

# **Use and Misuse of Bibliometric Measures for Assessment of Academic Performance, Tenure and Publication Support**

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

-- Albert Einstein

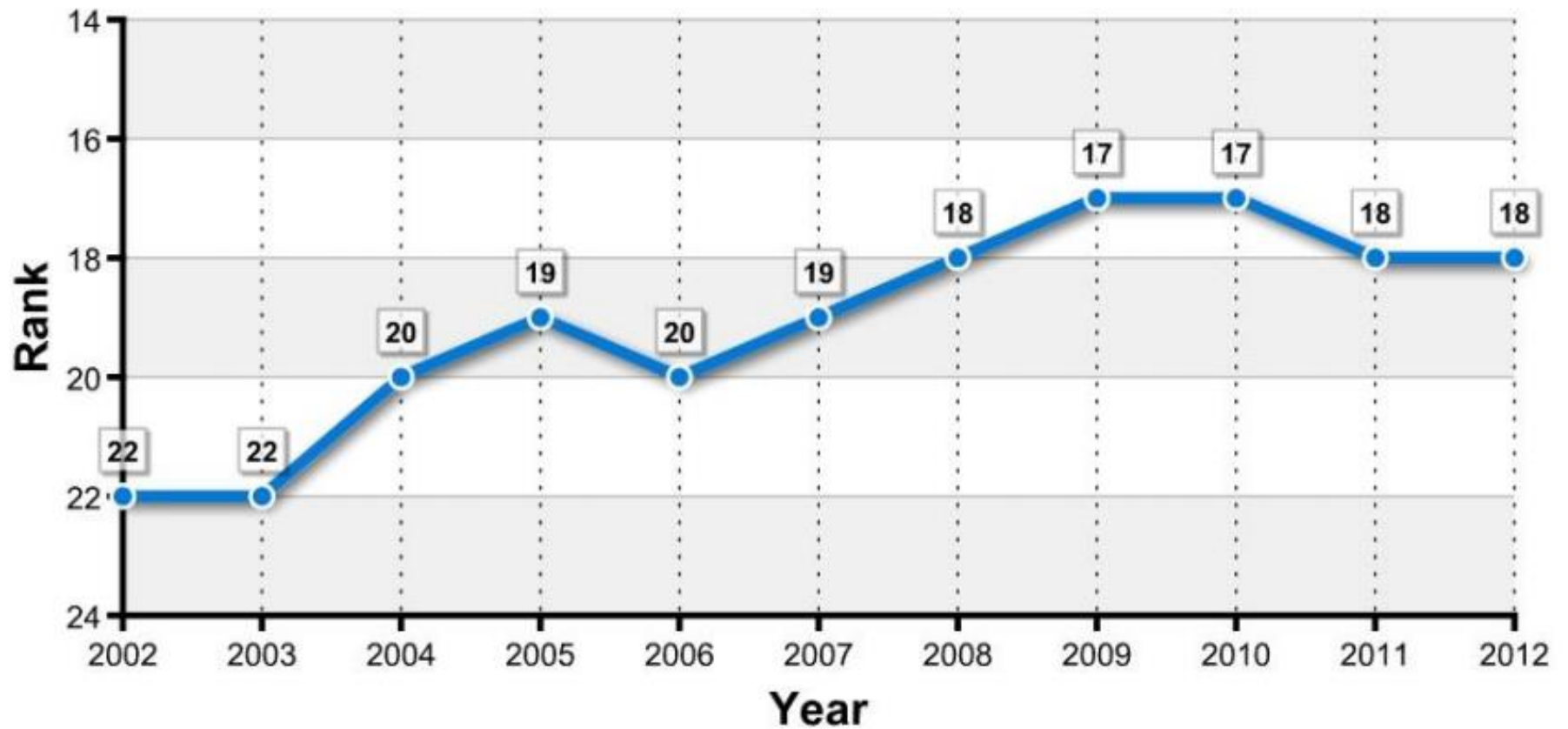
# Outline

- Citation indexes and research assessment
- Journal impact factors and publication support
- H index and research assessment
- Conclusions

# Turkey

- Higher Education Council (HEC)
- 184 universities
- 121,995 faculty (55,232 professors)
- 5,5M HE students
  
