

HOW RETURNS DIFFER  
BY  
FIELD OF STUDY  
IN  
TRINIDAD AND TOBAGO.

Presented by:

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# INTRODUCTION.

- Human Capital Development is linked to different **Fields of Study**.
- **Stimulating growth** of subjects at the Secondary level:
  - Student academic performance.
- **Easing access** into University Level Institutions:
  - Surplus of Highly Educated workers.
  - Educationally Diverse Labour Force.
- **Surplus growth of workers in specific fields:**
  - Influence employment prospects.
  - Wage structure within a given specialization.

# FIELD OF TRAINING LITERATURE REVIEW.

United States (US), Canada,  
Europe & South East Asia.

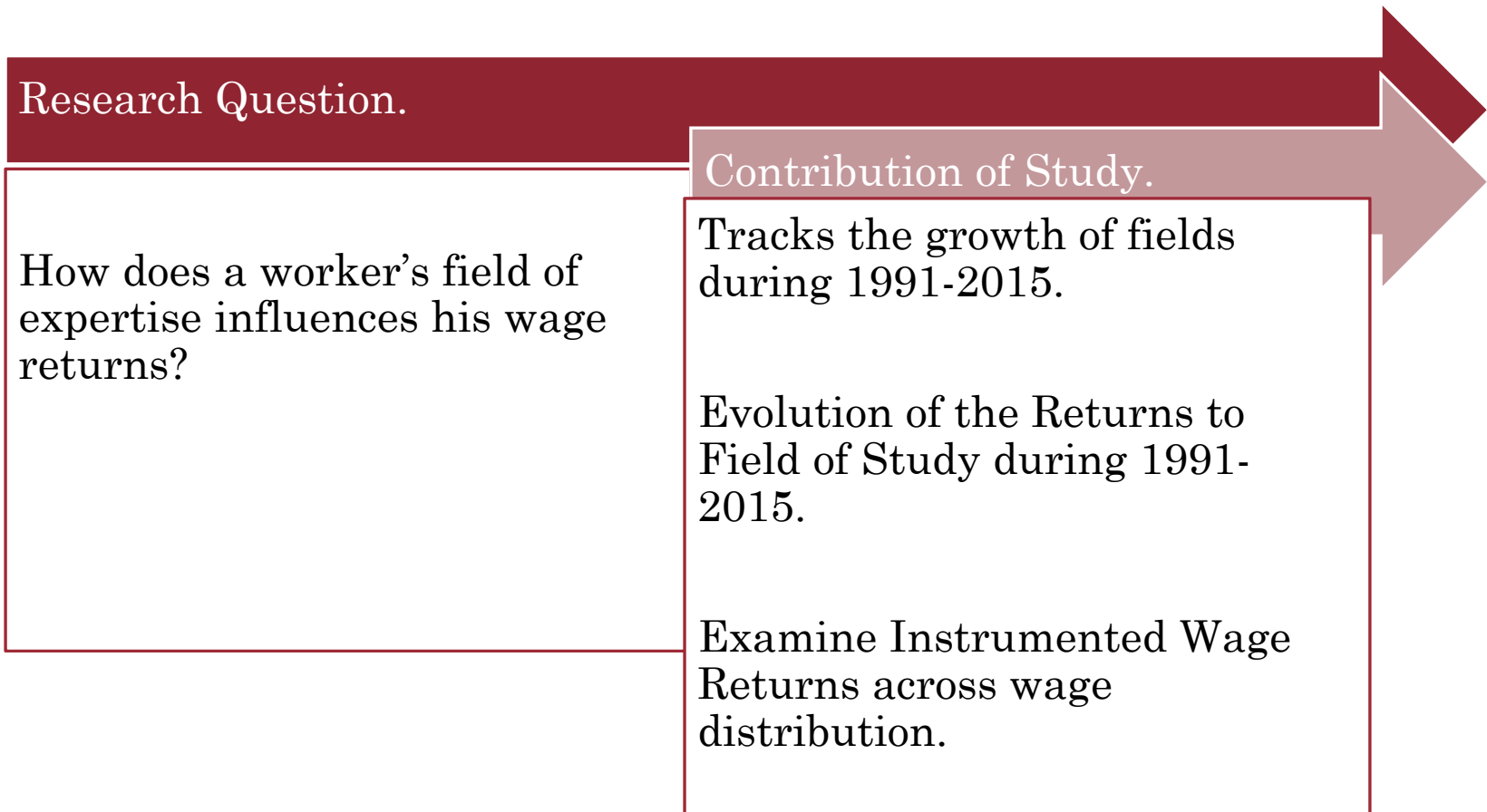
- Highest earnings:
  - Science, Technology, Engineering and Mathematics (STEM) fields, Business.
- Lowest earnings:
  - Education & Humanities.
- Higher earnings in Quantitative fields.
- Ability Sorting:
  - Skilled Biased Technical Change (SBTC).

