



*Causes of Changing Income
Distribution in Vietnam*

John Luke Gallup

Fulbright Scholar
Vietnam University of Commerce
Hanoi, Vietnam

Vietnam in 1990

- Poor, agrarian country
- 100 years war & turmoil
- failure of collectivization
- closed to world

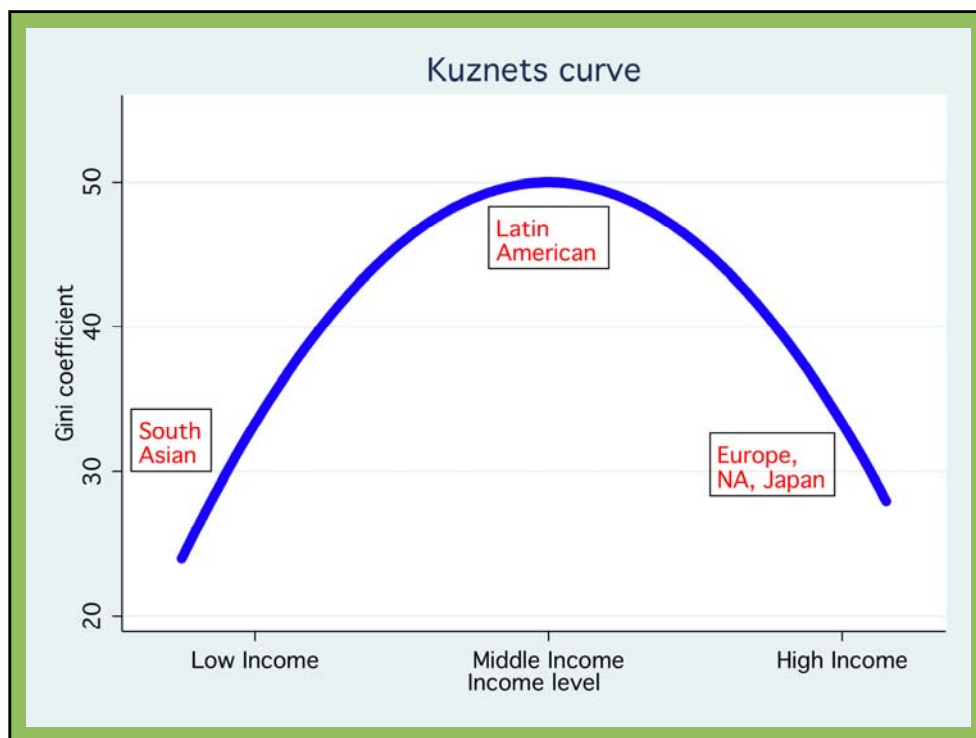
Đổi Mới (Renovation) 1990

- Central planning → markets
- 3rd fastest growth in world

Consequences for inequality?

Two Surprising Inequality Patterns

- Inequality stable in most countries, high or low
- Rapid growth \square
equally rapid income growth for poor