- HEC's minimum tenure requirements

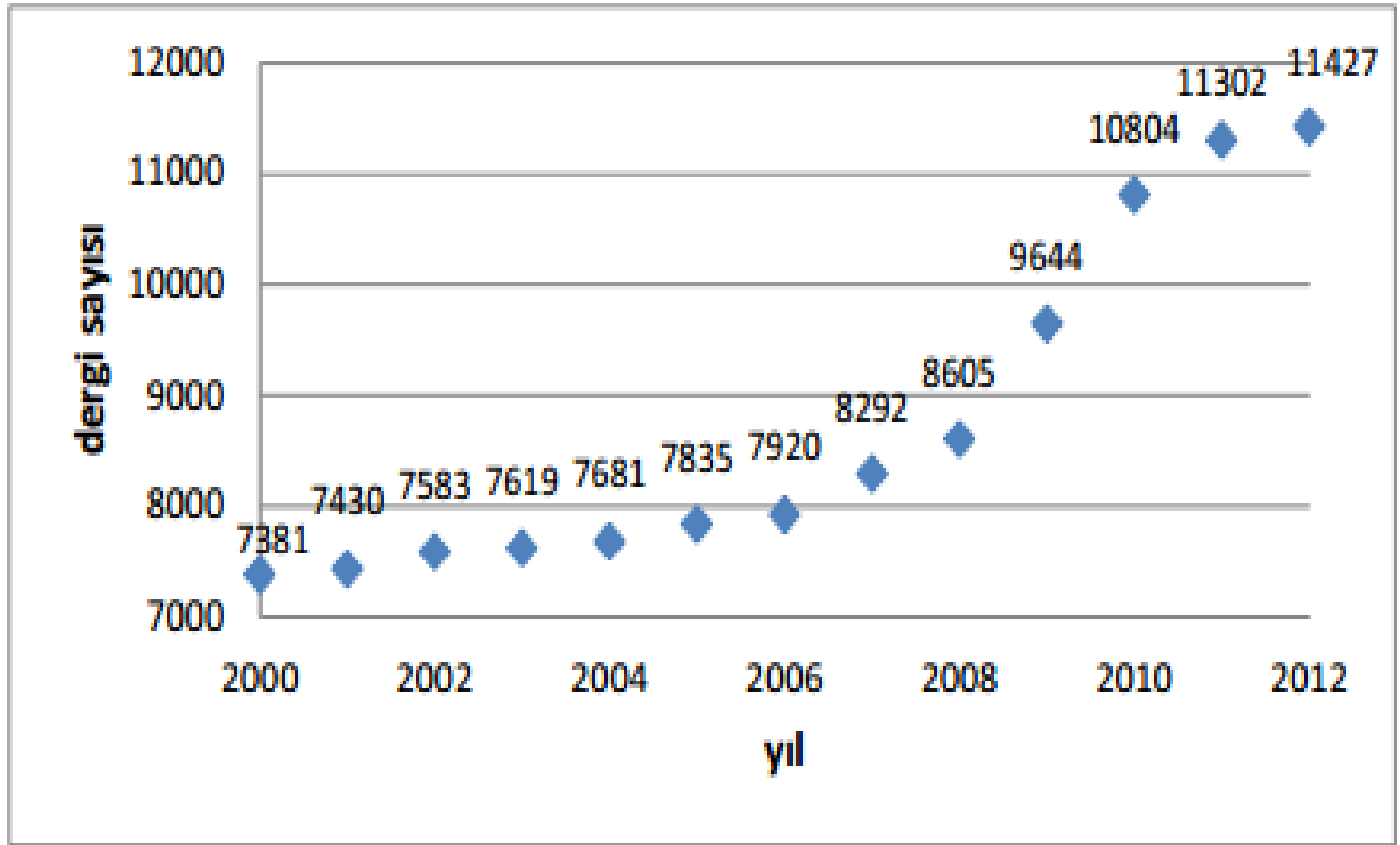
# Rank of Turkey with Respect to Scientific Publications



# Citation indexes

- Journal impact factor (JIF)
- Skewed distributions
- JIFs vary by domain and can be manipulated
- Transparent data
- Changing policies of publishers

