High-quality Education Despite Resource Constraints? The Case of Vietnam

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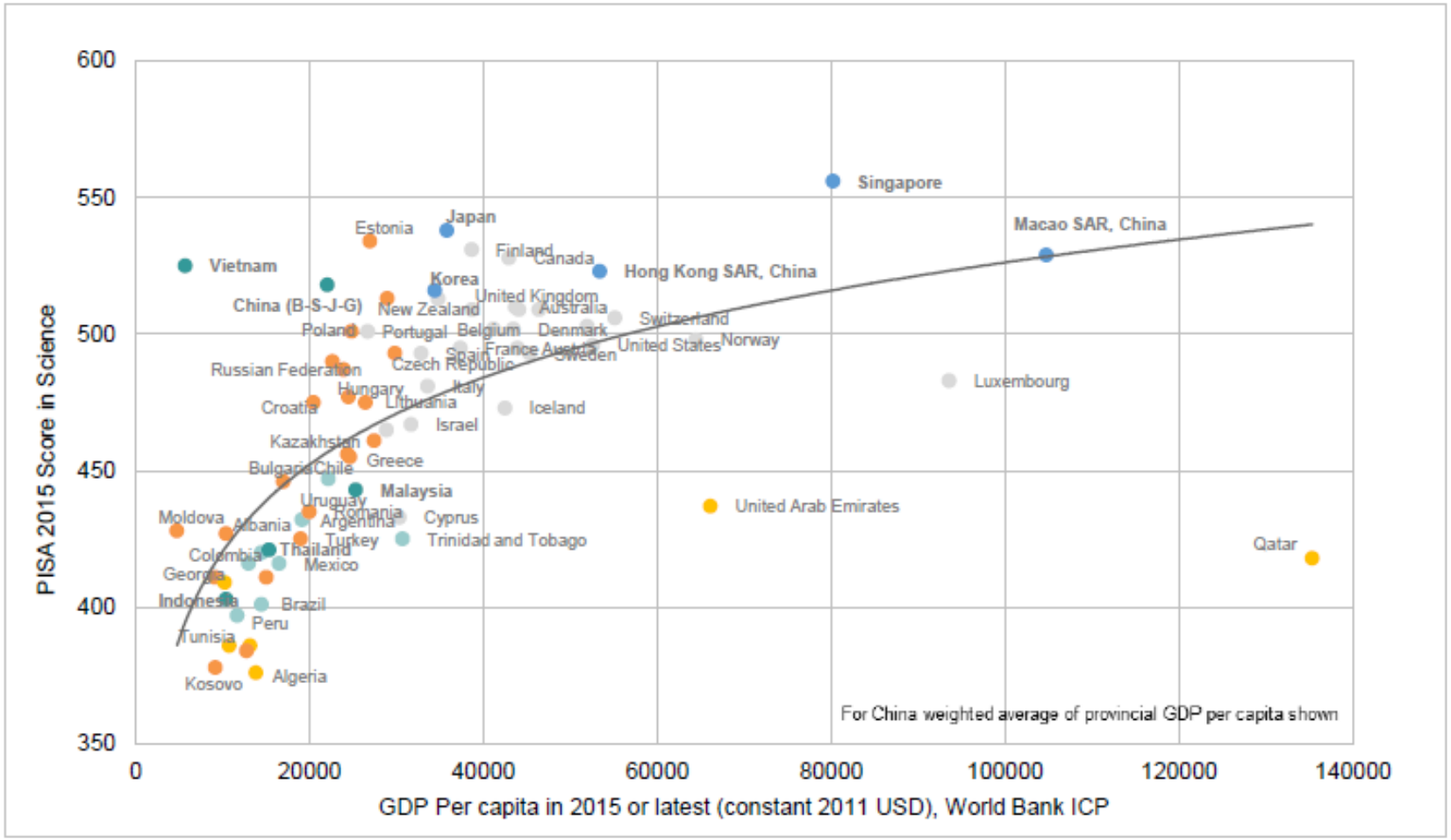
I. Introduction/ Motivation (1)