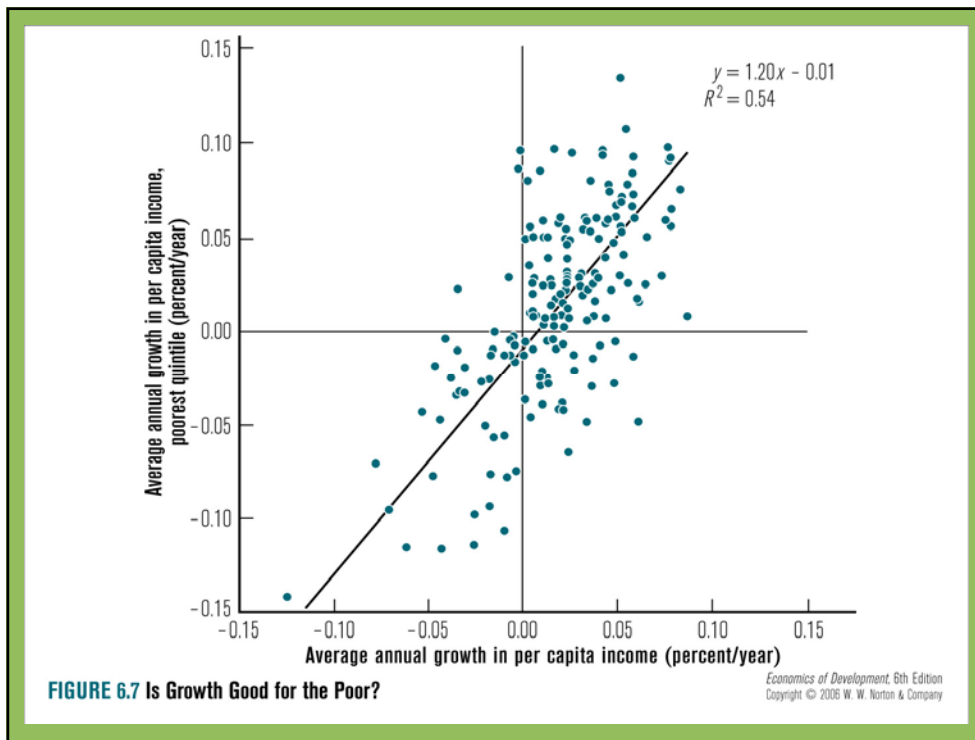
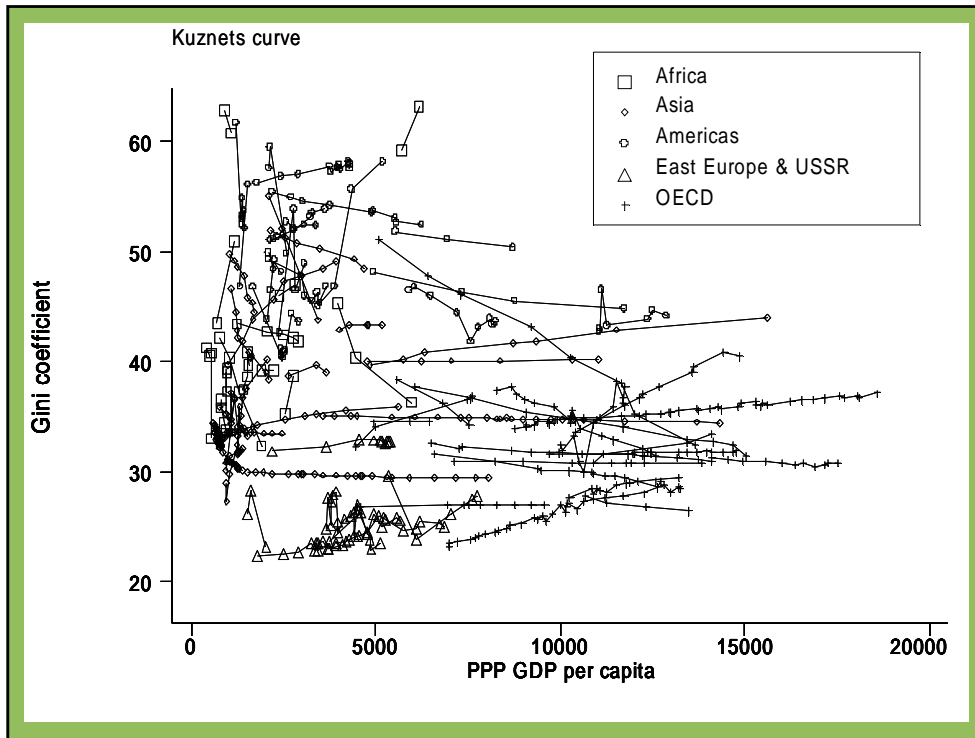


FIGURE 6.7 Is Growth Good for the Poor?

Economics of Development, 6th Edition
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Does Vietnam fit these patterns?