# Number of journals in JCR (2000-2012)



# JIFs and publication support

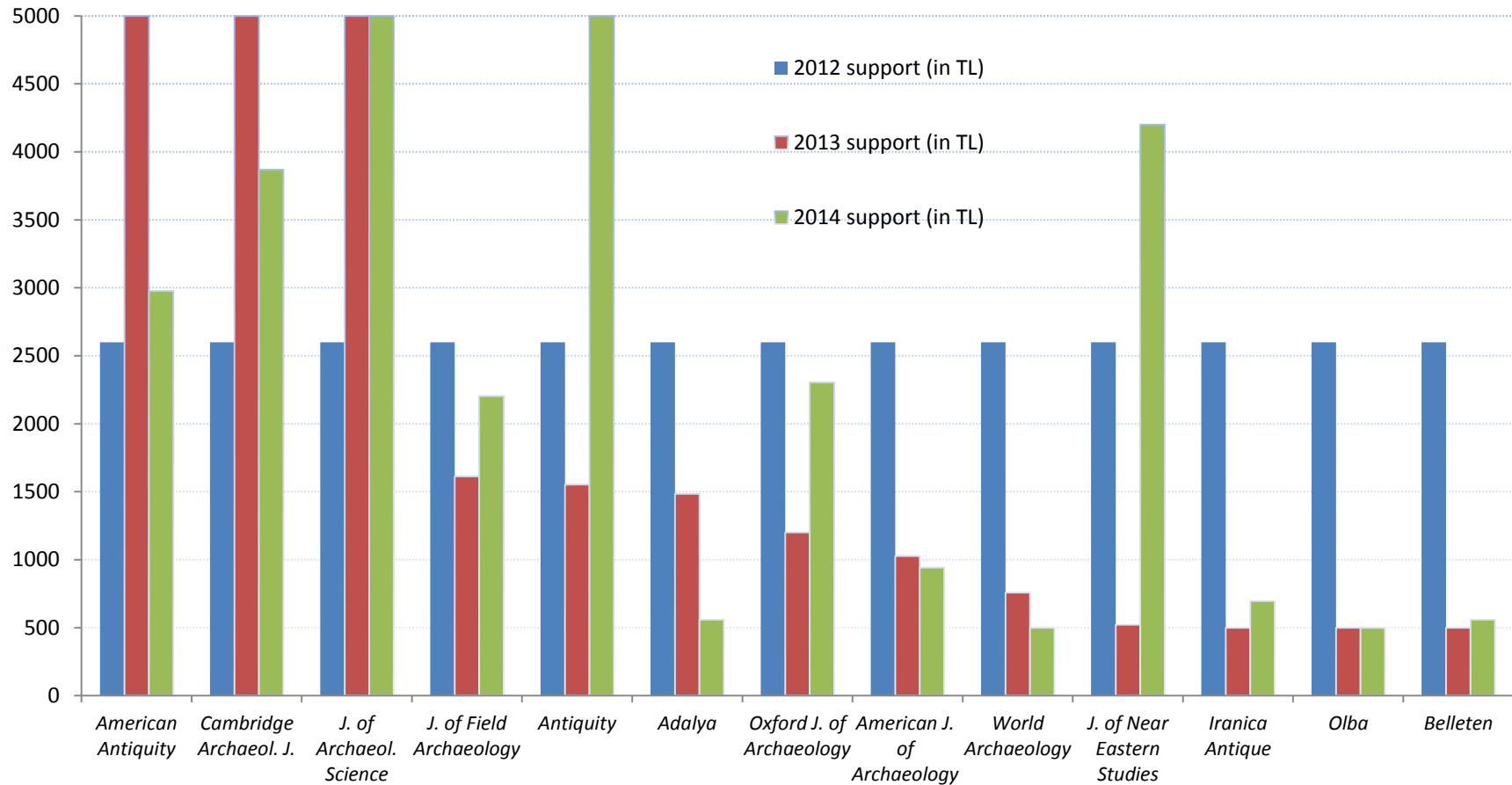
- Turkish Scientific and Technological Research Council (TUBITAK)
- TUBITAK's use of JIFs
  - Till 2013: Journals categorized by their JIFs as A, B, C, D
  - 2013: TUBITAK's own JIF: 5-year IF \* cited half-life, max/min support for  $\pm 2$  SDs of average, support for the ones in between transformed using a linear formula
  - 2014: Article influence score



# TUBITAK's support to Archaeology journals (2012-2014)

Journal name	Class	2012	Score	2013	Score	2014
		Support (in Turkish Lira)		Support (in Turkish Lira)		Support (in Turkish Lira)
American Antiquity	A	2600	100	5000	74	2976
Cambridge Archaeological Journal	A	2600	100	5000	87	3869
Journal of Archaeological Science	A	2600	100	5000	100	5000
Journal of Field Archaeology	A	2600	50	1613	62	2202
Antiquity	A	2600	48	1553	100	5000
Adalya*	A	2600	47	1484	11	559
Oxford Journal of Archaeology	A	2600	39	1201	63	2304
American Journal of Archaeology	A	2600	34	1028	31	943
World Archaeology	A	2600	24	757	0	500
Archaeological Dialogues	A	2600	10	548	--	--
Journal of Near Eastern Studies	A	2600	7	523	91	4201
Near Eastern Archaeology	--	--	4	506	64	2342
Iranica Antiqua	A	2600	1	500	21	695
Olba*	A	2600	0	500	0	500
Belleken*	A	2600	0	500	11	559
Turkish Academy of Sciences Journal of Archaeology (TUBA-AR)*	--	--	0	500	--	--