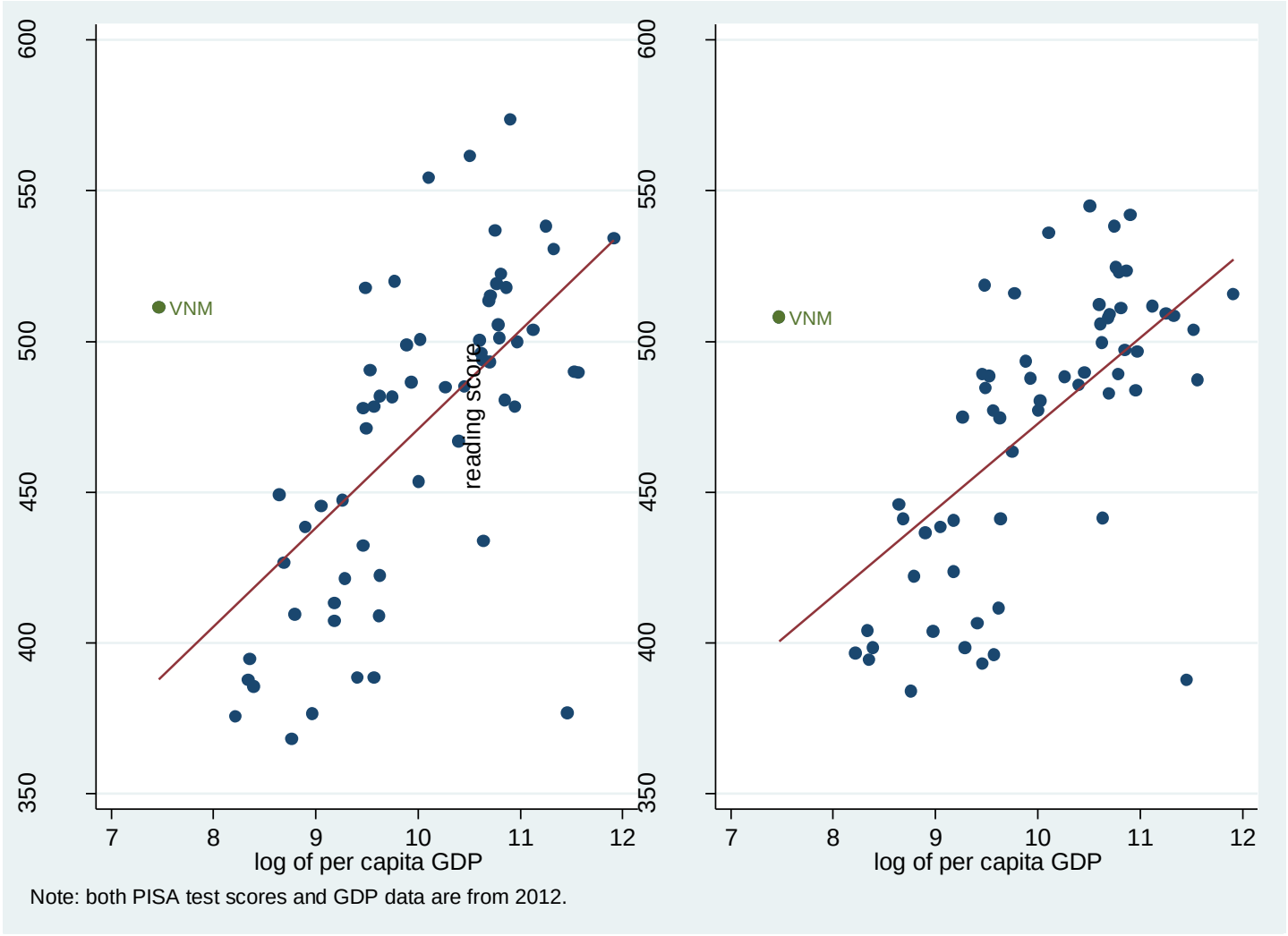
Figure 1: PISA Science Test Scores vs. Country Income Level, 2015



Source: OECD (2016)

I. Introduction/ Motivation (2)

Figure 2: PISA Test Scores vs. Country Income Level, 2012



Note: both PISA test scores and GDP data are from 2012.

Data Source: PISA database and World Bank's WDI database.

I. Introduction/ Background

- Is this really higher-quality education for everyone, or for just the select few?
  - years of schooling (cf. other countries)
  - enrolment (cf. other countries)

II. Regression analysis (1)

$$\text{Test Score} = \beta_0 + \beta_{gdp} \times \text{Log(GDP per capita)} + u \qquad (1)$$

Table 1. Regressions of Test Scores on Log of GDP/capita: Student Level Data

VARIABLES	(1) PV1MATH	(2) PV1READ
Lpcgdp	34.14***	31.53***
	(0.136)	(0.135)
Constant	126.1***	159.5***
	(1.319)	(1.310)
Vietnam residual (average)	**135.8**	**119.0**
Observations	473,236	473,236
R-squared	0.117	0.103

Standard errors in parentheses *** p<0.01, ** p<0.05, * p<0.1

Source: ongoing work with Glewwe (2016)

II. Regression analysis (2)

- Vietnam has very high residual terms compared to other countries.

- Adding observable school & household variables to Equation (1) explains only about one fifth of Vietnam's strong performance in the 2012 PISA relative to its income level.
- Prelim. Oaxaca-Blinder decomposition suggests Vietnam's strong performance is due to its higher efficiency (β) rather than its endowment/ resources (X).