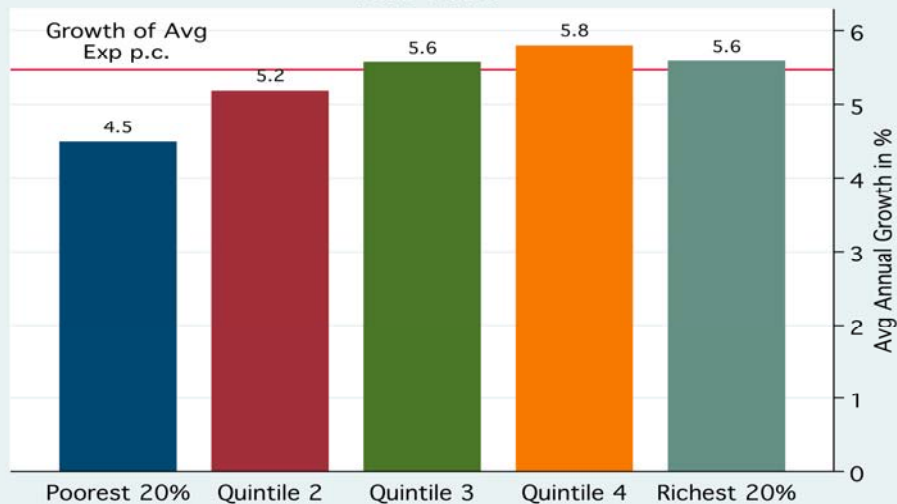
Relatively equal distribution in 1990

- Land reform in north, 1956
- Collectivization of ag in South, 1975

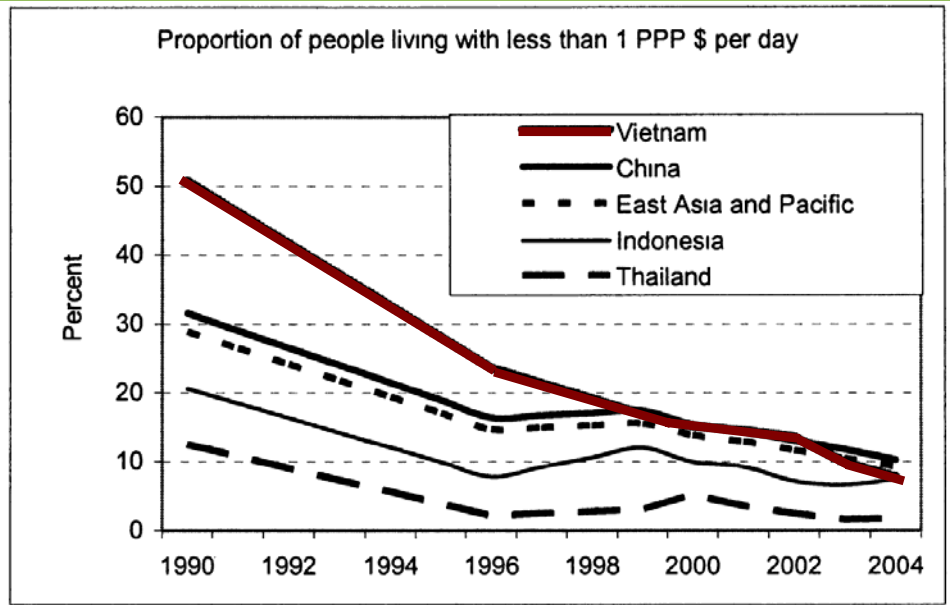
China vs. South Korea
Russia Taiwan

Poor Grew Slower in Vietnam

Expenditure per Capita Growth by Quintile
1993-2006



Fall of absolute poverty in Vietnam



Income Inequality Statistics

Two measurement problems

- Measurement errors
- Transitory income

□ Biased estimates of inequality

Measurement Error in Income

$$y = y^* + e$$

y - observed income

y^* - actual income

e - measurement error

y^* has mean μ_{y^*} & variance $\sigma_{y^*}^2$

e has mean 0 & variance σ_e^2

Biased Inequality Statistics

Average observed income, \bar{y} , is unbiased estimate of μ_{y^*}

$$E \bar{y} = \mu_{y^*}$$

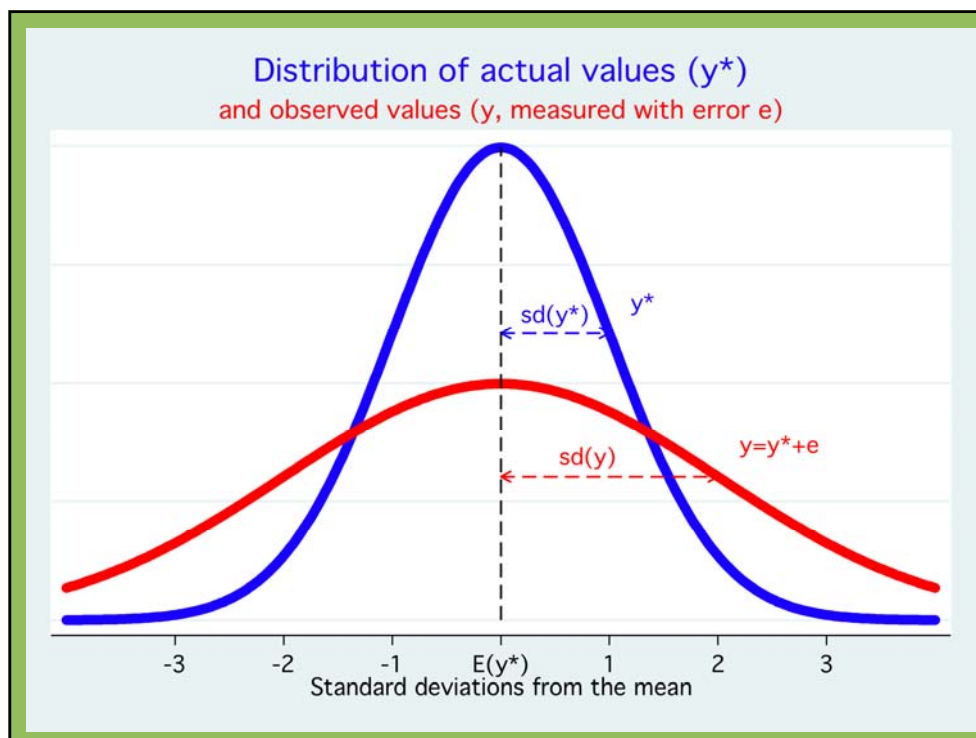
Sample variance, s_y^2 , is biased estimate of $\sigma_{y^*}^2$

$$s_y^2 = \sigma_{y^*}^2 + \frac{p}{n} \sigma_e^2$$

Biased Inequality Statistics

Inequality index (I_2) is biased and inconsistent.

$$I_2 = \frac{s_y^2}{y^2}$$



Estimated inequality is biased

Average observed income, \bar{y} , is an unbiased estimate of the mean of actual income, y^*

$$E \bar{y} = y^*$$

The sample variance of observed income, s_y^2 , is a biased and inconsistent estimate of the variance of y^* ,

$$s_y^2 = \sigma_y^2 + \sigma_e^2$$

$$I_2 = \frac{s_y^2}{y^2}$$

Permanent vs. Transitory Income

$$y = y_P + y_T$$

y - income

y_P - permanent income

y_T - transitory income, mean=0

Measure distribution of

$$y_P = y - y_T$$

Relationship to Consumption

Lifetime budget constraint:

$$\Sigma \text{ consumption} = \Sigma \text{ income}$$

- smooth consumption over time

Robust hypothesis:

