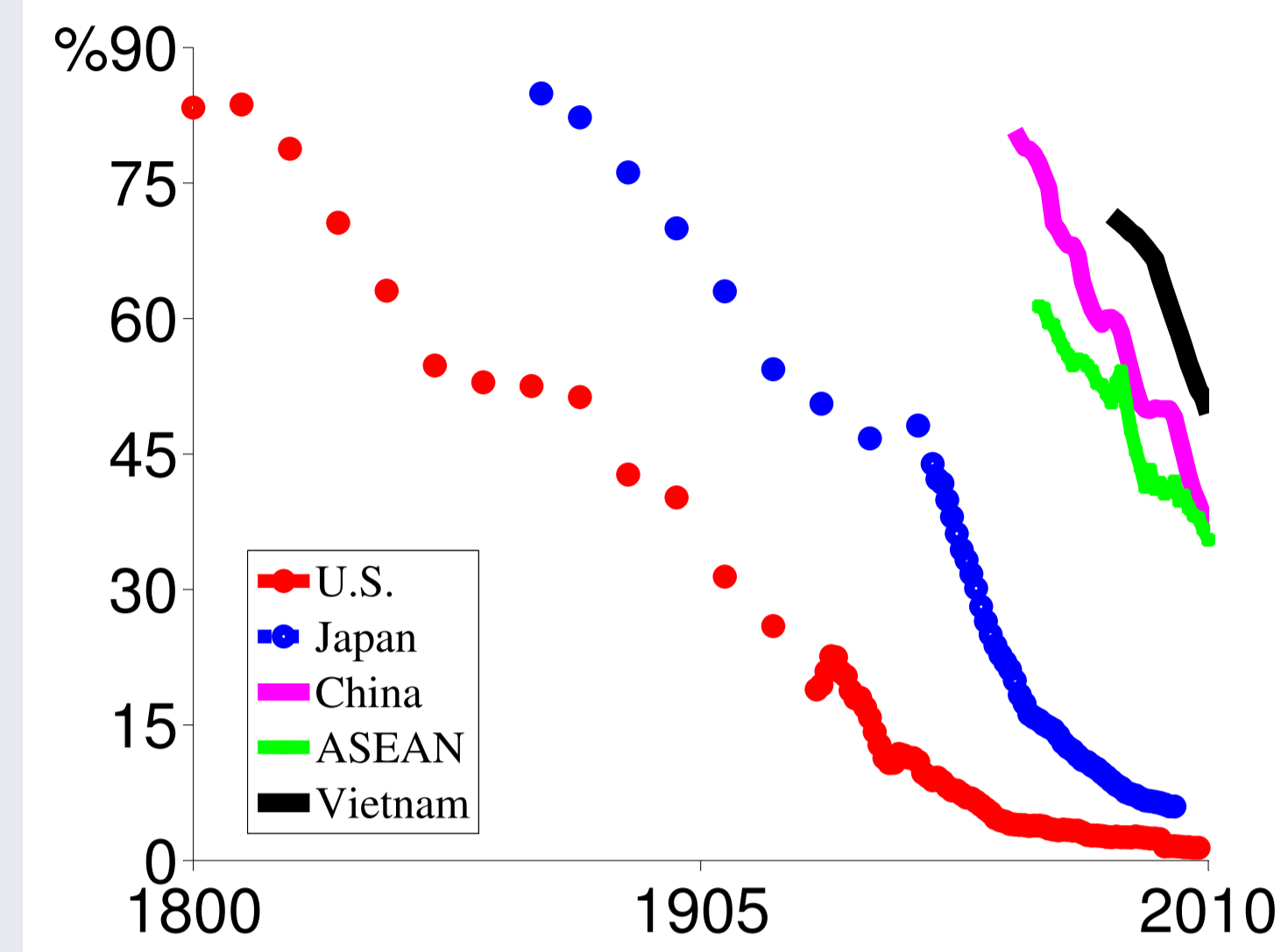


Figure 2: Employment share in agriculture

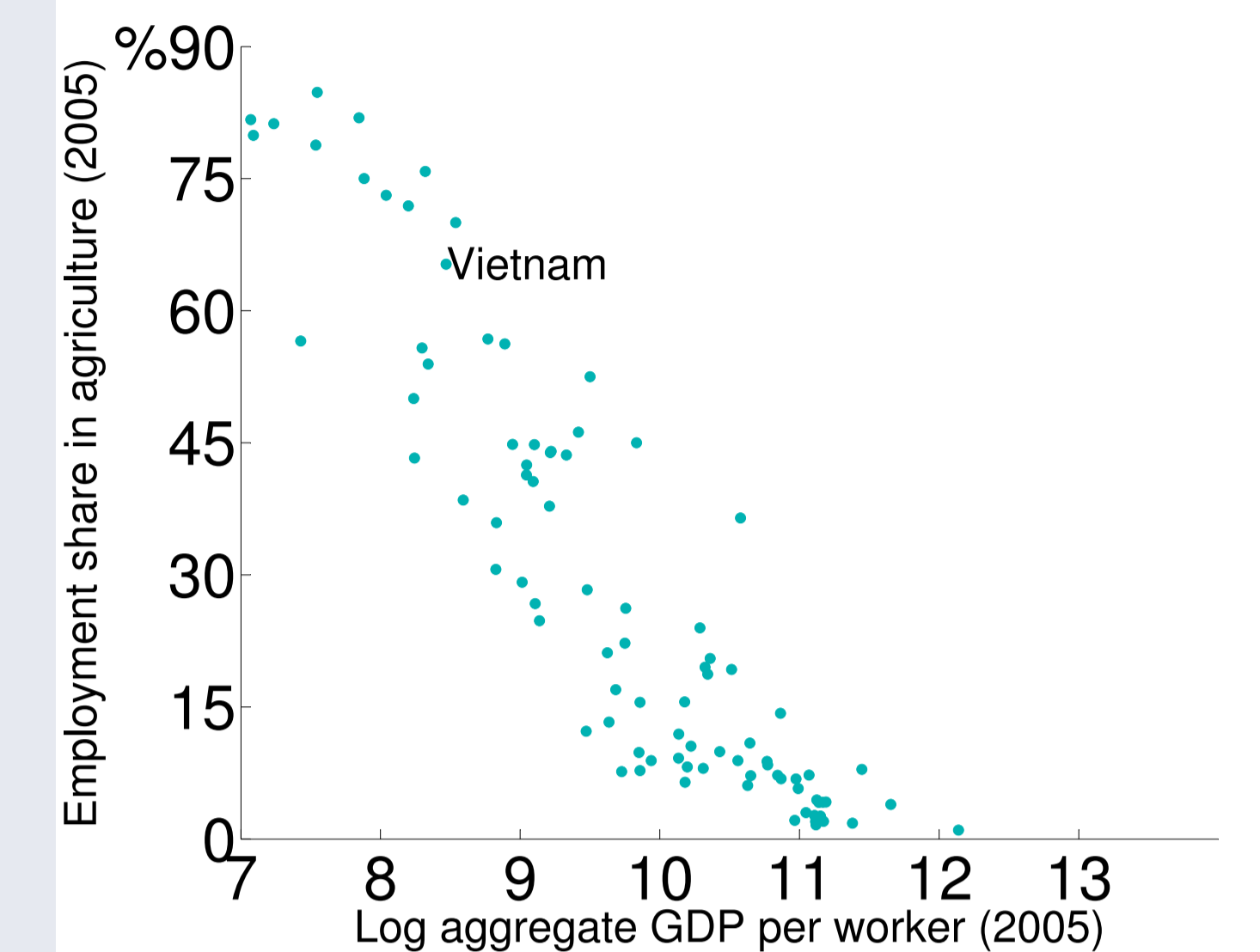


Figure 3: Employment share in agriculture vs productivity

## Driving forces of deagriculturalization

- Technology:

$$Y_{j,t} = \theta_{j,t} N_{j,t}$$

- Households and preferences:

$$C_t = \left( \gamma_A^{1/\eta} (A_t - \bar{A})^{(\eta-1)/\eta} + \gamma_I^{1/\eta} I_t^{(\eta-1)/\eta} \right)^{\eta/(\eta-1)}$$

