

How to do the L^AT_EX Beamer?

Ernie Cheng-Xiang Zhuang one ^{*} Ernie Cheng-Xiang Zhuang two [†]

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Abstract

This paper develops a dynamic industry model with heterogeneous firms to analyze the intra-industry effects of international trade. The model shows how the exposure to trade will induce only the more productive firms to enter the export market (while some less productive firms continue to produce only for the domestic market) and will simultaneously force the least productive firms to exit. It then shows how further increases in the industry's exposure to trade lead to additional inter-firm reallocations towards more productive firms. The paper also shows how the aggregate industry productivity growth generated by the reallocations contributes to a welfare gain, thus highlighting a benefit from trade that has not been examined theoretically before. The paper adapts Hopenhayn's (1992a) dynamic industry model to monopolistic competition in a general equilibrium setting. In so doing, the paper provides an extension of Krugman's (1980) trade model that incorporates firm level productivity differences. Firms with different productivity levels coexist in an industry because each firm faces initial uncertainty concerning its productivity before making an irreversible investment to enter the industry. Entry into the export market is also costly, but the firm's decision to export occurs after it gains knowledge of its productivity.

Keywords: Intra-industry trade, firm heterogeneity, firm dynamics, selection.

This abstract is taken from [Melitz \(2003\)](#).

^{*}National Tsing Hua University one

[†]National Tsing Hua University two

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1 Sentence

Econometrics is a **statistical** method used to *estimate* the economic relationship, test economic theories, and evaluate the effects of government or business policies.

Pure mathematics is, in its way, the poetry of logical ideas.

— Albert Einstein

2 Itemize and Enumerate

- This is an item of ‘itemize’ package
 - a In Beamer, you can enter nothing inside the [] to generate a solid circle, but you cannot enter it in Article.
 - b This is an item of ‘enumerate’ package with typing ‘a’ in []
 - This is an item of ‘itemize’ package in second layer
 - 1 This is an item of ‘enumerate’ package with typing ‘1’ in []
 - 2 This is an item of ‘enumerate’ package with typing ‘1’ in []

3 Math

3.1 Theorem

Definition 1. Let $f(x)$ be a function defined on an interval that contains $x = c$, except that possibly at $x = c$. Then we say that, $\lim_{x \rightarrow c} f(x) = L$ if for every number $\epsilon > 0$ there is some number $\delta > 0$ such that $|f(x) - L| < \epsilon$ whenever $0 < |x - c| < \delta$.

Axiom 1. Axioms can be specified using Axiom’s environment command.

Assumption 1. Assumptions can be specified using Assum’s environment command.

Theorem 1. Theorems can be specified using Thm’s environment command.

Lemma 1. Lemmas can be specified using Lemma’s environment command.

Corollary 1. Corollaries can be specified using Corol’s environment command.

Property 1. Properties can be specified using Property’s environment command.

Proposition 1. Propositions can be specified using Proposition’s environment command.

Claim 1. Claims can be specified using Claim’s environment command.

Remark 1. Remarks can be specified using Remark’s environment command.

Note 1. Notes can be specified using Note’s environment command.

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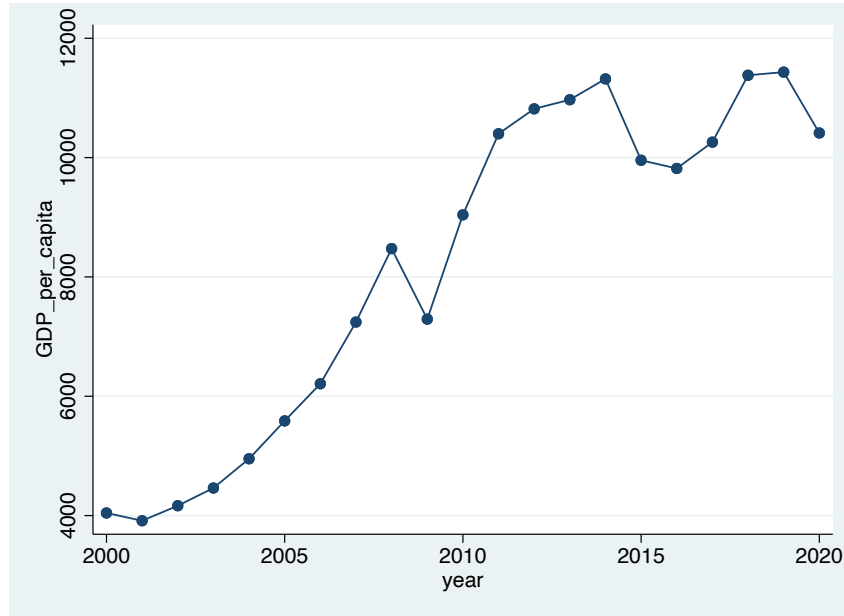
3.2 Mathematical Equations

