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**Excellence, Bibliometrics and
Gender Relations in Academia.**

Larry Summers question:

Why women do not practice science as much as men do?

Why there are not as many excellent scientists who are women?

Is it changing?

Where is it changing, by discipline and by country?

How fast is it changing?

What policies may help or hinder?

“Meta-analysis of Gender and Science Research”

a project of the 7th framework Programme, coordination by CIREM Barcelona, Dr. Maria Caprile.

17 national correspondents, Database with more than 4500 entries.

5 Country group managers: Southern, Eastern, Continental, AngloSaxon, Nordic

6 Topic Reports: Horizontal and Vertical Segregation, Stereotypes and Identity, Science as a labour activity, Excellence, Gender as research content, Policies.

Final conference in Bruxelles 19-20 october 2010.

Italian, Southern European and Excellence Reports by E. Addis with the assistance of C. Pagnini and M. Sechi.

Chapter 3 of the “Excellence”
Report: How can excellence be
measured? Are the tools to assess
scientific performance fair and
objective? Are they gender-blind,
gender-neutral and gender-
unbiased?

Stylized facts:

- a) women and men intellectual potential is the same (debate Spence-Engler)
- b) women publish less on average
- c) Xie and Shaumann 2003 “clean” this result

Using BOTH family variables AND organizational variables.

CONCLUSION

a) **bibliometrics is gender-blind**, i.e., it does not differentiate among scientists of different sex, and this may be turned to the advantage of women because it gives a clear standard according to which men and women scholars can be compared, helping to minimize bias deriving from women's "invisibility";

b) **bibliometrics is gender-biased**, because it has some shortcomings which appear more evident in relation to its application to scholars of the two sexes. These shortcomings are the bias in favour of the past and the bias in favour of position in the network of relations, **i.e. bibliometrics reflects the bias in the system;**

c) one should distinguish between bibliometrics *per se* and **the use of bibliometrics**. **The use of bibliometrics is often not gender-neutral** because bibliometrics is associated to elitist strategies in the allocation of scientific resources which may work against women's integration in science. **There is no reason, however, why it should always be so.**



EUROPEAN
COMMISSION

Community research

STUDY

Gender and Excellence in the Making

EUR et al



SCIENCE AND SOCIETY

Irving Feller:

- **Need to distinguish between bias present in the system and bias present in the indicator of performance (p. 36).**
- **Need to distinguish between performance and excellence, or quantity and quality of research produced (p. 38).** Although a suitable mass of scientific output is a precondition for excellence, excellence is not just the total sum of past performances

Is the science system biased against women? yes

- Masculinity as a “signal” of excellence because women made other choices
- Statistical discrimination
- Homosociability in cooptation
- Science as a competitive game
- Feminine social “invisibility”
- Competition based on time use
- Outright prejudice

Feller's Scheme

Horizontal dimension: Academic system and evaluation system is **biased against women**

Vertical dimension: Measures of scientific excellence are **biased against women**

Source: Feller (2004)

	No	Yes
No	A UNBIASED METRIC UNBIASED SYSTEM Desired situation	B BIASED SYSTEM BIASED METRIC Present situation according to “feminist” critics
Yes	C UNBIASED METRIC BIASED SYSTEM Present situation according To Feller	D BIASED METRIC UNBIASED SYSTEM Undesired situation

Shortcomings of bibliometric indicators

- a) Different “life span” of each article
- b) Fukuyama effect (bad citations count as much as good: brashness is rewarded)
- c) Quantity rewarded, carefulness not (cfr Butler 2003)
- d) Availability of financing provides publishing space
- e) Opportunistic behavior (improve the indicator not the research: self citations etc)
- f) Reflects position in the network i.e. positively correlated with bias in the system
- g) Problematic with paradigm shifts and innovation