III. Decomposition analysis (1)

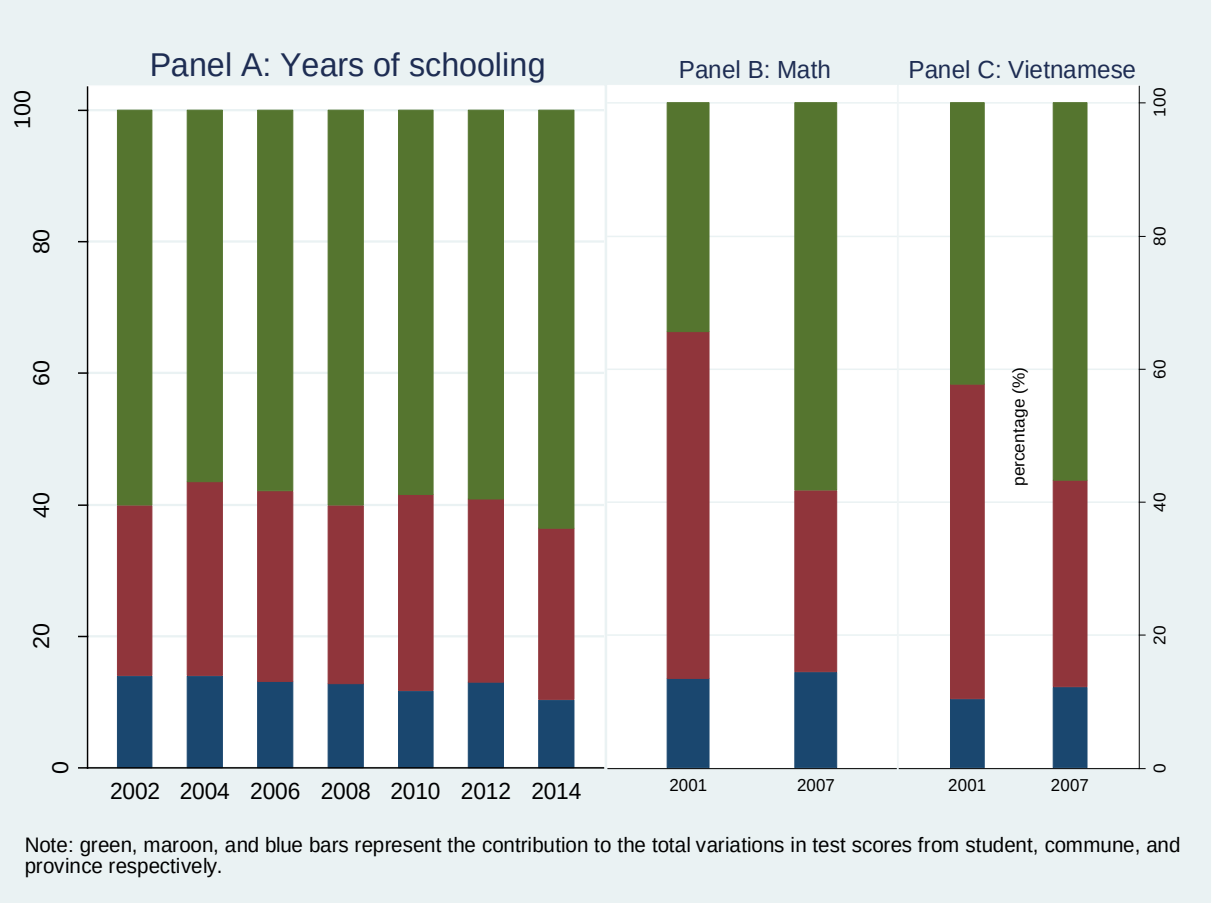
- The variation in education outcomes can be decomposed into variation at each of three levels: province, school (or commune), and household (or student)

$$\tau_y^2 = \tau_p^2 + \tau_s^2 + \tau_i^2 \qquad (2)$$

- Knowing the relative contribution to the total variation in various education outcome from each level can help provide appropriate policy advice.
- Obtain comparison across different datasets.

III. Decomposition analysis (2)

Figure 3: Proportion of the Variance in Education Achievement Explained by Different Factors, Vietnam 2002- 2014 (percentage)



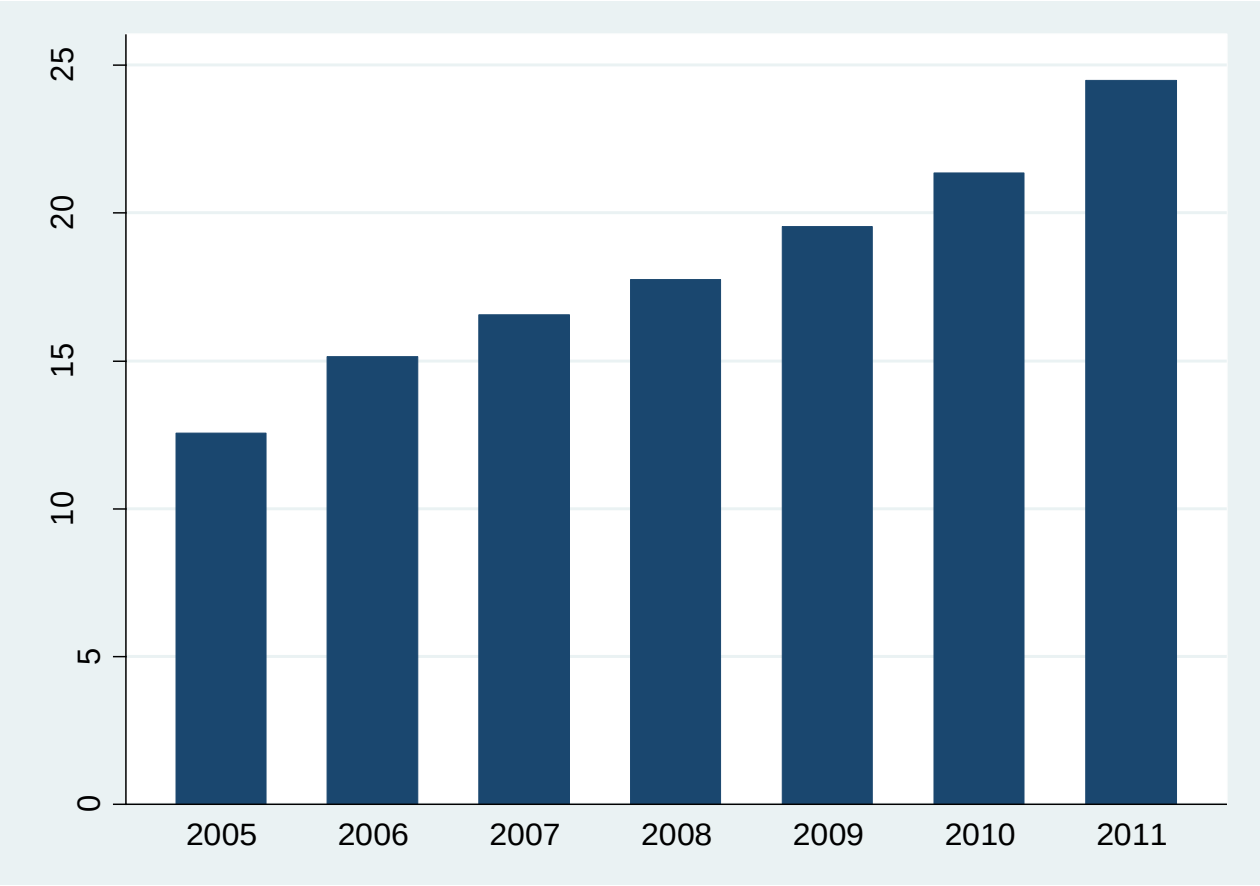
Note: green, maroon, and blue bars represent the contribution to the total variations in test scores from student, commune, and province respectively.