$$\ln \left[\frac{\text{Prob.}(Y = b|X)}{\text{Prob.}(Y = 0|X)} \right] = \beta_0 + \sum_{j=1}^k \beta_{i,j} X_{i,j,b|Y=0} + \varepsilon_{i,b|Y=0} \quad (1)$$

$$\begin{aligned} (n-1)S^2 &= \sum_{i=1}^n (x_i - \bar{X})^2 = \sum_{i=1}^n x_i^2 - n\bar{X}^2 \\ \Rightarrow \sum_{i=1}^n x_i^2 &= (n-1)S^2 + \underbrace{n\bar{X}^2} \end{aligned} \quad (2)$$

4 Figure and Table

4.1 Single Figure



Sources: Worldbank.

Figure 1: GDP per capita in Malaysia (current US\$)

4.2 Subfigure

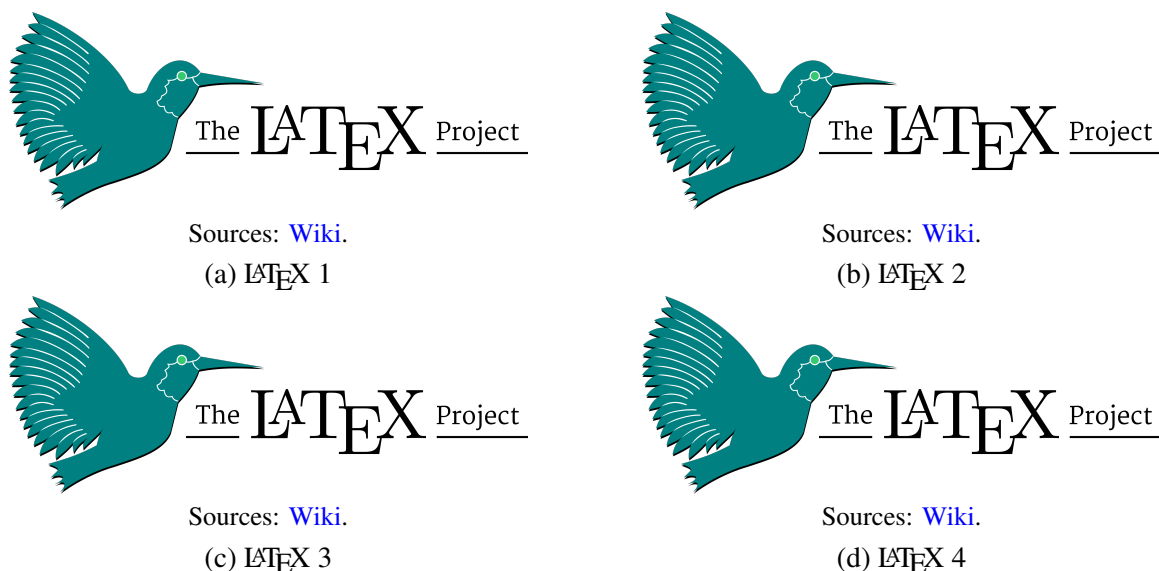


Figure 2: L^AT_EX

4.3 wrapfigure

National Tsing Hua University has a long and proud history. First established as the Tsing Hua Academy at Tsing Hua Garden in Beijing in 1911, the Academy was renamed as National Tsing Hua University in 1928 as its curricula expanded to that of a full-fledged university. In 1956, National Tsing Hua University (NTHU) was reinstalled on its current campus in Hsinchu, Taiwan.

National Tsing Hua University (NTHU) was reinstalled on its current campus in Hsinchu, Taiwan. Since its reinstallation, NTHU has developed from an institute focusing on Nuclear Science and Technology to that of a comprehensive research university offering degree programs ranging from baccalaureate to doctorate in science, technology, engineering, humanities and social sciences, as well as management. NTHU has been consistently ranked as one of the premier universities in Taiwan and is widely recognized as the best incubator for future leaders in industries as well as academics. Such stellar records are particularly



Sources: [NTHU](#).

Figure 3: NTHU Logo

exemplified by the outstanding achievements of our alumni, including two Nobel laureates in physics Drs. Cheng- Ning Yang and Tsung-Dao Lee, one Nobel laureate in chemistry Dr. Yuan-Tseh Lee and one Wolf Prize winner in mathematics Dr. Shiing-Shen Chern. (This article is taken from: [NTHU](#).)