References:

(Altonji, Arciadiacono 2015; Finnie and Frenette 2003; Beblavy, Lehouelleur and Maselli 2015; Fan and Zhang 2015).

**Table 1.** Review of the Literature.

# RESEARCH QUESTION & CONTRIBUTION TO STUDY.



**Figure 1.** Research Question & Contribution of Study.

# SAMPLE SELECTION.

<b>Sample Data.</b>	<b>Main Variables of Interest.</b>
<ul style="list-style-type: none"><li>• Continuous Sample Survey of Population (CSSP) Data from 1991-2015.</li><li>• Male &amp; Female persons, ages 15-65.</li><li>• Employed within the Private &amp; Public sector on a Full time basis.</li></ul>	<ul style="list-style-type: none"><li>• Hourly wage rate.</li><li>• Field &amp; Level of Study.</li><li>• Potential working experience, marital status, gender, ethnic group, county divisions, occupation and industry categories.</li><li>• Over and Under Education.</li></ul>

**Table 2.** Sample Data & Variables.

# EMPIRICAL SPECIFICATION.

## Mincerian Wage Equation (Mincer 1974).

$$\ln w_i = \beta_0 + \beta_1 F_i + \beta_2 \mathbf{X}_i + e_i \quad (1)$$

$$\ln w_i = X_i \beta_\tau + e_{\tau i}, \tau(\ln w_i | \mathbf{X}_i) = X_i \beta_\tau \quad (2)$$

$$\ln w_i = F_i \alpha(U) + \mathbf{X}_i' \beta(U), \quad U \sim U(0,1), \text{ given } Z_i \text{ and } X_i, \quad (3)$$

where for the  $i$ th workers' field of study,

$\ln w_i$  is the natural logarithm of the real hourly wage rate.

$\beta_0$  is a constant.

$\beta_1 F_i$  is the returns associated with a specific field of study.

$\beta_2 \mathbf{X}_i$  the vector of control variables.

$\tau$  the sample quantile.

$\tau(\ln w_i | \mathbf{X}_i)$  the conditional quantile ( $\tau$ ) of the  $i$ th worker.

$e$  is the error term.

$z$  is the instrumental variable, i.e., parent field of study.