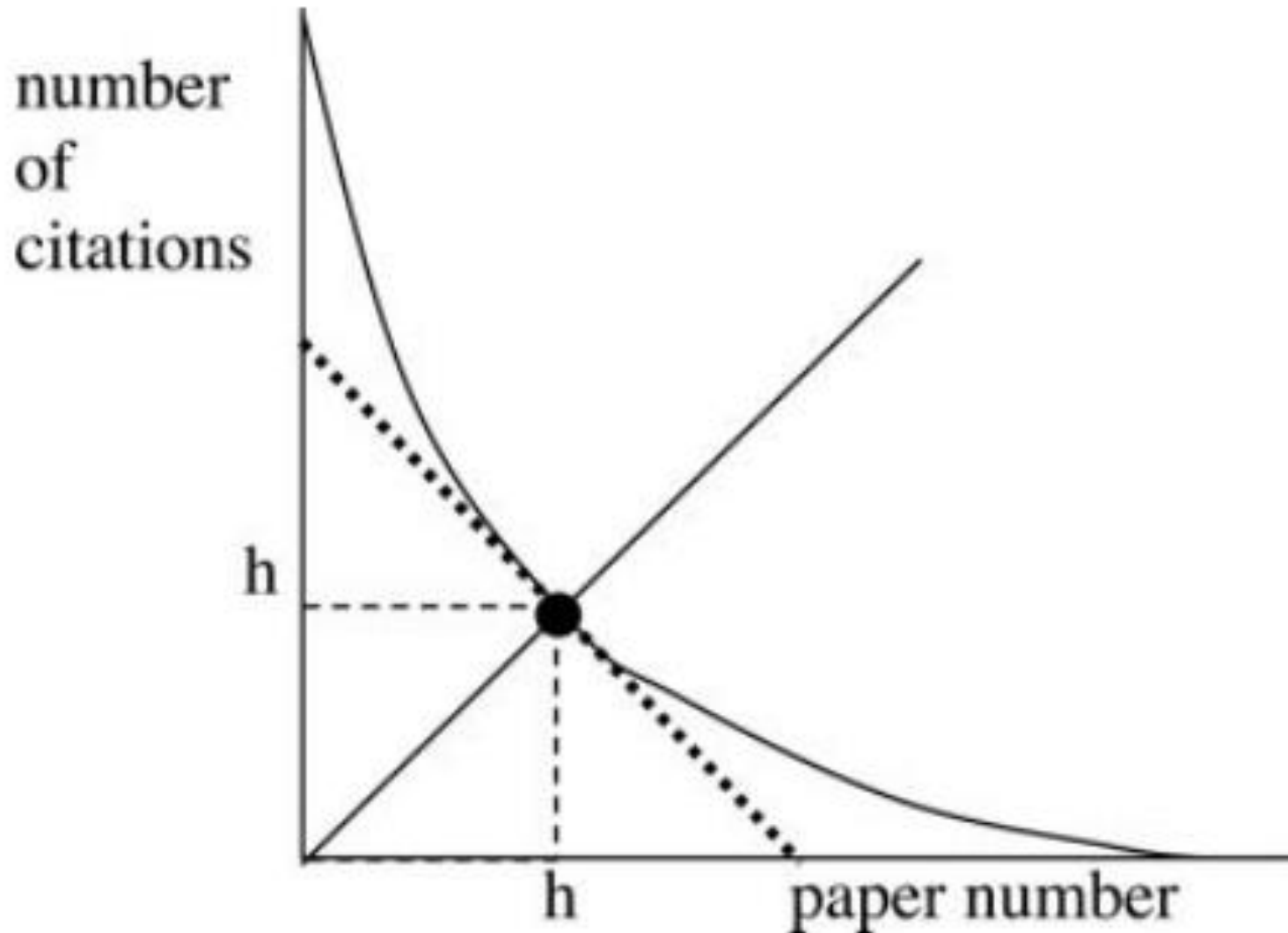
# TUBITAK's support to Archaeology journals (2012-2014)



# Issues with indicators

- Use of cited half-life. . .
  - Skewed
  - Has nothing much to do with the paper quality
  - Obsolescence
- Correlation between 2013 and 2014 lists  **$r = .58$**
- 56% of 286 Geology journals ranked lower
- 49% misranked
  
- Correlation between JIFs and AISs  **$r = .90$** 
  - (N=5,900 journals, JCR 2007 edition)
- Higher JIFs => Higher AISs
  
- TUBITAK support program should be reviewed

# H index and research assessment



# Issues with h index

- Co-authors are not taken into account (Hirsch, 2007)
- Citations below/above one's h index do not count
- Vary by disciplines
- Not suitable for short-term research assessment
- Vary by publishers' policies

$h = 10$

## Peter Higgs: I wouldn't be productive enough for today's academic system

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

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Decca Aitkenhead

The Guardian, Friday 6 December 2013 17.37 GMT

 [Jump to comments \(151\)](#)



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

# Conclusions

- JIFs: "poor man's citation analysis" (Marx & Bornmann, 2013)
- "fatal attraction" (Van Raan, 2005)
- IEEE: "... **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)

# Goodhart's Law (1975)

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





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