Inbreeding and the Economics Field in Spain

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Introduction

- "Inbreeding" refers a situation where PhDs are employed in the very same institution that trained them throughout their doctoral studies.
- Inbreeding is commonly disapproved but widely practiced.
- Horta et al. (2010) say that academically inbred faculty members are relatively more centered on their institutions and less open to the scientific community as a whole. Furthermore, they also report that academic inbreeding is detrimental in terms of scientific output.

Introduction

- In certain research cultures, such one in the United States academic inbreeding is particularly frowned upon.
- Currently in the US, levels of academic inbreeding in universities are typically less than 20% and often below 10% especially in the leading research institutions.
- In some other parts of the world such as China, Japan, India, Korea, Europe and Turkey academic inbreeding is all too common of a practice with inbreeding ratios in excess of 50%.
- This situation might have some cultural or contingent factors that need to be addressed from a sociological perspective (patterns of geographical mobility).

Introduction

Aghion et al. (2008): percentage of university professors who received a PhD from the same university.

Belgium	63
Denmark	40
Germany	8
Ireland	49
Italy	24
Netherlands	33
Spain	69
Sweeden	58
Switzerland	25
Great Britain	8

Introduction

- High rate of inbreeding in Spanish universities: Navarro and Rivero (Nature, 2001) report that 95% permanent positions are obtained by the home candidate.
- This has been recognized in the European Commission's white paper on education and learning (European Commission 1995), which identified academic inbreeding as a worrisome problem for the European research community.

Direct effect

- It prevents faculty appointments being made on a merit bases and limits the talent pool from which the selection is made.
- "What promotes inbreeding in a department is not that graduates of no other department are good enough but that the members of this department are unwilling to admit that they are." (Blau, 1973).

Research

- Local standards of writing and publishing.
- Home-grown specialities and local academic groups.
- Development and financial support of one or another research area may become dependent on private interests of particular academic community members rather than objective factors.

Research

- As a result:

1. Hiring criteria based on social ties rather than on academic productivity, which is detrimental for the quality and quantity scientific output.
2. The exchange of scientific knowledge becomes limited and this leads to academic fossilization: lack of communication with external world, lack of the broader outlook necessary for academic achievements, too strong social ties with research mentor, ...

Teaching

- Course contents are embedded in local social ties and are guided by the experience gained as former students of this university and, later, as teaching assistants there.
- Local university course-books, lecture notes and manuals with home-grown methods become commonly accepted and encouraged as a best practice.
- As a result, some courses become highly personalized.

Evaluation

- External expert judgments are substituted by internal expertise.
- As a result, promotion may be based on prestige and status in local organizational system rather than on academic achievements transparent to broader academic community.

Governance

- Under inbreeding faculty members combine academic activities (research and teaching) with administrative tasks in an almost permanent basis. It results in a hierarchical mode of governance.
- Under no-inbreeding, universities provide low incentives to its non-inbred faculty for administrative work. This lead to a system where some tasks (non-academic issues) are carried out by professional management and some are implemented by professoriate on a temporal basis and are considered as a public good provision.

Pros

- At some point in the development of higher education systems, inbreeding is likely to have been beneficial as it fostered a fast build-up of knowledge capability, research team cohesion, reinforcement of institutional identities and belonging, diminished risks including the recruitment gamble, and provided organizational stability.
- Some authors claim that universities facing financial and geographical handicaps in the national competition for faculty members, may appoint large numbers of their own graduates to junior faculty positions in order to free resources for competition in the national academic labor market.

Pros

- Resources can be freed by this procedure insofar as inbred faculty members are subjected to discrimination in terms of academic rank, period required for promotion, salary, and working conditions.
- However, it may be necessary to curtail this practice when the challenges brought to universities by society and science demand flexibility, openness, dynamism and creative thinking.

Facts

- The proportion of inbred entry level faculty at the Harvard Law School is 81%, and at the Yale Law School were 73% (Elliot, 1908).
- However, currently in the US, levels of academic inbreeding in universities are typically less than 20% and often below 10%. Similar situation for other countries with developed scientific systems such as in the United Kingdom.

Facts

- However, inbreeding is seen in many countries as "business as usual", especially those with emergent scientific systems. Estimates suggest that academic inbreeding in Spain is as high as 95% (Navarro and Rivero, 2001) and in Portugal it is 80% (Heitor and Horta, 2004).
- High rates have also been reported at French (Navarro and Rivero, 2001), Swedish (Bleiklie and Hostaker, 2004), Russian (Smolentseva, 2003), Mexican (Santibañez et al., 2005), Korean (Johnsrud, 1993), Chinese (Yimin and Lei, 2003) and Japanese national universities (Yamanoi, 2005).