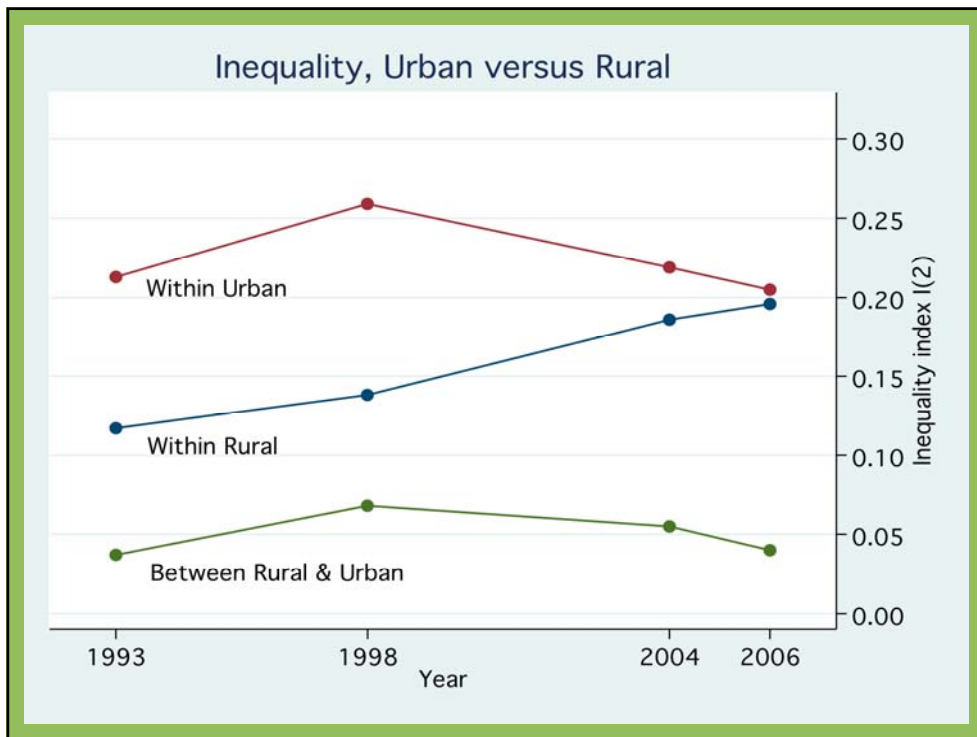
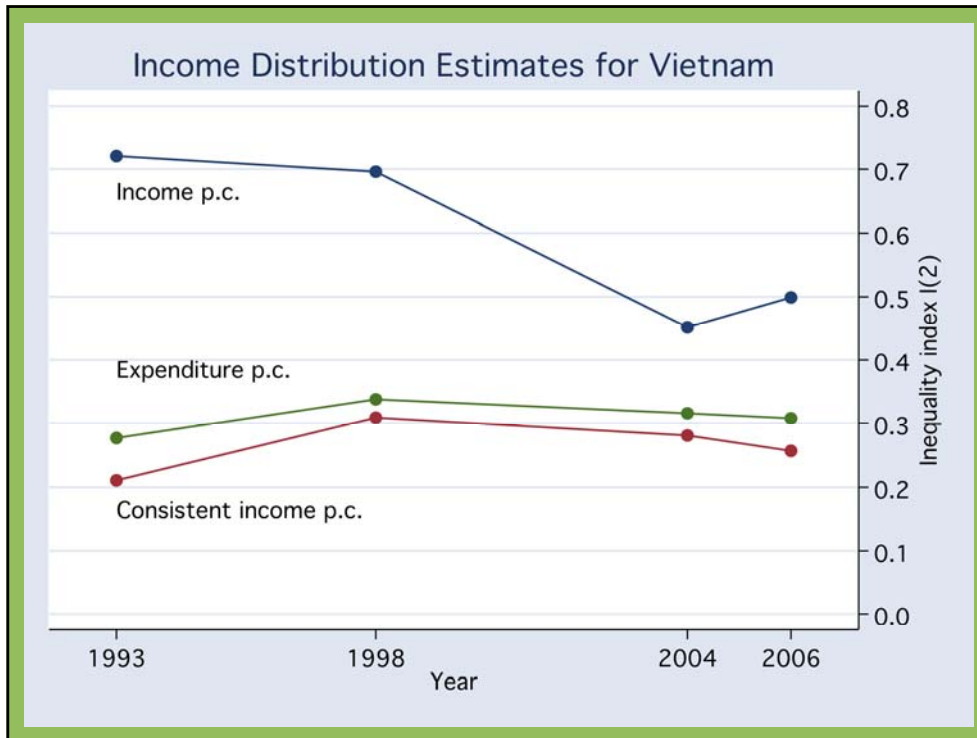
consumption = share of permanent income