Source: Dang and Glewwe (2016)

IV. Speculative Explanations (1)

i) Rising school quality

Figure 4: Percentage of primary schools that meet national standards of quality over time, Vietnam 2005- 2011 (percentage)



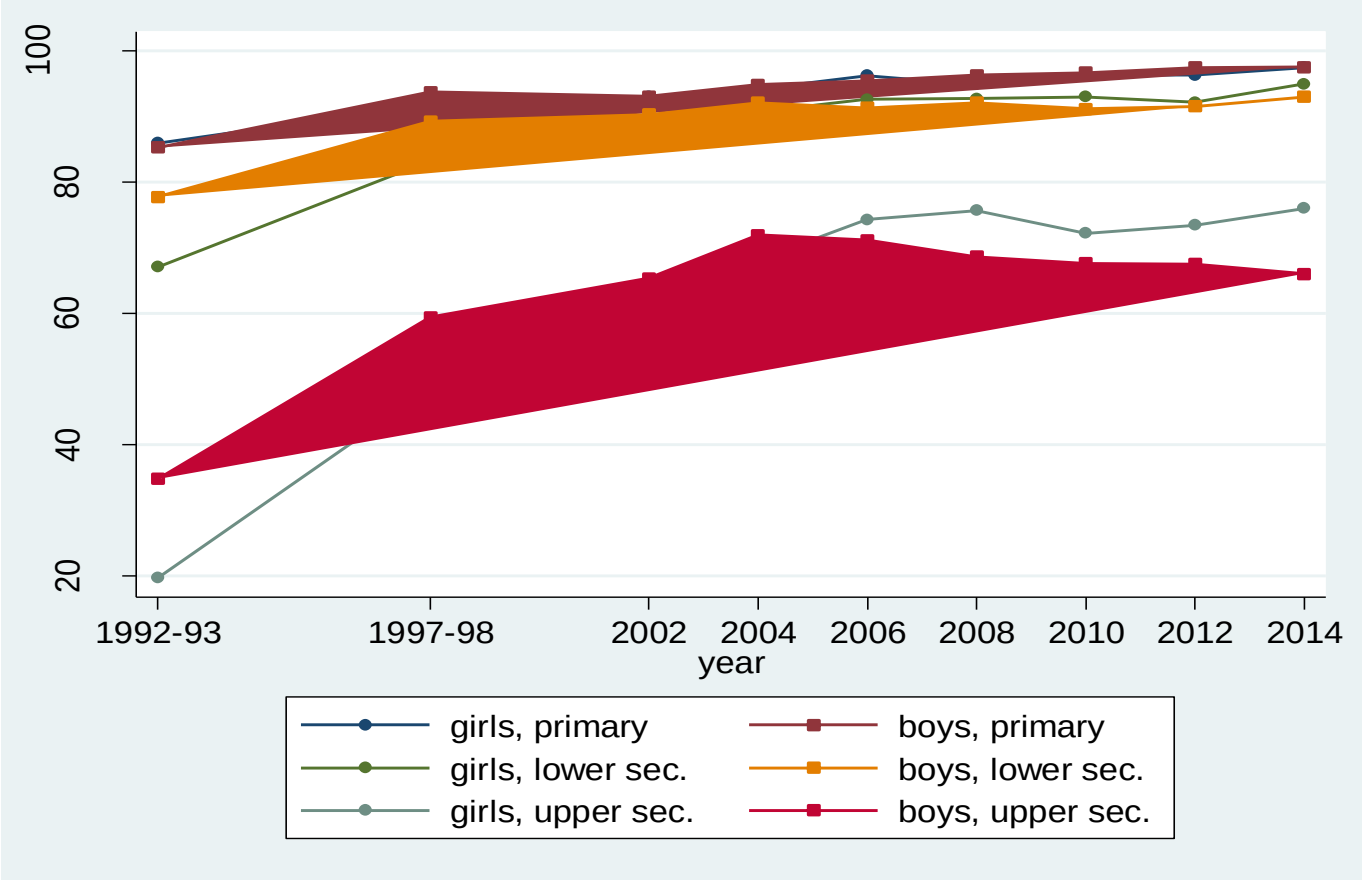
Source: Dang and Glewwe (2016)

Historical example

IV. Speculative Explanations (2)

ii) Gender equality in enrolment

Figure 5: Net Enrolment Rate by School Level and Gender, Vietnam 1992- 2014 (percentage)