Inbreeding in the US in the first half of the 20th Century

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- In 1910 Harvard University, perhaps the most eminent university of that period, had obtained 64% of its faculty from among its own graduates.
- Eminent universities used to have greater proportions of their faculties inbred than other universities.
- Berelson (1960) claimed that this is a "statistical consequence" of the dominant position of the most eminent universities as producers of new PhDs.
- Hargens and Farr (1973) suggest that not only are inbred scholars at the most eminent universities less productive than their non-inbred colleagues, but also they are no more productive than non-inbred scholars in the next lower prestige stratum of universities.

Turkey: Aeronautical and Mechanical Engeneering

- Measure of research productivity: h-index (Hirsch, 1985).
- Considering an author with a series of N published papers, where his ith paper ($i = 1, 2, 3, ..., N$) has received X_i citations. If one orders the number of citations of these articles in decreasing order,

$$X_1^* \geq X_2^* \geq ... \geq X_N^*,$$

where X_1^* refers to the number of citations by the most cited paper and likewise X_N^* refers to the number of citations by the least cited paper. Then,

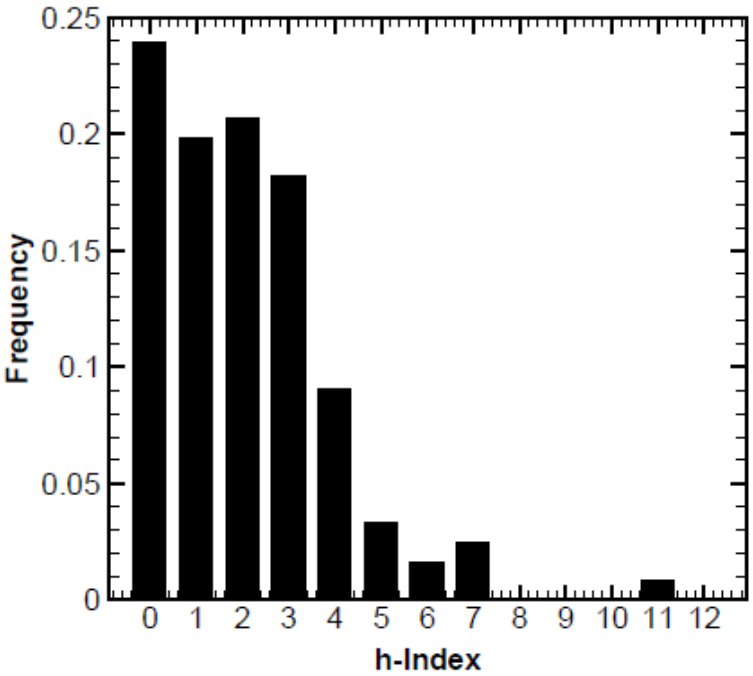
$$h = \max \left\{ j : X_j^* \geq j \right\}.$$

Turkey: Aeronautical and Mechanical Engeneering

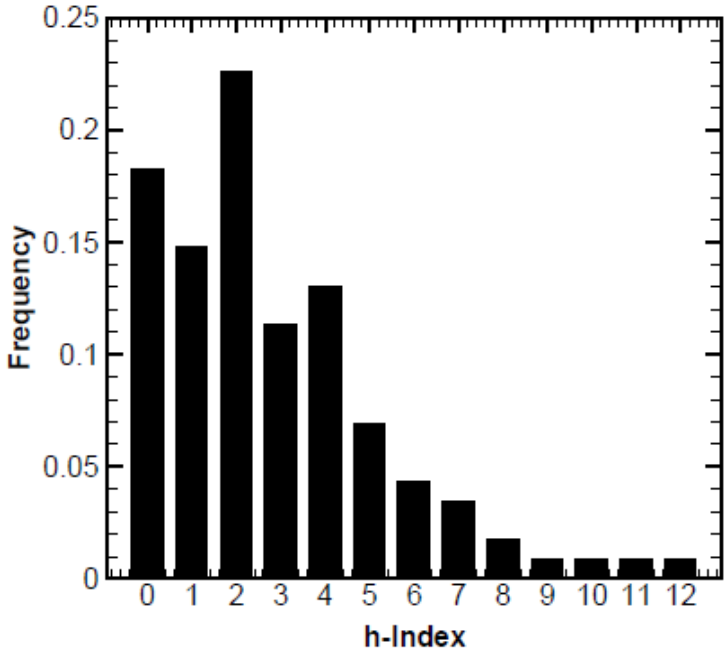
- For example, a scientist with an index of 10 has published 10 papers with at least 10 citations each. A zero *h*-index characterizes authors whose best published papers have had no visible impact at all.
- Therefore the *h*-index reflects both the number of publications and the number of citations per publication (Glanzel, 2006).