- Budget constraint:

$$p_{A,t} A_t + p_{I,t} I_t = 1$$

- Market clearing:

$$A_t = Y_{A,t}, I_t = Y_{I,t}$$

- The equilibrium employment share in agriculture is:

$$N_{A,t} = \left( \frac{\gamma_A \theta_{A,t}^{\eta-1}}{\gamma_A \theta_{A,t}^{\eta-1} + \gamma_I \theta_{I,t}^{\eta-1}} \right) + \left( \frac{\gamma_I \theta_{I,t}^{\eta-1}}{\gamma_A \theta_{A,t}^{\eta-1} + \gamma_I \theta_{I,t}^{\eta-1}} \right) \bar{A}$$

We examine:

- If the pace deagriculturalization of the Vietnamese economy is due to productivity growth in agriculture or non-agriculture or both
- Counterfactual: What would have happened to aggregate productivity if the Vietnamese economy had
  - productivity in agriculture same as China
  - productivity in both sectors same as China

## Benchmark results: Data versus model

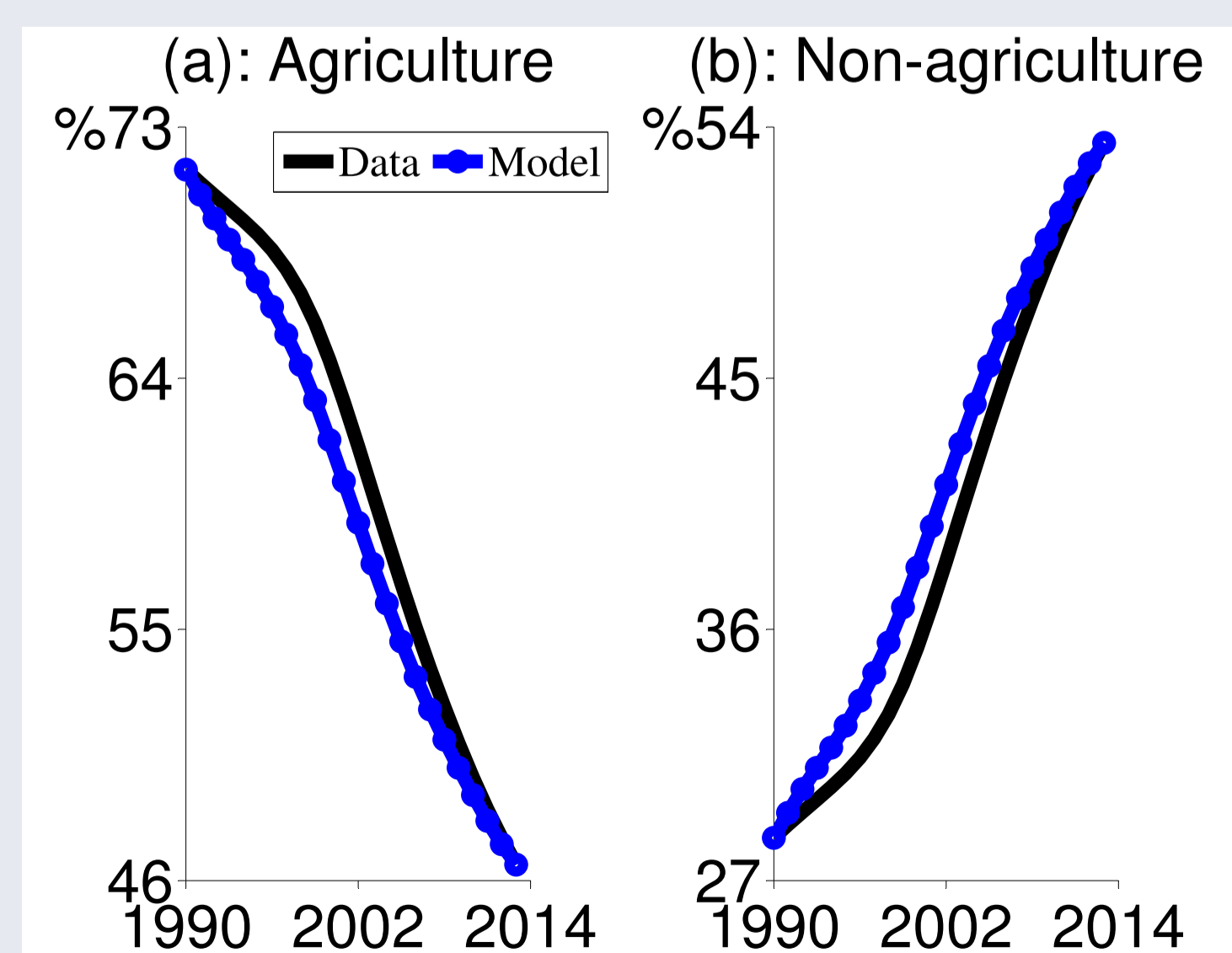


Figure 4: Benchmark results: Sectoral employment shares

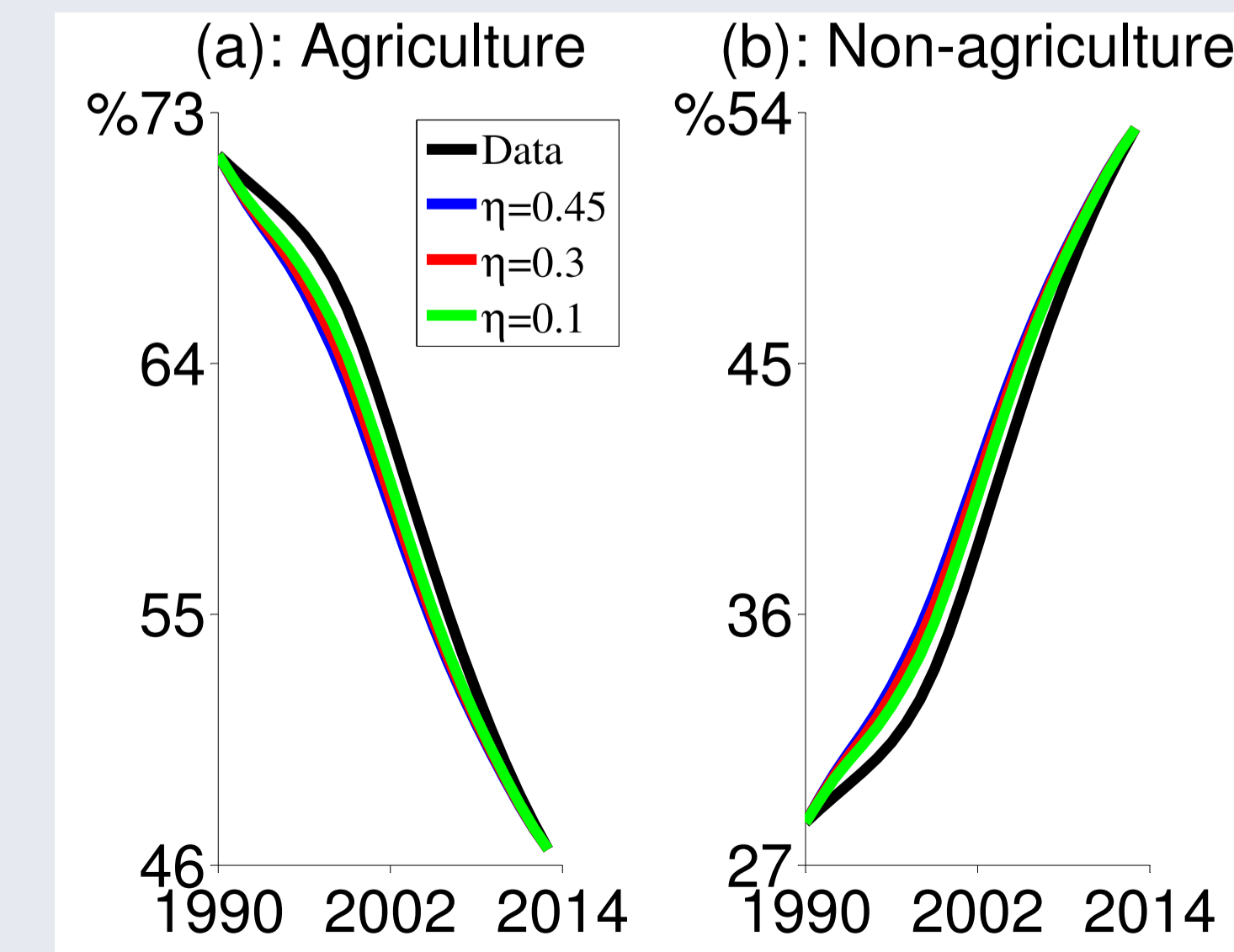