$$c = \theta y_P$$

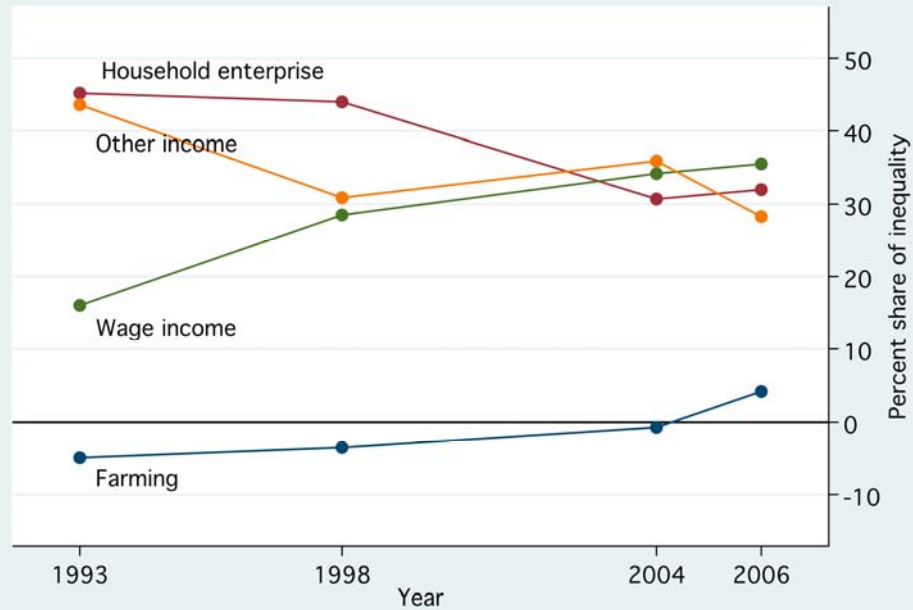
Instrumented I_2 is consistent

$$s_{yc}^P = \frac{2}{1}$$

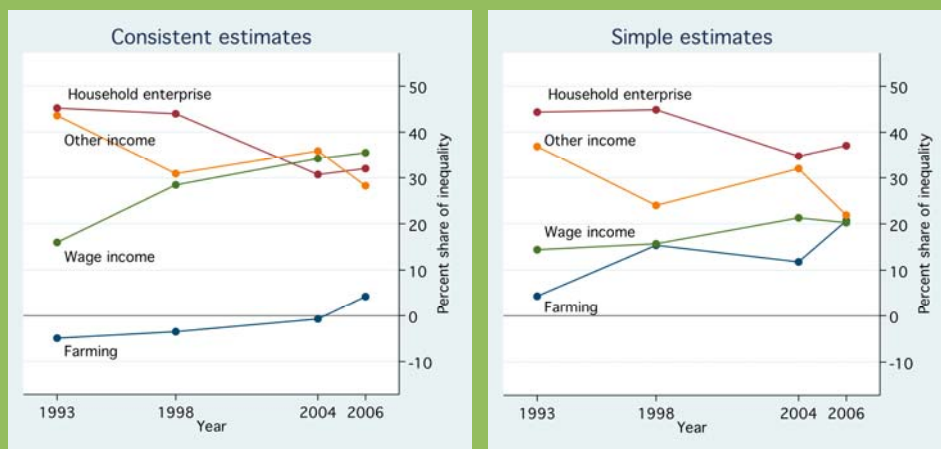
$$plim I_2 = plim \frac{s_{yc}}{y c} = \frac{2}{2}$$



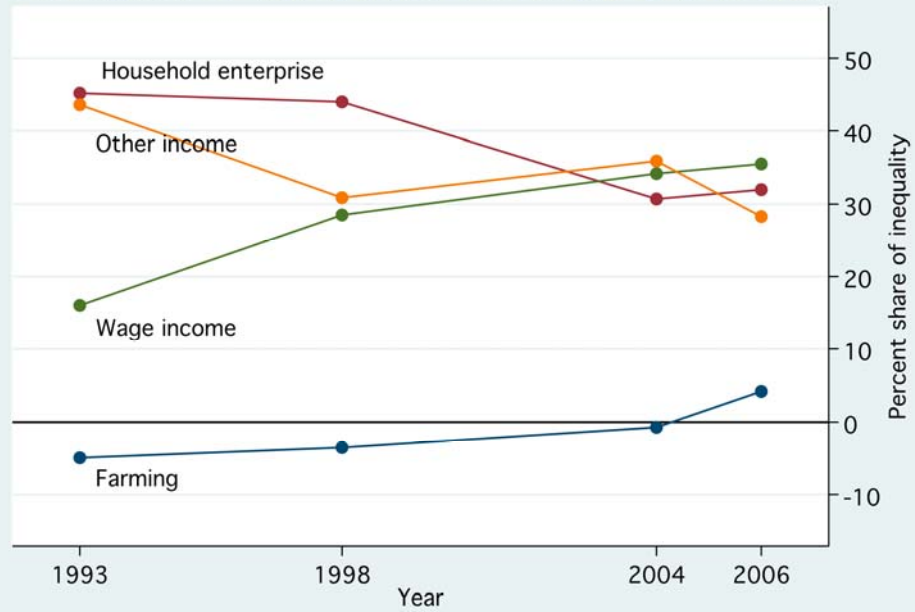
Contribution of income sources to inequality in Vietnam