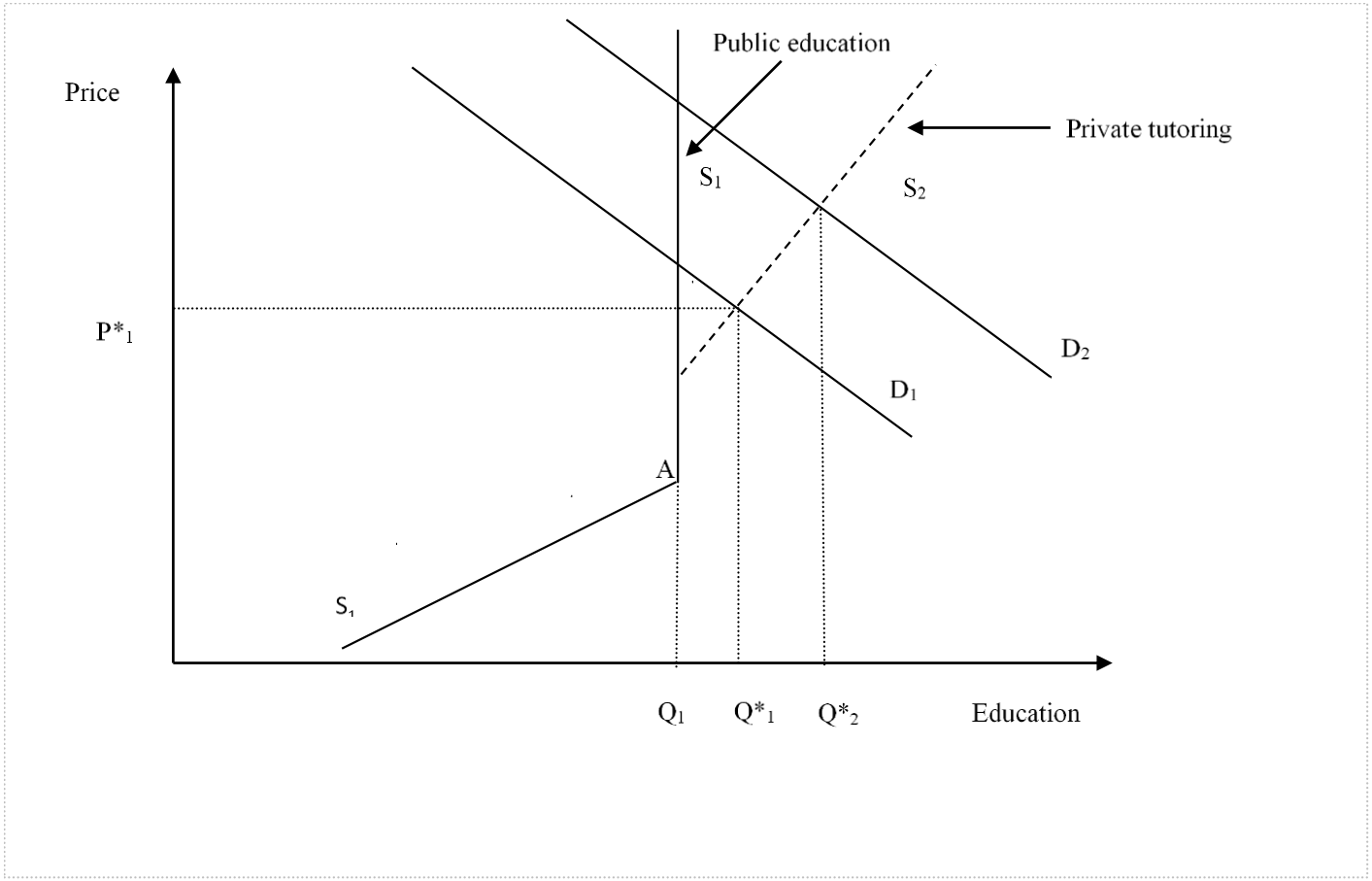


Source: Dang and Glewwe (2016)

IV. Speculative Explanations (3a)

iii) Private tutoring, a form of subsidized private education

Figure 6: Demand and supply of education with private tutoring



Source: Dang and Rogers (2016)

IV. Speculative Explanations (3b)

iii) Private tutoring can increase GPA ranking and test scores in Vietnam and other countries (Dang, 2007, 2008; Dang and Rogers, 2008).

Table 2: Attendance at Private Tutoring Classes, Vietnam 1997- 2014 (percentage)