Figure 5: Sensitivity: Sectoral employment shares

## Counterfactual experiments

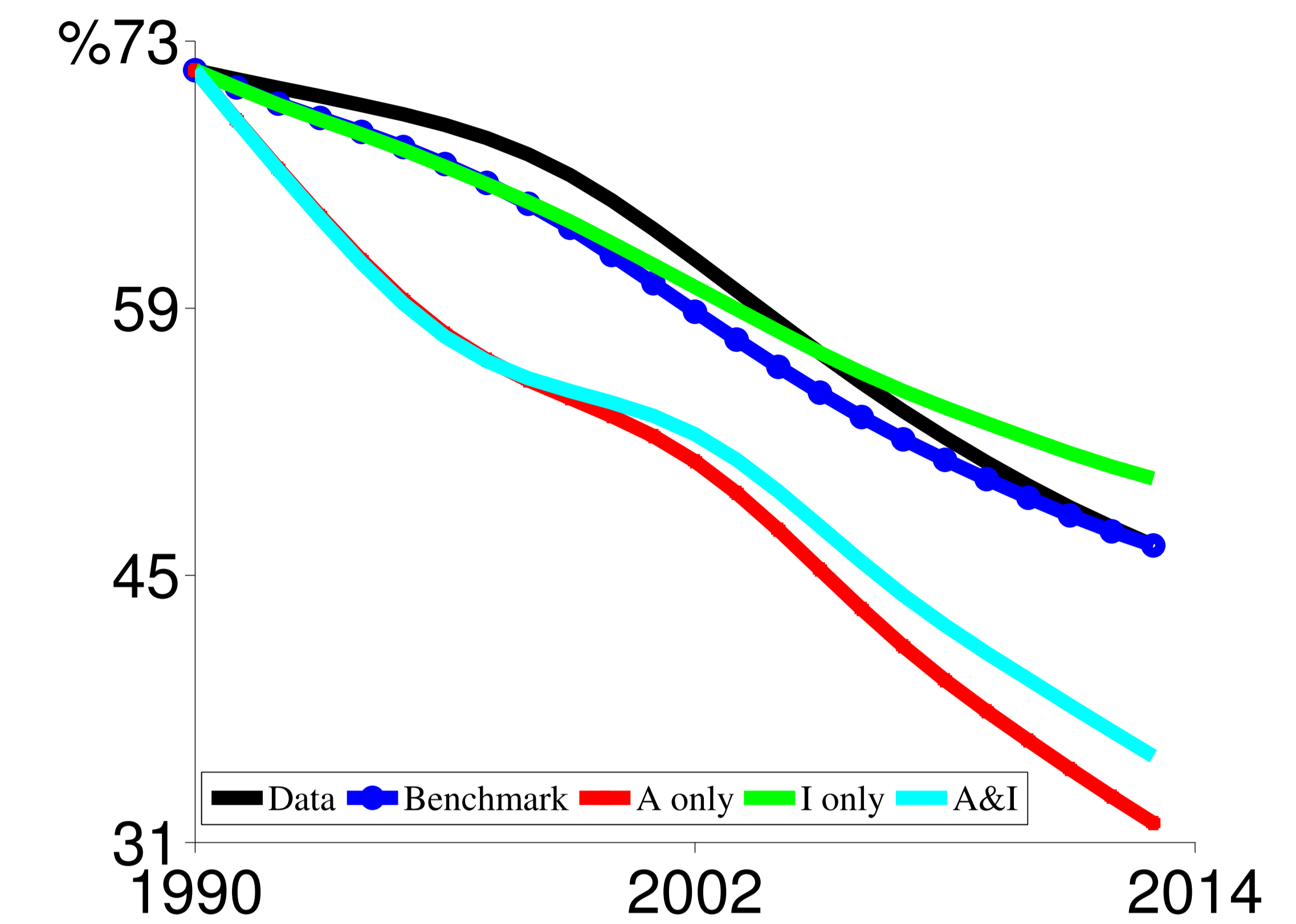


Figure 6: Employment share in agriculture

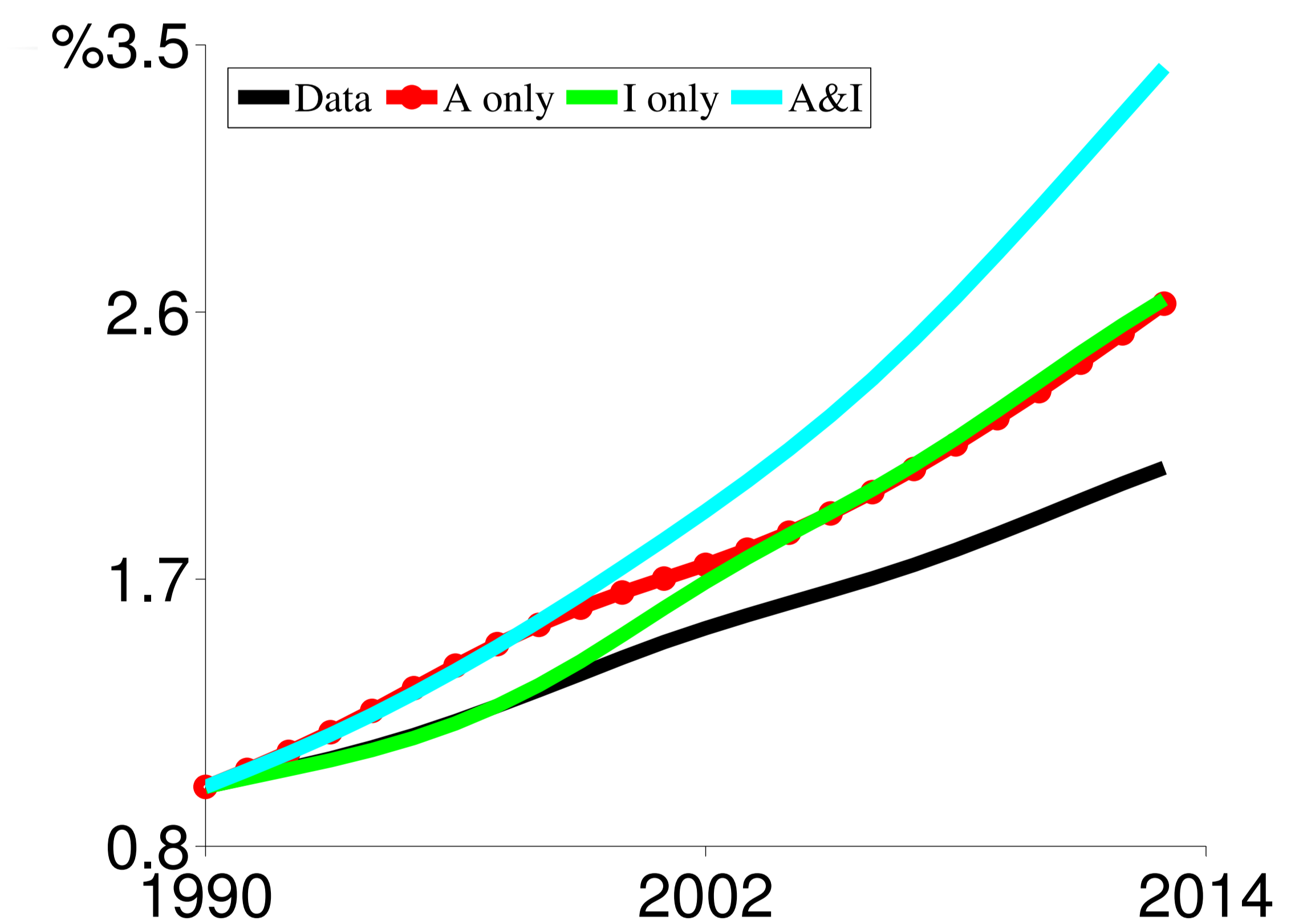


Figure 7: Aggregate labour productivity in Vietnam (1990=1)

## Contributions

- The first detailed study on Vietnam's convergence experience using newly available data from the Penn World Table version 9.0.
- The first study to employ a two-sector model of structural transformation looking at the sectoral allocation of Vietnam's production factors and the subsequent implications for aggregate productivity with alternative counterfactual experiments.

## Findings and policy implications

- Vietnam must decrease its reliance on factor accumulation as its source of growth and increase its technological capabilities.
- Economic policies should equally target both agricultural and non-agricultural sectors to increase productivity growth rates in Vietnam.