# EMPIRICAL ANALYSIS.

## Returns to Field of Study.

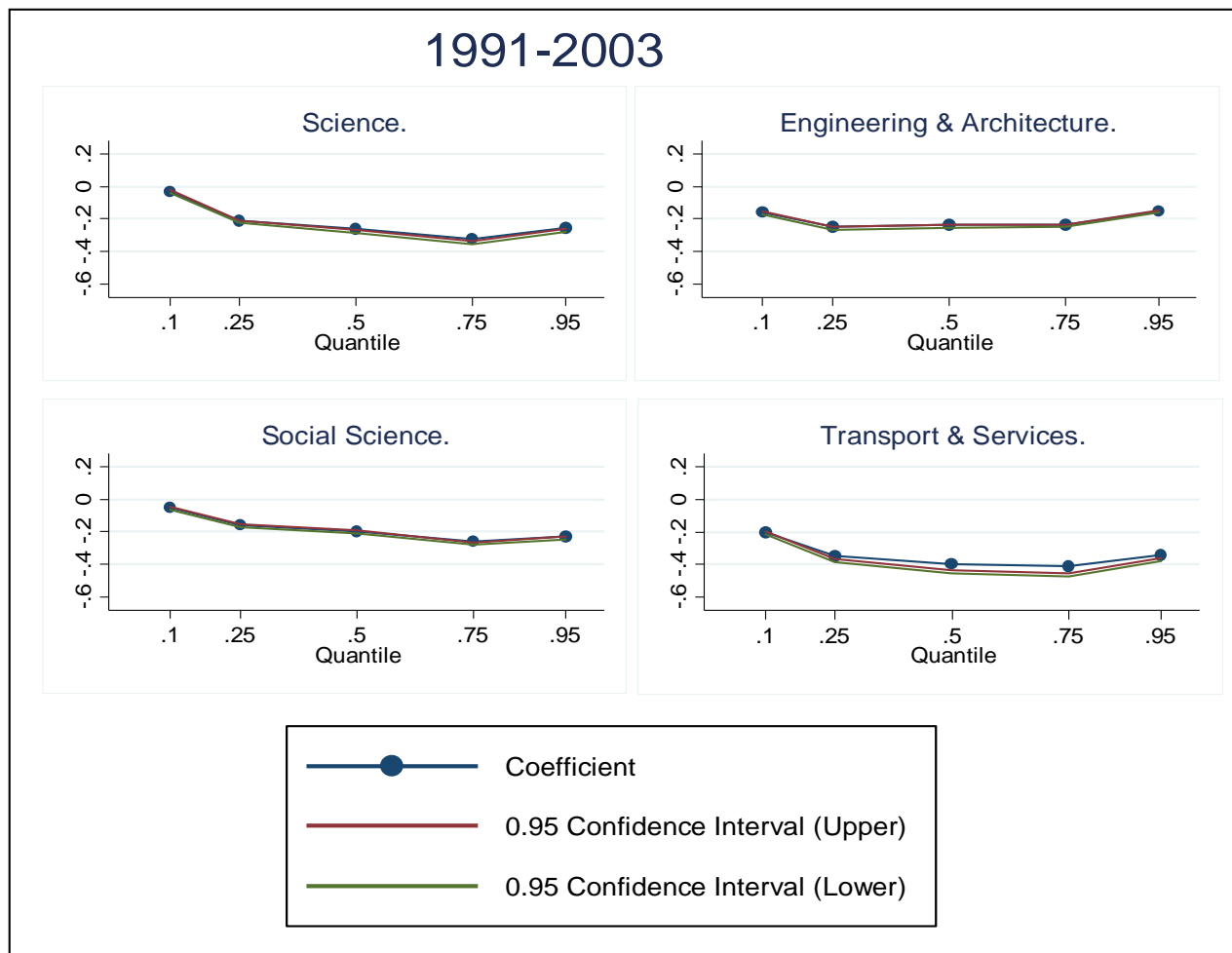


Figure 2a. Non-Instrumented Returns (1991-2003).