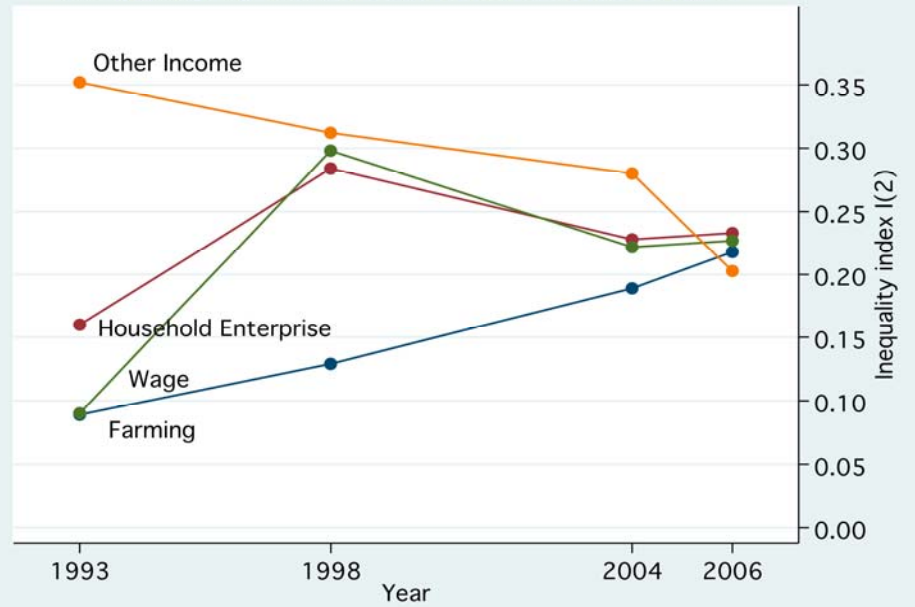
Accuracy of source of income inequality estimates

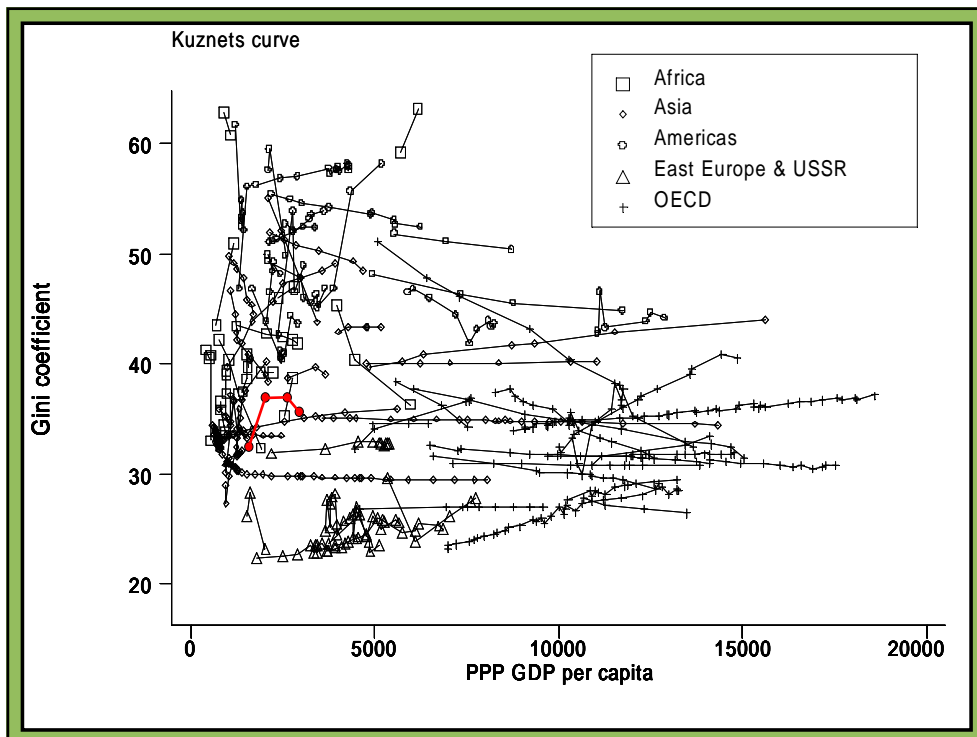
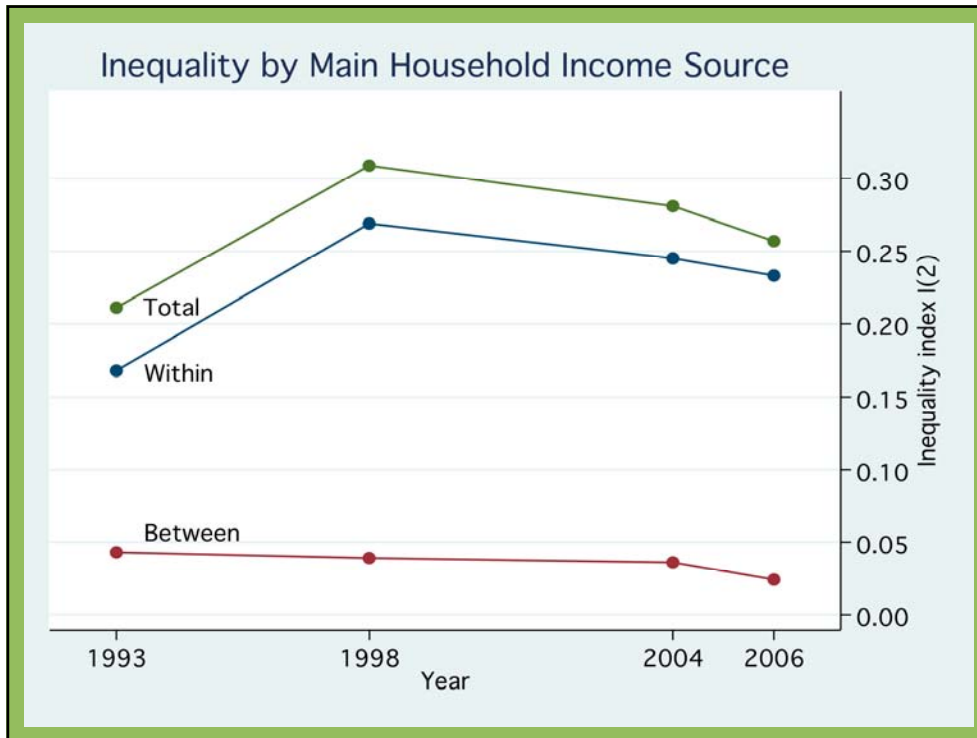


