Оцінка дослідження бібліометричні і наукометричні заходи: Хороший, поганий, і злий

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Research Assessment Using Bibliometric and Scientometric Measures:
The Good, the Bad, and the Ugly

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Outline

- Research assessment
  - Academic performance (tenure, promotion)
  - Research funding
- Bibliometric and scientometric measures
  - Journal impact factors
  - H index
- Use of bibliometric and scientometric measures in research assessment
- Conclusions

Turkey

- 184 universities
- 148,942 faculty (68,133 professors)
- 5.5 million students in higher education
- Web of Science
  - total # of publications: *circa* 380,000 (18th in the world)
  - journals published in Turkey: 70
- DOAJ
  - # of open access journals: 278
  - # of open access articles: 32,209
- JournalPark hosts (using OJS)
  - 500 open access journals
  - 129,268 open access articles

http://www.yok.gov.tr/web/guest/ogretim-elemanlari-dagilimi

Research assessment

- Peer review
- Economic indicators (e.g., % of GDP spent on R&D, *Frascati Manual for the Measurement of Scientific and Technical Activities*)
- Academic performance
  - tenure
  - promotion
- Research funding
  - Research Excellence Framework (REF)
  - Publication support

Bibliometric and Scientometric Measures

- 1960s-1970s
- Citation indexes
- Journal impact factor (JIF)
  - Developed to help librarians in collection development
  - (Skewed distributions; JIFs vary by subject and open to manipulation; data not transparent; publisher policies tend to change)
  - Does not measure the quality of individual articles
  - **Should therefore not be used for research assessment**
  - But frequently used for tenure, promotion, research funding and publication support
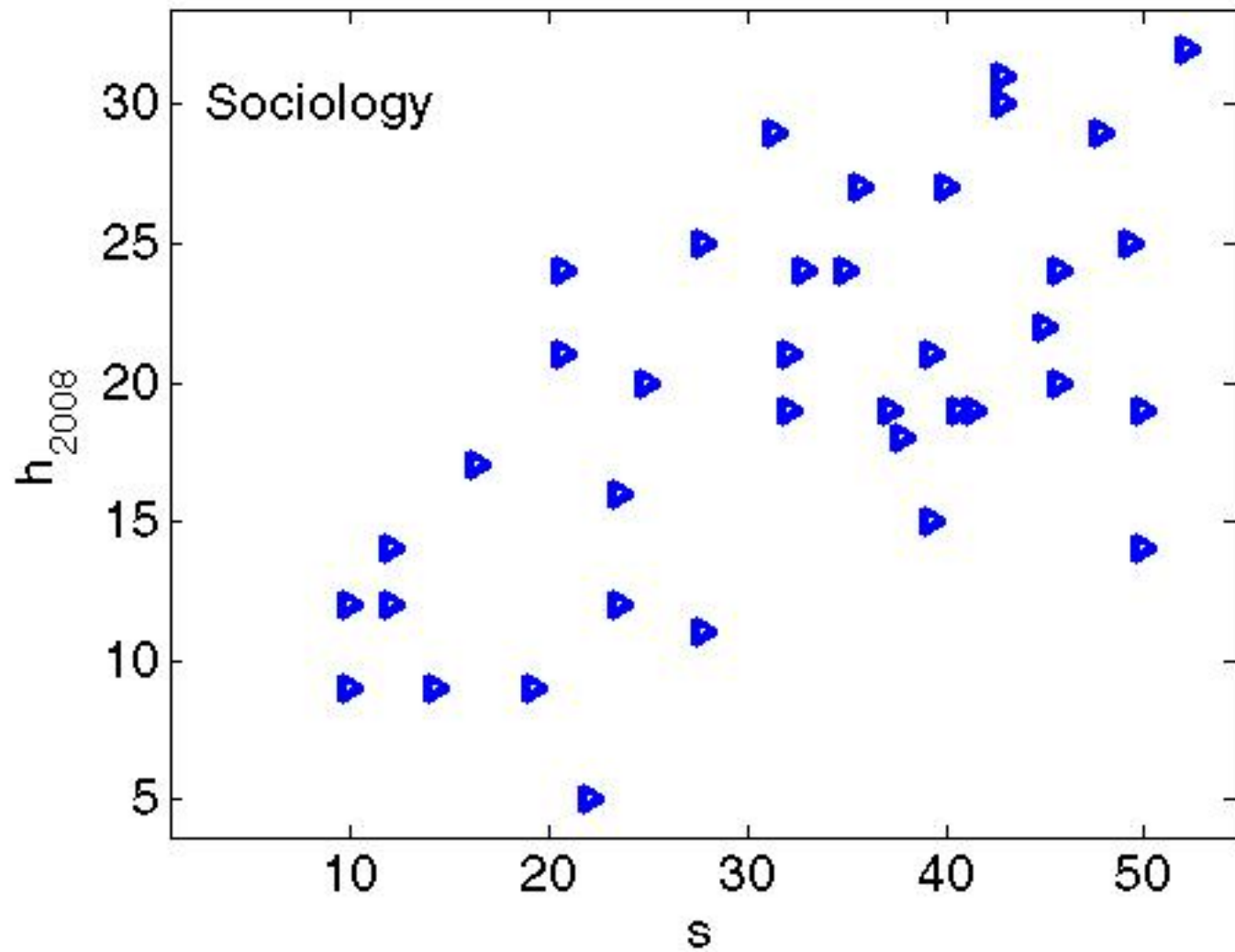
H index
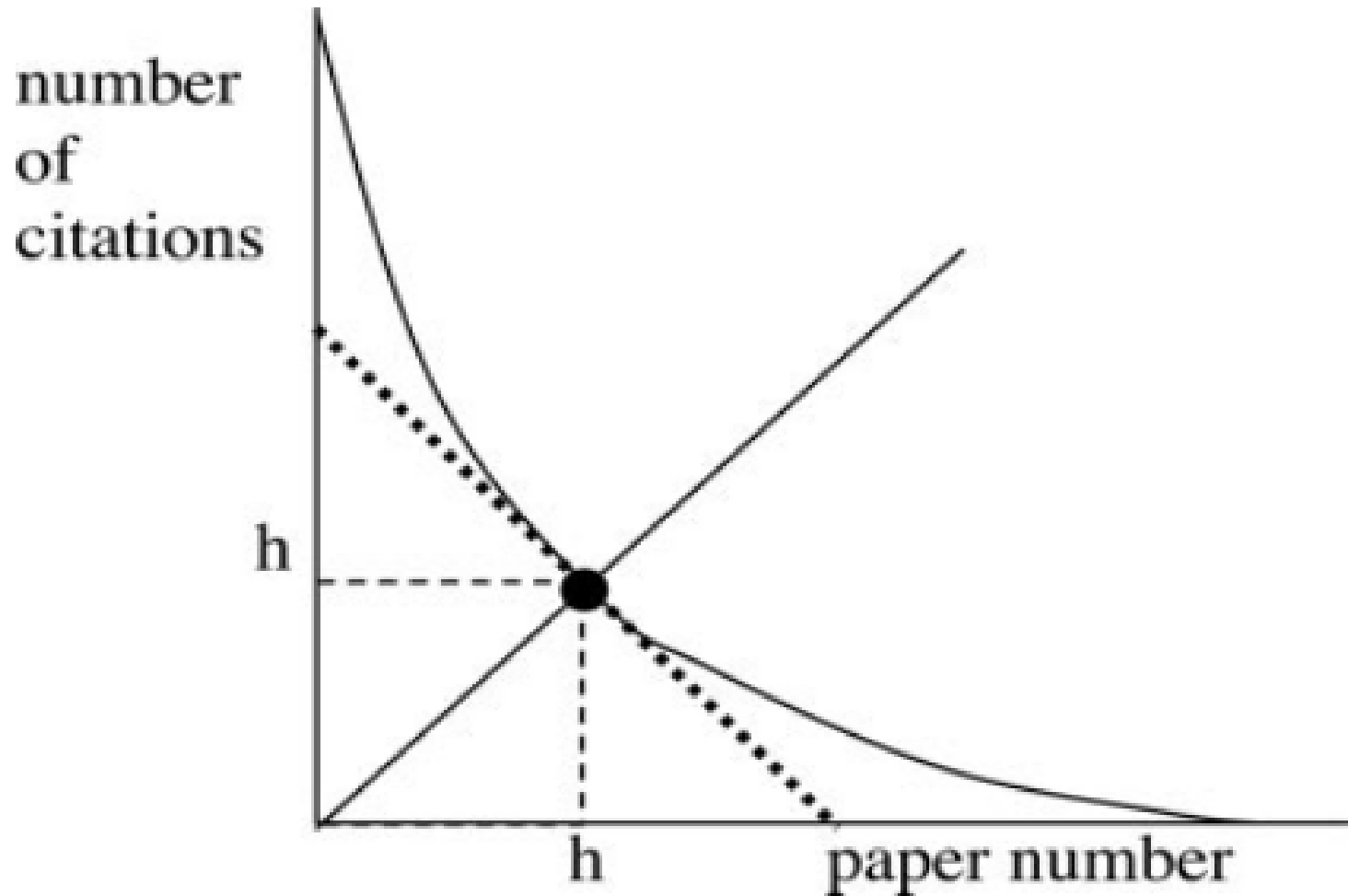
Problems with h index