# EMPIRICAL ANALYSIS.

## Returns to Field of Study.

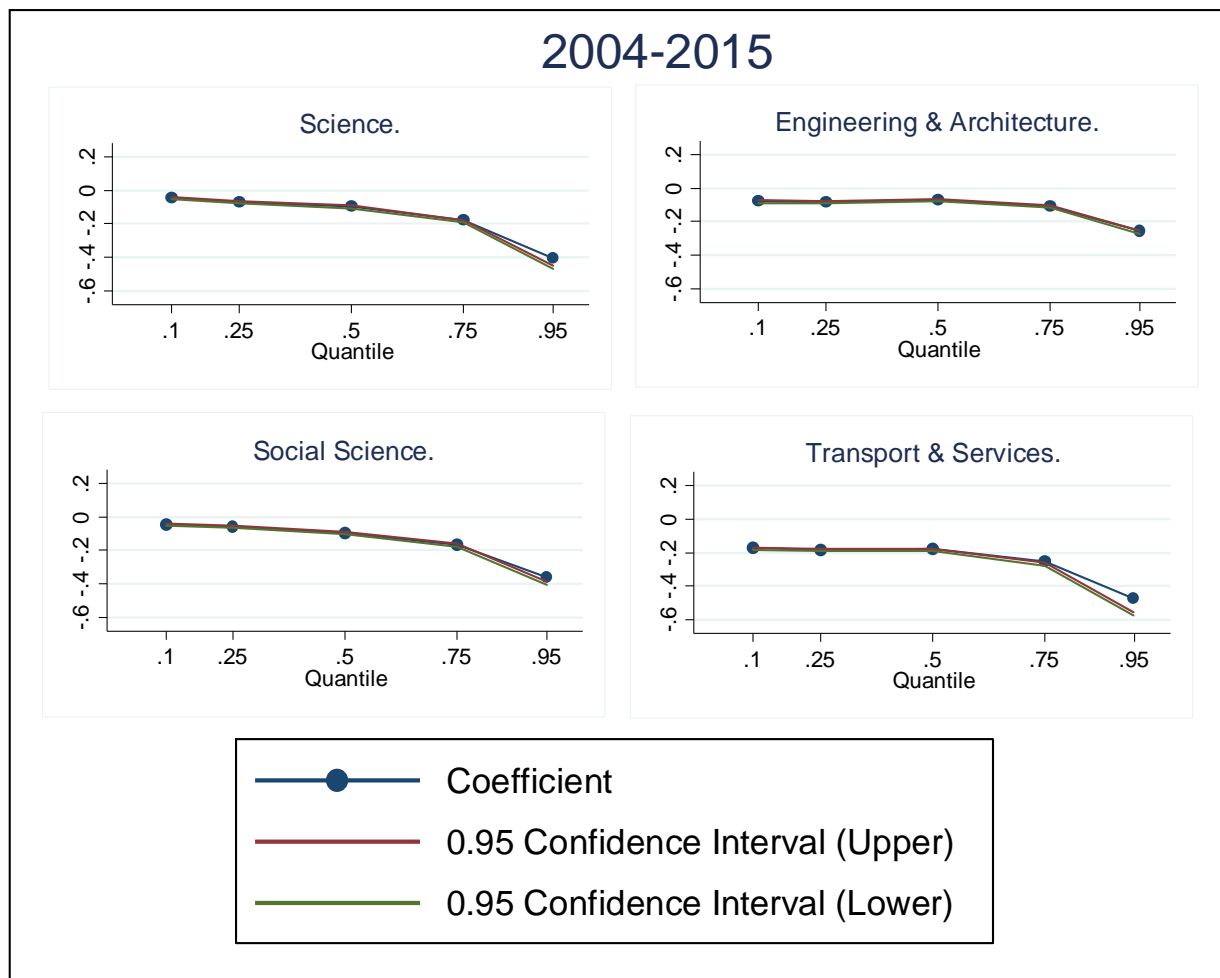


Figure 2b. Non-Instrumented Returns (2004-2015).



