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

Hai-Anh Dang  
World Bank  

DECRG-Hub Conference  
Kuala Lumpur, Malaysia  
January, 2017
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)

Test Score = β₀ + β_{gdp} × Log(GDP per capita) + u  \hspace{1cm} (1)

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

<table>
<thead>
<tr>
<th>VARIABLES</th>
<th>(1) PV1MATH</th>
<th>(2) PV1READ</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lpcgdp</td>
<td>34.14***</td>
<td>31.53***</td>
</tr>
<tr>
<td></td>
<td>(0.136)</td>
<td>(0.135)</td>
</tr>
<tr>
<td>Constant</td>
<td>126.1***</td>
<td>159.5***</td>
</tr>
<tr>
<td></td>
<td>(1.319)</td>
<td>(1.310)</td>
</tr>
<tr>
<td>Vietnam residual (average)</td>
<td>135.8</td>
<td>119.0</td>
</tr>
<tr>
<td>Observations</td>
<td>473,236</td>
<td>473,236</td>
</tr>
<tr>
<td>R-squared</td>
<td>0.117</td>
<td>0.103</td>
</tr>
</tbody>
</table>

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 ($\beta$) 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)

\[ \tau_y^2 = \tau_p^2 + \tau_s^2 + \tau_i^2 \]  

(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)

Panel A: Years of schooling
Panel B: Math
Panel C: Vietnamese

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)
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)

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Primary school</td>
<td>31.1</td>
<td>27.9</td>
<td>31.9</td>
<td>32.3</td>
<td>34.0</td>
<td>36.3</td>
<td>36.0</td>
<td>37.9</td>
</tr>
<tr>
<td>Lower secondary school</td>
<td>55.9</td>
<td>42.7</td>
<td>44.7</td>
<td>45.3</td>
<td>48.4</td>
<td>50.8</td>
<td>48.4</td>
<td>53.1</td>
</tr>
<tr>
<td>Upper secondary school</td>
<td>76.7</td>
<td>54.4</td>
<td>58.7</td>
<td>57.6</td>
<td>60.3</td>
<td>68.1</td>
<td>63.9</td>
<td>69.7</td>
</tr>
</tbody>
</table>

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.
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

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


• And other ongoing work with Paul Glewwe and other colleagues.
Thank you
Figure 1.1: Mean Years of Schooling vs. Country Income Level

Source: Dang and Glewwe (2016)
Figure 1.2: Net Primary School Enrolment vs. Country Income Level

Source: Dang and Glewwe (2016)
Figure 1.3: Years of education in Vietminh-occupied region versus French-occupied region, North Vietnam

Source: Dang, Hoang, and Nguyen (2017)