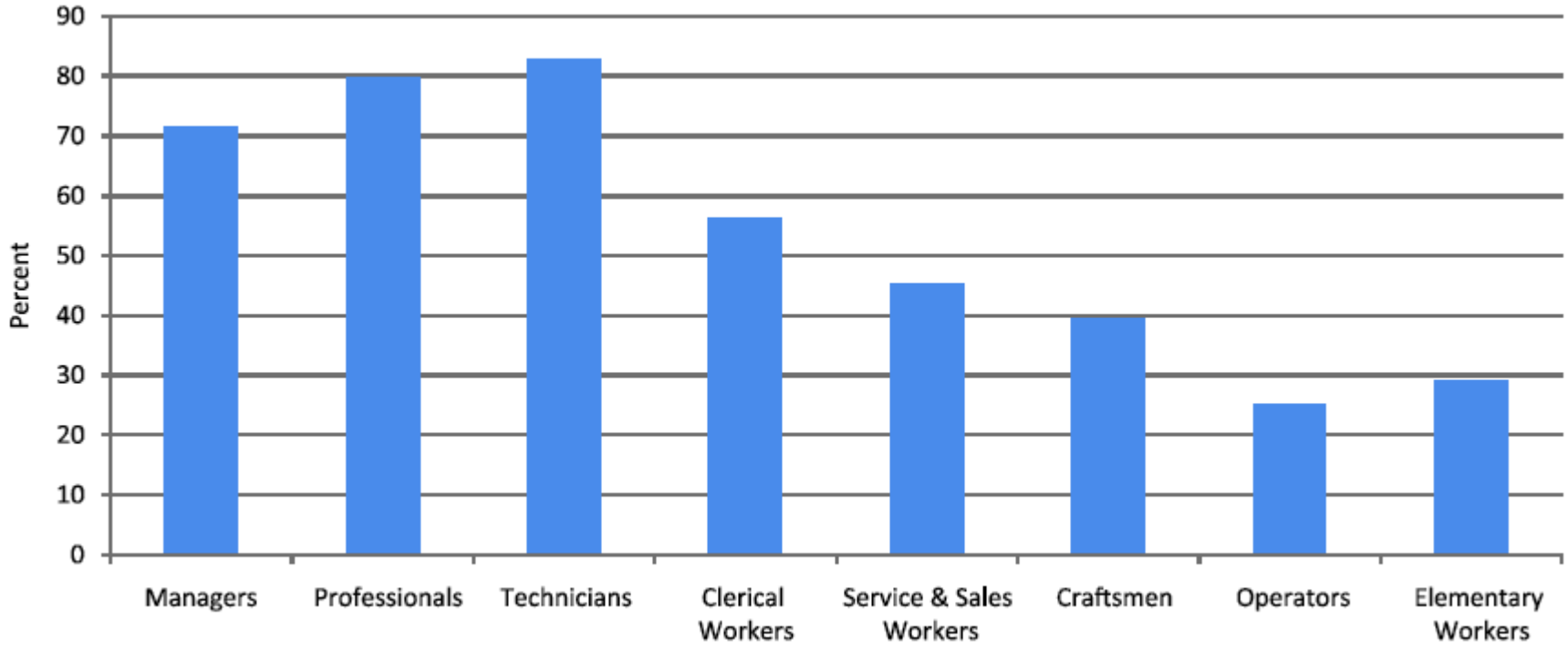
	1997-98	2002	2004	2006	2008	2010	2012	2014
Primary school	31.1	27.9	31.9	32.3	34.0	36.3	36.0	37.9
Lower secondary school	55.9	42.7	44.7	45.3	48.4	50.8	48.4	53.1
Upper secondary school	76.7	54.4	58.7	57.6	60.3	68.1	63.9	69.7
Note: Private tutoring classes are taken in addition to the lessons offered at schools, and are usually paid for by parents.								
The age ranges are respectively 6-10, 11-14, and 15-17 for primary school, lower secondary and upper secondary school.								
All estimates are weighted with population weights. No data on tutoring are available in the 1992-93 VLSS.								

Source: Dang and Glewwe (2016)

V. Other Concern

Graduates have strong academic skills, but perhaps at the expense of crucial work skills

Figure 7: Percent of employers claiming that job applicants lacked the skills required for the work



Source: World Bank (2013)

VI. Summary

- Compared to its income level, Vietnam has quite strong performance for standardized test scores.
- Further controlling for observable household & school variables don't explain this phenomenon.
- But household factors can play the dominant role.
- Suggestive evidence that other—perhaps unobserved—factors may help
  - rising school quality
  - gender equality with school enrolment
  - private tutoring
- Still, despite the strong academic performance, practical job skills is no less important.

