

Trade-led Growth in Times of Crisis
Asia-Pacific Trade Economists' Conference
2-3 November 2009, Bangkok

Session 12

Revealed Factor Intensity Indices
at the Product Level

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Regional Seminar on
**Enhancing Developing Countries' New and
Dynamic Sectors of Exports**

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**Revealed Factor Intensity Indices
at the Product Level**

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Introducing Revealed Factor Intensity Indices

- What is it?
 - Provides a unique number of “revealed” factor intensity of an exported product, classified at the most disaggregated level, for each year
 - SITC 5- digit (1166 products, years 1962 – 2003)
 - HS 6-digit (over 5000 products, 1988 – 2003)
- What’s the use?
 - Allows us to control for the Heckscher-Ohlin effects in analysing the patterns of trade diversification

Introducing Revealed Factor Intensity Indices

- Initial motivation

→ To fill gaps in theory & analysis

- **Theoretical-gap:**

- Ambiguous linkage between recent approaches (e.g. Hausmann & Klinger, 2007) and the traditional Hecksher-Ohlin approach → Does factor endowment (comparative advantage) matter in explaining export diversification patterns?

- **Practical-gap:**

- No sound tool available to measure factor intensities of traded goods at a disaggregated level of product classification

Estimating Revealed Factor Intensity Indices (RFII)

- Methodology inspired by Hausmann, Hwang & Rodrik (2007)
- RFII for each traded good = a weighted average of the factor abundance of the countries exporting that good.
- Weights are a variant of Balassa's RCA indices
- “Revealed” → “A product, exported by a country that is richly endowed in human capital, must be human-capital intensive”

$$\begin{aligned} RFII_k(t) &= \sum \omega_k^i e^i \\ &\rightarrow e^i \Rightarrow \{k^i, h^i, l^i\} \end{aligned}$$

$$\rightarrow \omega_k^i = \frac{X_k^i / X^i}{\sum_i (X_k^i / X^i)}$$

Estimating Revealed Factor Intensity Indices (RFII): National Factor Endowments

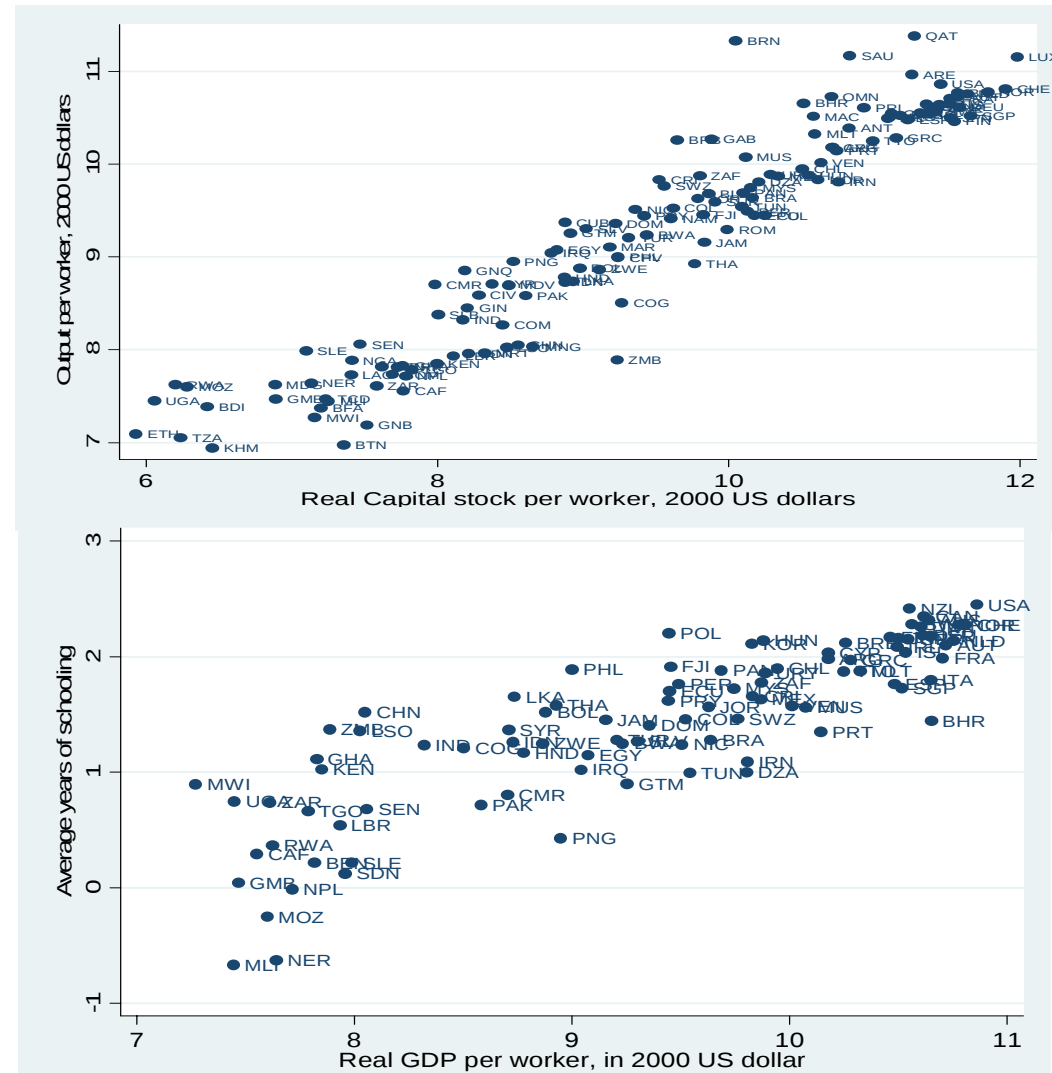
- **k = Capital Stock** (real, per worker)
 - approach of Easterly & Levine (2001)
 - Version 6.2 of PWT (investment data)
 - for 152 countries, for the period 1951-2003

- **h = Human Capital Stock**
 - Average years of schooling from Barro & Lee (2001) for each five years
 - Interpolation/extrapolation to get yearly figures for the period 1960-2004 for 105 countries

- **l = Natural Resource Endowment**
 - Arable land (hector per person), for 203 countries, for the period 1961-2005, from WDI
 - WB database on Natural Capital for over 100 countries
 - Non-renewable resources, cropland, pastureland, forested area, and protected areas.
 - Only for 2 years: 1994 and 2000

NOTE: National Factor Endowments

- Reliability check: a plausible degree of correlation
- We also did cluster analysis to check further whether our data is reasonable and realistic



预览已结束，完整报告链接和二维码如下：

https://www.yunbaogao.cn/report/index/report?reportId=5_8135



Some caveats

- Limitation of Balassa's RCA index
 - Double counting
 - Should be based on net exports
- Dealing with agricultural distortions
 - WB new database on Agricultural Distortions (2008)
 - Nominal Rate of Assistance (NRA) for 70% of agricultural products for the period of 1955-2005
 - Correction: to keep only undistorted RCAs by weeding out observations characterised by nonzero NRAs