# EMPIRICAL ANALYSIS.

## Instrumented Returns to Field of Study.

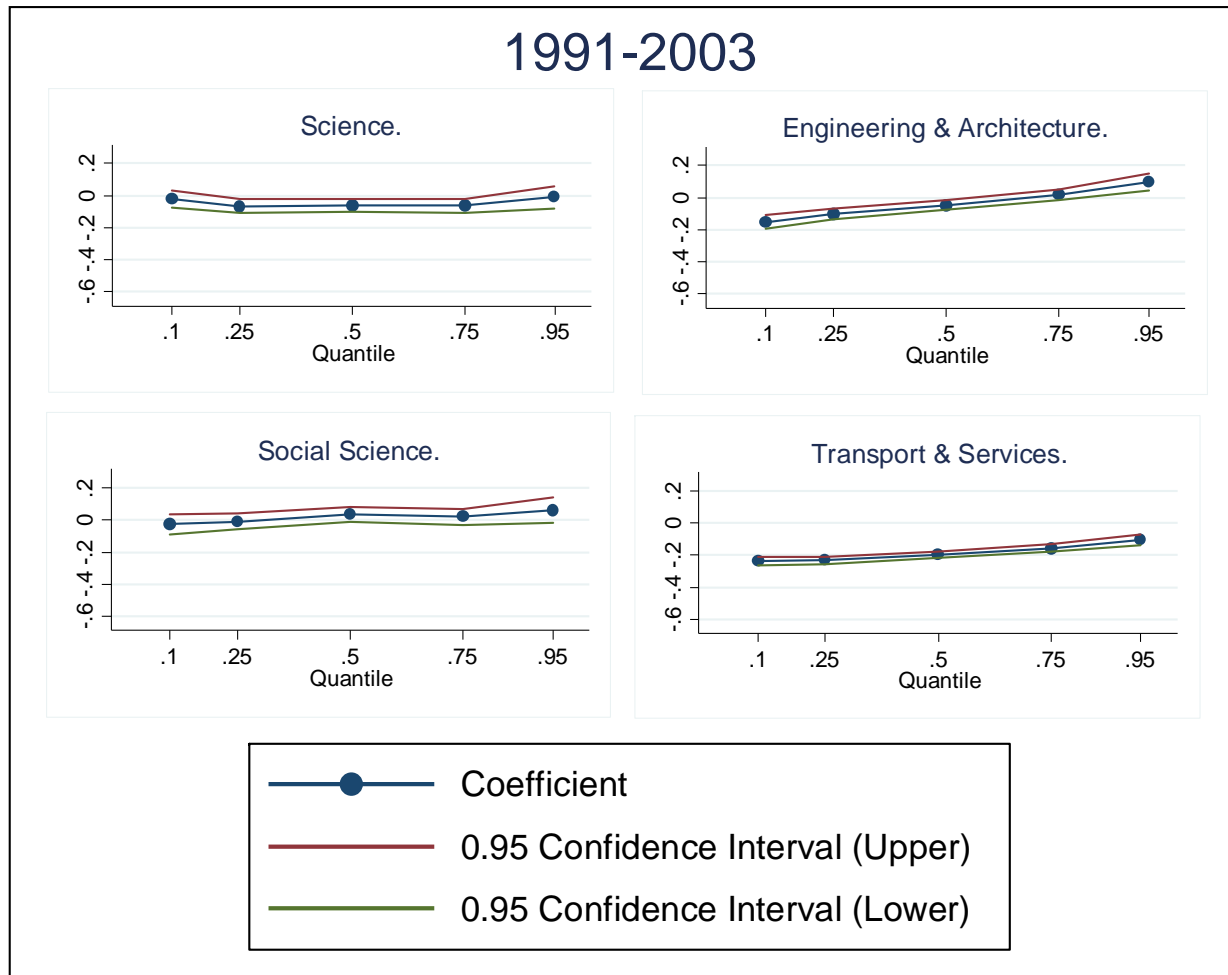


Figure 3a. Instrumented Returns (1991-2003).

