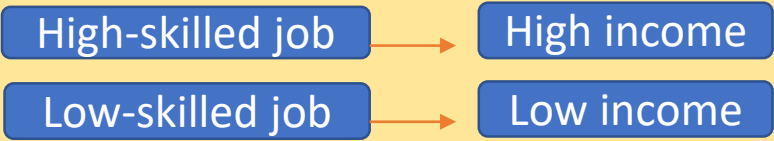


# Government Expenditure on education and income inequality

## A Case Analysis of China

### Introduction



· It is the important reason causing inequality in income.

· Difference in income is highly associated with the level of education obtained.

**Study: relationship between government education expenditure and inequality in the regions**

### Analysis

Inequality: Gini coefficient(GINI)  $G = 1 - \frac{1}{PW} \sum_{i=1}^n (W_{i-1} - W_i) * P_i$

Education expenditure(EXPRATE) : the ratio of expenditure on education to total GDP for the province in a year.

Independent and dependent variable

#### Control Variables:

GROWTH: the growth rate of Gross Domestic Production for the province in a year

UNIVRATE: the ratio of number of university students to total population.

MIDDRATE: the ratio of number of middle school students to total population.

#### Regression model:

$$= \alpha + \beta_1 \text{EXPRATE} + \beta_2 \text{GROWTH} + \beta_3 \text{UNIVRATE} + \beta_4 \text{MIDDRATE}$$

### Regression result

GINI	Coef.	Std. Err.	z	P> z	[95% Conf. Interval]	
EXPRATE	1.173427	0.2295034	5.11	0.000	0.7236089	1.623246
GROWTH	0.0013368	0.000766	1.75	0.081	-0.0001645	0.0028381
UNIVRATE	1.405525	0.3639122	3.86	0.000	0.6922703	2.11878
MIDDRATE	1.135782	0.176483	6.44	0.000	0.7898813	1.481682
_cons	0.2594985	0.0108113	24.00	0.000	0.2383088	0.2806883

### Conclusion

· Education expenditure is positively related to Gini coefficient.

### Discussion

#### Explanation:

· Higher education expenditure means greater chances e to access better jobs & Region has more industries that require high skilled jobs.

**Limited:** only three control variable & low R<sup>2</sup>

#### Granger causality test

Dumitrescu & Hurlin (2012) Granger non-causality test results:

Lag order: 1

W-bar=1.9889

Z-bar=3.4256

Z-bar tilde=1.4978

H0: EXPRATE does not Granger-cause GINI.

H1: EXPRATE does Granger-cause GINI for at least one panel var (id).

(p-value = 0.0006)

(p-value = 0.1342)