

Discussion of

E. Han Kim, Adair Morse, and Luigi Zingales'

**ARE ELITE UNIVERSITIES LOOSING
THEIR COMPETITIVE EDGE?**

by

Antonio Ciccone
ICREA-Universitat Pompeu Fabra

Co-authoring across differently-ranked universities on the rise

Among all articles published in the top 41 journals written by scholars residing at a top 25 school, the percentage of co-authored papers with colleagues in a non-elite school nearly doubled, from about 32% in the beginning of the 1970s to 61% by 2004, ...

The study assigns (1/coauthors) of an articles' impact to each co-author.

How could this be affecting the findings?

Two (ex-ante identical) Professors:

Prof A

Prof B

Two Universities:

U of H

U of L

Two decades:

1970s/before (no co-authoring; high cost?)

1990s/after (there is co-authoring;

due to better ICT or more specialization because
of fishing-out effects)

The effect of more co-authorship

NO CO-AUTHORING (BEFORE/1970s)

Prof A @ U of H

Prof B @ U of L

2 articles with
impact H

2 articles with
impact L

DIFFERENCE IN IMPACT=
 $2H - 2L = (H-L)2$

The effect of more co-authorship

WITH SOME CO-AUTHORING (AFTER/1990s)

Prof A at U of H

- 1 article with impact H
- co-authored projects with total impact X

Prof B at U of L

- 1 article with impact L
- co-authored projects with total impact X

MEASURED DIFFERENCE IN IMPACT=
 $(H+X/2) - (L+X/2)=H-L$

They will co-author if

$$\text{CreditA} = aX > H$$

$$\text{CreditB} = (1-a)X > L$$

If $a = H/(L+H)$, equivalent to

$$X > H+L$$

“True” difference in impact if

CreditA=ContributionA

CreditB=ContributionB

“TRUE” IMPACT DIFFERENCE=

$$(H+aX) - (L+(1-a)X)=$$

$$(H-L) + (2a-1)X=$$

$$(H-L)+(H-L)[X/(H+L)] > (H-L)2$$

Hence, co-authoring
between U of H & U of L

- reduces measured difference in impact between U of H & U of L
- increases true difference in impact

Sauer's 1988 JPE (1/coauthors) finding using 9-month salaries

- $\log(\text{salary})_i =$
 $\alpha * (\text{impact single-authored papers})_i$
 $+ \alpha \Gamma * (\text{impact co-authored papers})_i + \dots$
- question is whether the total salary increase is the same whether one or two authors:

$$\Gamma = 1/\text{coauthors} \quad ?$$

Sauer's 1988 JPE (1/coauthor) finding using 9-month salaries

- YES, approximately $\Gamma = 1/\text{coauthors}$
- his estimating equation assumes that all co-authors get the same salary increase
- hence: his results do not tell us whether higher-impact single authors (should) get more credit for coauthored papers
[$\Gamma_i = \gamma * (\text{impact single-authored papers})_i$]

Check robustness to these issues by

- focusing on single-authored papers?
- use adjusted co-author weights?
 - i) according to authors' single-author performance
 - ii) according to authors' overall performance
- (upper bound) assigning 100% of co-authored paper impact to author at highest ranked university
- ...