# EMPIRICAL ANALYSIS.

## Instrumented Returns to Field of Study.

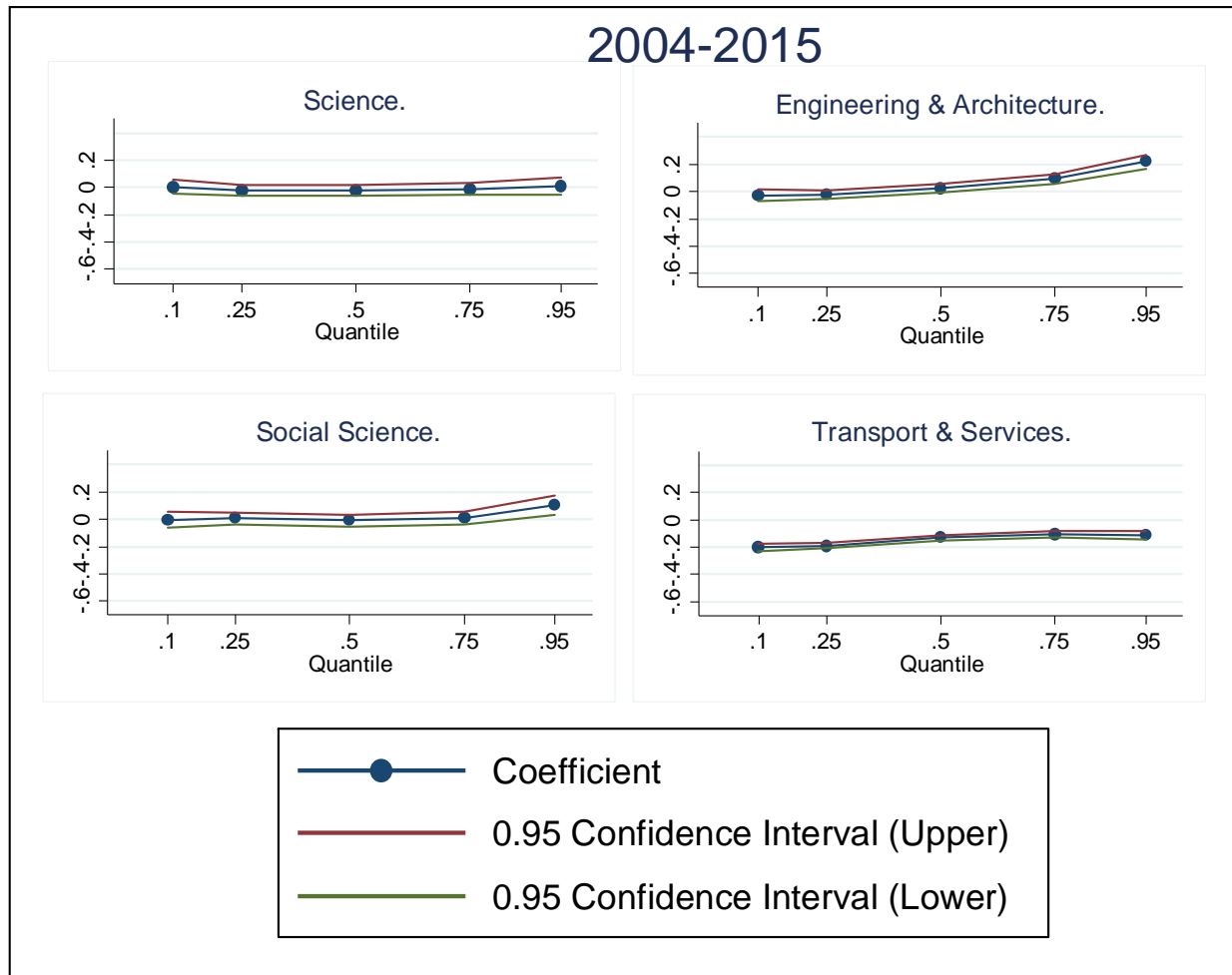


Figure 3b. Instrumented Returns (2004-2015).

# POLICY IMPLICATIONS.

- Intensification of Over-education.
- Prevalence of Skilled Biased Technical Change.
- Displacement of Workers.
- Diversification of Private and Public Sector.

THANK YOU.

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QUESTIONS & COMMENTS.

# REFERENCES.

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