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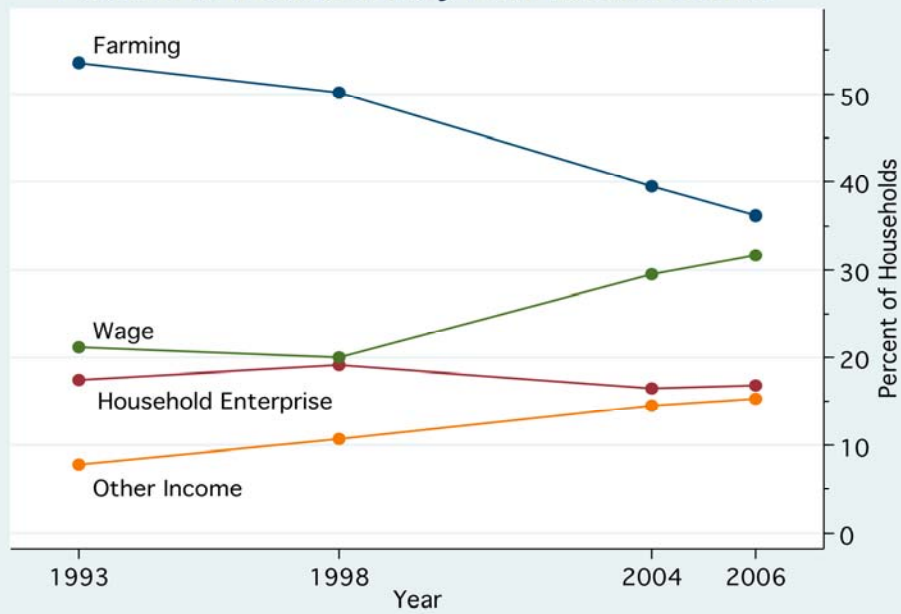
Inequality by Main Household Income Source







Percent of Households by Main Income Source



Main Income Source as Share of Total Income