References

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- Dang, Hai-Anh, and Paul Glewwe. (2016). “Well Begun, But Aiming Higher: A Review of the Vietnamese Education System in the Past 20 Years and Emerging Challenges”. Working paper.
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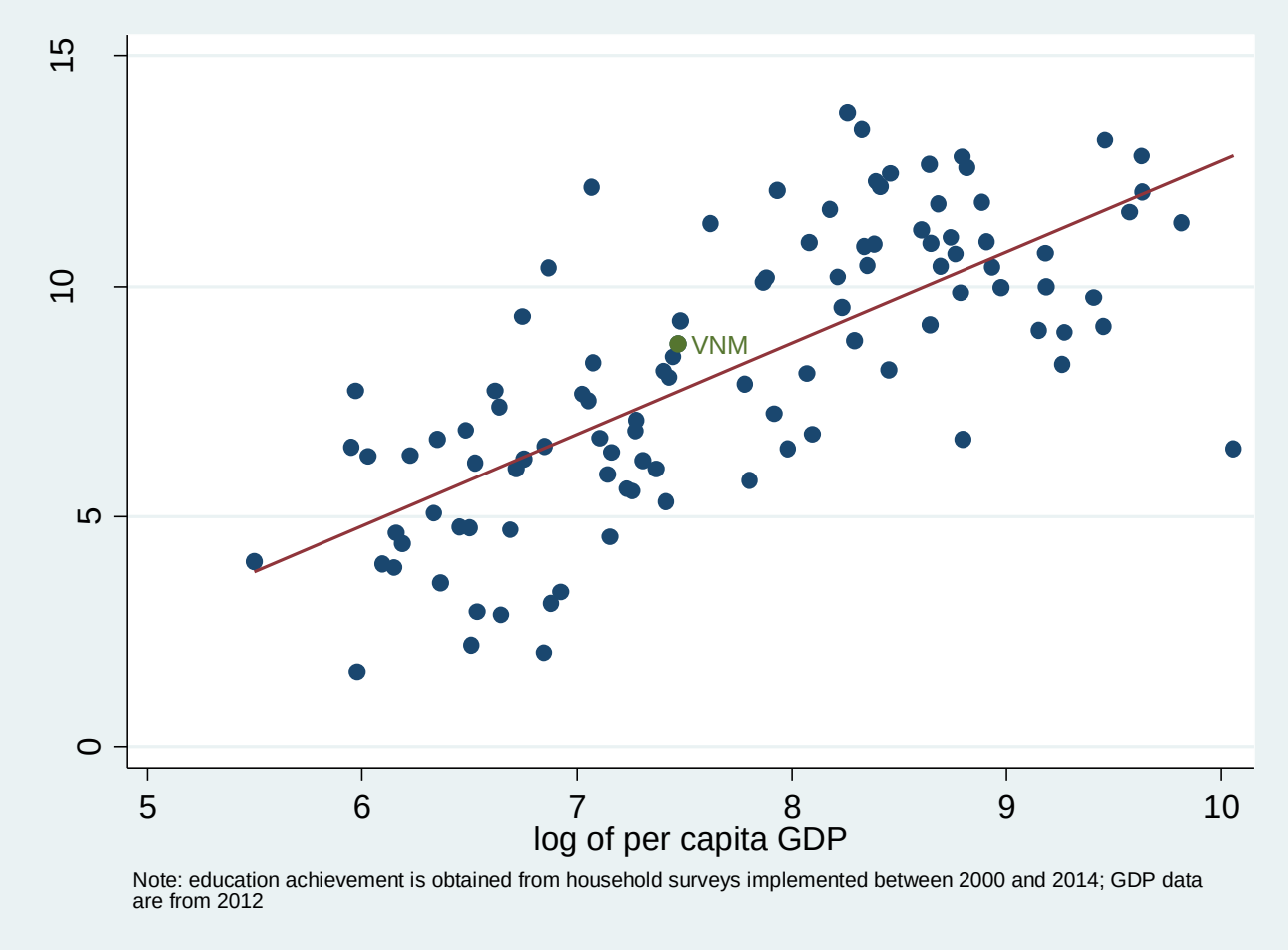
- Dang, Hai-Anh, Trung X. Hoang, and Ha Nguyen. (2017). “The Long-run and Gender-equalizing Impacts of Schooling Policies: Evidence from the First Indochina War”. Working paper.
- World Bank. (2013). “Skilling up Vietnam: Preparing the workforce for a modern market economy”. *Vietnam Development Report 2014*. Washington DC ; World Bank.

- And other ongoing work with Paul Glewwe and other colleagues.

Thank you

Extra Materials (1)

Figure 1.1: Mean Years of Schooling vs. Country Income Level



Source: Dang and Glewwe (2016)

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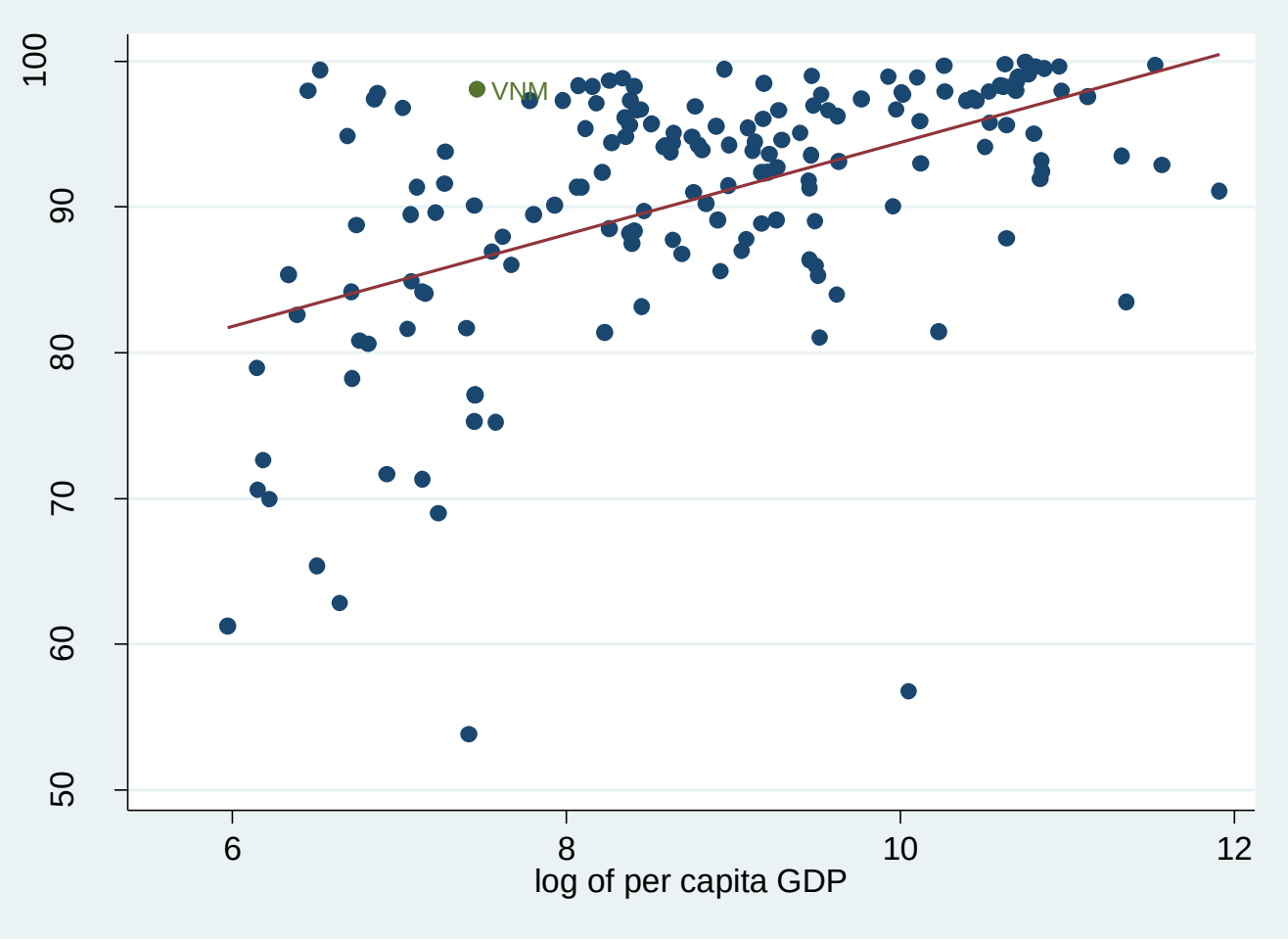
Extra Materials (2)