- H index does not meet some logical requirements and is not a first rate intellectual achievement but, rather, a "clever find" (Rousseau, García-Zorita & Sanz-Casado, 2013, p. 299).
- Co-authors are not taken into account in calculation (Hirsch, 2007)
- Correlation between peer review and h index is low
- Tends to measure life-time achievement..
- **Should therefore not be used for research assessment**
- But used for tenure, promotion, research funding and publication support

Fig. 1. h2008 versus the peer-review based measure s for research groups from different HEI's in sociology. The Pearson correlation coefficient here is equal to 0.62.

"Today I wouldn't get an academic job. It's as simple as that".

--Peter Higgs, Nobel Laureate, 2013

Physicist doubts work like Higgs boson identification achievable now as academics are expected to 'keep churning out papers'

H index = 10

Peter Higgs: 'Today I wouldn't get an academic job. It's as simple as that' Photograph: David Levene for the Guardian David Levene/Guardian

http://www.theguardian.com/science/2013/dec/06/peter-higgs-boson-academic-system

The Good, the Bad, and the Ugly

- "… **bibliometric performance indicators should be applied only as a collective group (and not individually), and in conjunction with peer review following a clearly stated code of conduct**" (original emphasis) (IEEE, 2013)
- They should not supplant peer review and be used to rate the quality of papers, authors, and institutions.
- They should not be used to compare the quality of research of candidates for tenure, promotion, funding and publication support
- Citation rates and h index are even used to predict Nobel prize winners (Hirsh, 2005; Pendlebury, 2009)
- But there exists no correlation between them (Marques, 2013; Van der Wall, 2011)

Epilogue

"Not everything that counts can be counted, and not everything that can be counted counts."

-- Albert Einstein

"When a measure becomes a target, it ceases to be a good measure."

-- Charles Goodhart

http://en.wikipedia.org/wiki/Goodhart%27s_law

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