Figure 3.2 Modified Feller's Scheme

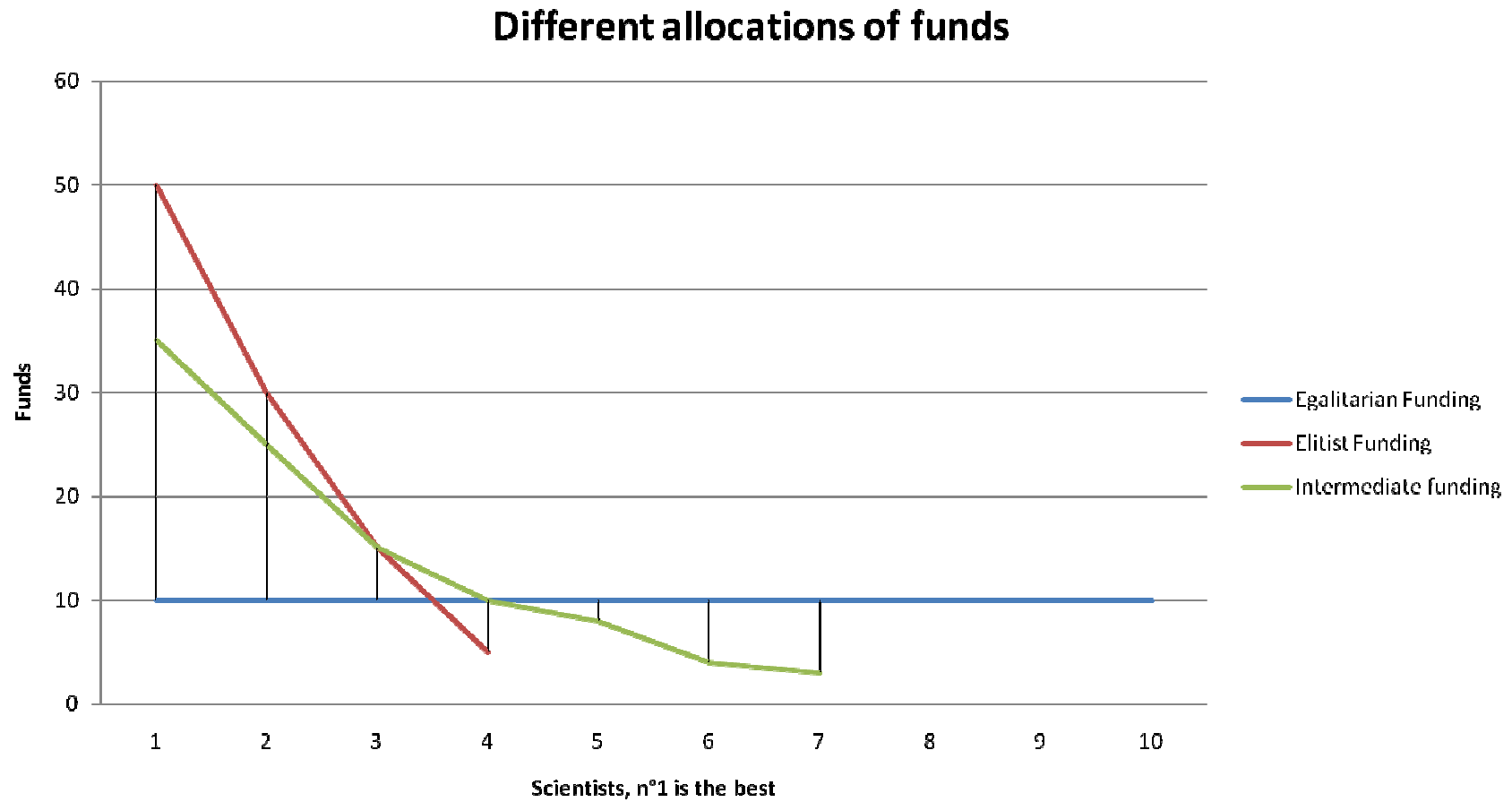
Horizontal dimension: Academic system and evaluation system is **biased against women**

Vertical dimension: Measures of scientific excellence are **biased against women**

Source: Feller (2004)

	No	Yes
No	<p>A</p> <p>UNBIASED METRIC UNBIASED SYSTEM <i>OUTCOME NO GENDER BIAS</i></p> <p>No policy</p>	<p>B</p> <p>BIASED SYSTEM BIASED METRIC Favours men BIASED METRIC Favours WOMEN Policy: cleaning the metric no solution CREATE AND USE A BIASED METRIC IN FAVOUR OF WOMEN</p>
Yes	<p>C</p> <p>UNBIASED METRIC BIASED SYSTEM</p> <p>Policy: clean the system: conciliation policies, affirmative policies....</p>	<p>D</p> <p>BIASED METRIC UNBIASED SYSTEM</p> <p>Policy: clean the metric</p>

Bibliometrics, for what?



- A spurious connection is created between *excellence/elitist allocation/bibliometrics*, on the one hand, and *non-excellence/egalitarian allocation/no-bibliometrics*, on the other. This association is false and simplistic. Scientific production is not one-dimensional, from bad science to good science. It is multi-dimensional: there are original thinkers and innovators. Egalitarian allocation produces a plurality of approaches, many of them original, which is the best guarantee for scientific advancement. It may well be that an egalitarian allocation produces as much or more “excellence” than the elitist strategy. And bibliometrics itself can be used for any policy, not necessarily an elitist one.

Bibliometrics for what?

Margo Brouns:

Olympus Model	Agora Model
Neutrality Autonomy Competitiveness Exclusivity	Engagement Heteronomy, linkage Cooperation Conciliation