Figure 1.2: Net Primary School Enrolment vs. Country Income Level



Source: Dang and Glewwe (2016)

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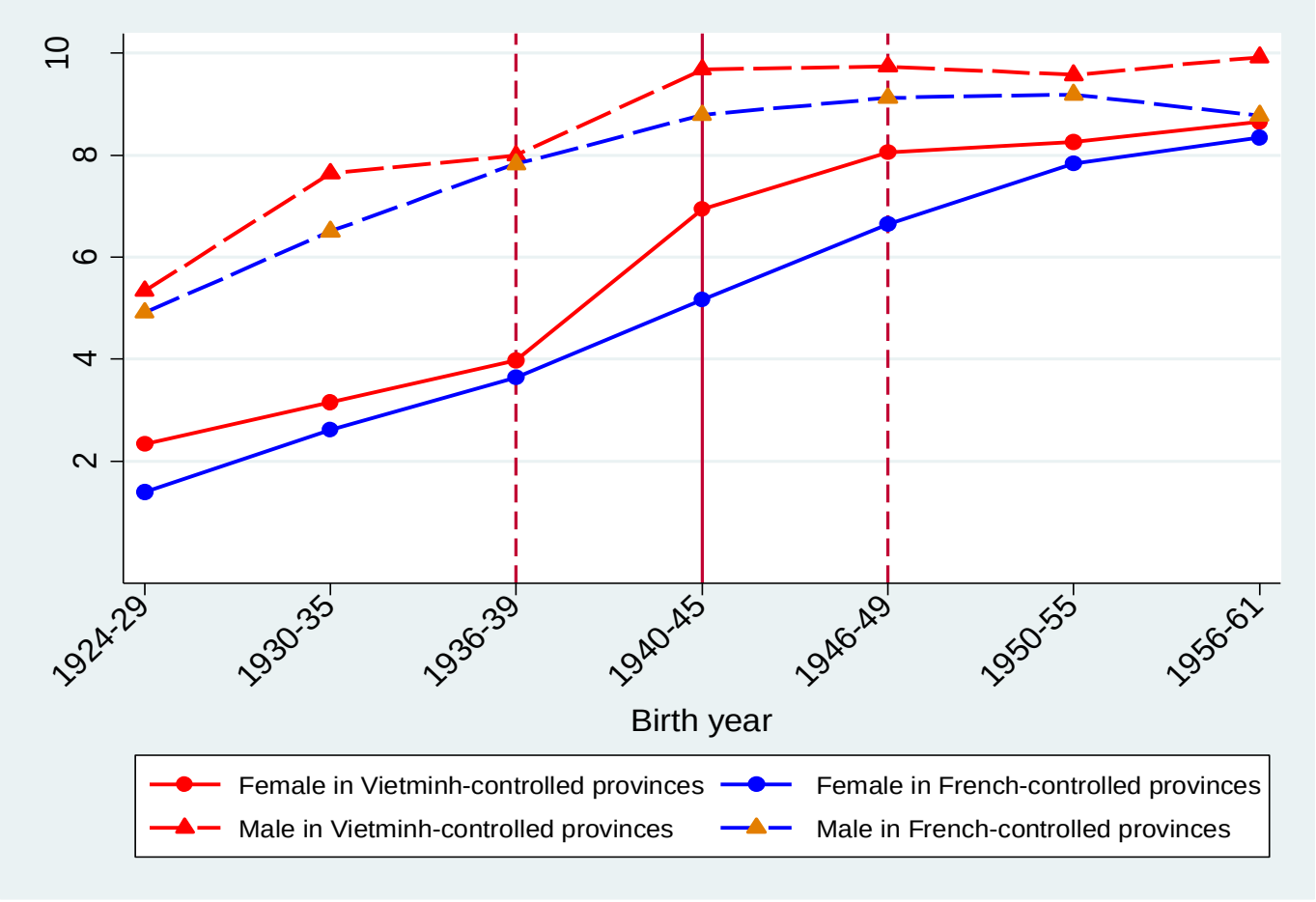
Extra Materials (3)

Figure 1.3: Years of education in Vietminh-occupied region versus French-occupied region, North Vietnam



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Source: Dang, Hoang, and Nguyen (2017)