4.4 Single Table

Table 1: Statistical Differences in Student Loans Between Public and Private Universities in Taiwan (Academic Year 108)

	Public universities	Private universities
Loan amount	3,121,271,506	16,098,465,719
Number of students with loans	55,715	187,076
Total number of students	439,073	774,099
Loan amount per capita	56,022	86,053
The share of total student	12.69%	24.17%

Source: [Department of Help Dreams](#)

Note: You can write a note for the table.

4.5 Landscape

Table 2: Logistic regression results of studying in national universities and ordinary universities

	Study in a national university (relative to studying in a private university)			Studying in an ordinary university (relative to studying in a technical university)		
	(1-1)	(1-2)	(1-3)	(2-1)	(2-2)	(2-3)
Parents' socio-economic status						
Dad: Low; Mom: Middle	0.039 (0.191)	0.041 (0.191)	0.023 (0.195)	0.545** (0.174)	0.546** (0.174)	0.528** (0.179)
Dad: Low; Mom: High	0.183 (0.200)	0.188 (0.200)	0.163 (0.205)	0.745*** (0.190)	0.748*** (0.190)	0.813*** (0.197)
Dad: Low; Mom: No employment	-0.244+ (0.138)	-0.239+ (0.138)	-0.206 (0.140)	0.121 (0.122)	0.123 (0.123)	0.187 (0.127)
Dad: Middle; Mom: Low	-0.259 (0.443)	-0.249 (0.444)	-0.213 (0.446)	0.521 (0.385)	0.525 (0.386)	0.488 (0.396)
Dad: Middle; Mom: Middle	0.356 (0.291)	0.356 (0.292)	0.387 (0.293)	0.864** (0.310)	0.865** (0.310)	0.846** (0.312)
Dad: Middle; Mom: High	0.264 (0.385)	0.261 (0.385)	0.305 (0.388)	0.547 (0.378)	0.546 (0.378)	0.636+ (0.387)
Dad: Middle; Mom: No employment	0.259 (0.332)	0.255 (0.333)	0.301 (0.335)	0.887* (0.374)	0.885* (0.374)	0.901* (0.376)
Dad: High; Mom: Low	0.346* (0.175)	0.338+ (0.175)	0.360* (0.177)	0.455** (0.170)	0.452** (0.170)	0.508** (0.173)
Dad: High; Mom: Middle	0.296+ (0.178)	0.295+ (0.178)	0.323+ (0.179)	1.020*** (0.180)	1.021*** (0.180)	1.029*** (0.182)
Dad: High; Mom: High	0.447** (0.144)	0.445** (0.144)	0.473** (0.146)	1.466*** (0.161)	1.465*** (0.161)	1.545*** (0.167)

4.6 Long Table

Table 3: The Best 5 Jobs

Rank	2021	2019	2018	2017
1	Data Analyst	Data Analyst	Genetic Counselors	Statistician
2	Genetic Counselors	Statistician	Mathematician	M. S. Manager
3	Statistician	University Professor	University Professor	OR Analyst
4	M. S. Manager	Occupational Therapy	Occupational Therapy	I. S. Analyst
5	Mathematician	Genetic Counselors	Statistician	Data Analyst
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Continue from the previous page

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Sources: [Department of Help Dreams](#).

Notes: 1. In 2020, CareerCast did not announce the best jobs of the year.

2. STEM-related occupations in bold.

5 Citation

- When we refer to previous figures, tables or equations in the text, we should cite them like this:
 - “figure \ref{label}”, then it will appear figure 1 and figure 2
 - “figure \ref{label}”, then it will appear figure 2a, figure 2b, figure 2c and figure 2d.
 - “table \ref{label}”, then it will appear table 1, table 2 and table 3.
 - “equation (\ref{label})”, then it will appear equation (1) and equation (2).
- Also, how to cite references:
 - textual citations: \citet{label}.
 - * For instance: [Melitz \(2003\)](#).
 - parenthetical citations: \citep{label}.
 - * For instance: ([Melitz, 2003](#)).
 - Note that the benefit of using bibtex is that it will only help you enter the references you use into the references. (For example, there is an article by sin1996 in ref.bib that is not cited)
 - In addition, remind to use the bib file, the order of executing the compiler is XeLaTeX → BibTeX → XeLaTeX → XeLaTeX (execute several times to ensure that the results are fully presented.)

The advantage of citation is that when the slides are changed, there is no need to manually adjust the numbering all the time.

References

Melitz, M. J. (2003). The impact of trade on intra-industry reallocations and aggregate industry productivity. *econometrica*, 71(6):1695–1725.

The following are entered manually.

Sin, C. Y. and White, H. (1996). Information criteria for selecting possibly misspecified parametric models. *Journal of Econometrics*, 71(1-2):207–225.

Appendices

A The first section of the appendix

Provide you with more detailed figures or tables.

B The second section of the appendix

You can also provide your more detailed mathematical proof.