Turkey: Aeronautical and Mechanical Engeneering

İnanç and Tuncer (2011)



a. Inbreeds



b. Non-Inbreeds

Turkey: Aeronautical and Mechanical Engeneering

- On the average non-inbreds have 35% higher *h*-indices compared to inbreds. In addition, non-inbreds tend to have less scientific project management experience in comparison to their non-inbred colleagues.
- Inbreds have 89% lower *h*-indices compared to non-inbreds holding all the other factors constant (length of the career).
- Moreover, as the number of inbred individuals increase in a department the probability of all individuals (inbred and non-inbred) working in that very same department falling into the category of under achieving academicians (ones with *h*-indices below the mean).

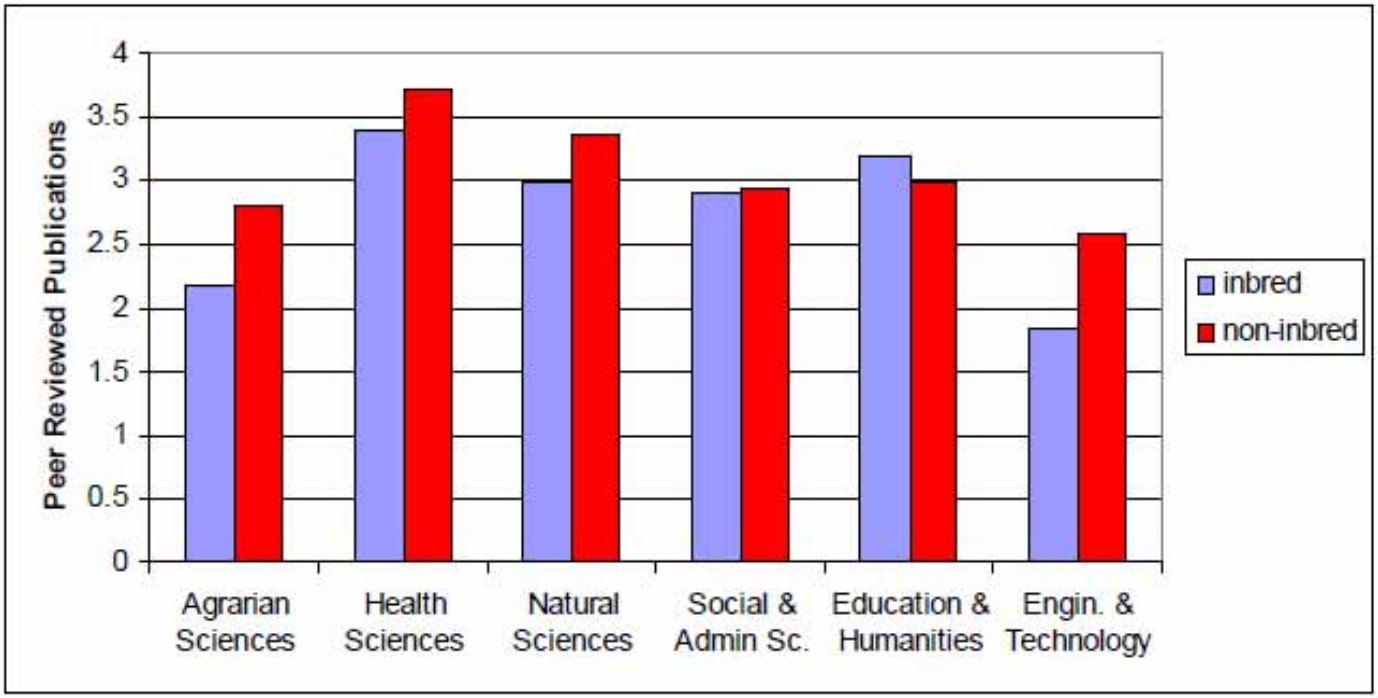
Mexico

- Horta, Veloso, and Grediaga (Management Science, 2010).
- **Hypothesis 1 (Openness Hypothesis).** Non-inbred faculty members are relatively more likely to exchange scholarly information outside rather than inside their university compared with inbred faculty members.
- **Hypothesis 2A (Productivity Hypothesis).** Inbred faculty members produce fewer scientific outputs than non-inbred faculty members.
- **Hypothesis 2B (Openness–Productivity Hypothesis).** Inbred faculty members produce fewer scientific outputs than non-inbred faculty members because they tend to favor internal scholarly information exchanges over external scholarly information exchanges.

Mexico

- **Hypothesis 3 (Inbreeding Hiring Hypothesis).** Inbred faculty are hired under a resource management strategy to perform a disproportionately larger share of tasks related to the teaching and outreach missions of the university.
- In this respect it has been argued that inbreeding may be of a functional need in a situation of inadequate financial support of university functioning. Inbred faculty are ready to work for lower salary and this allows to attract "star" researchers.
- Their estimates suggest that academically inbred faculty generate on average 15% less peer reviewed publications than their non-inbred counterparts.

Mexico


Peer Reviewed Publications
4
3.5
3
2.5
2
1.5
1
0.5
0
Agrarian Sciences
Health Sciences
Natural Sciences
Social & Admin Sc.
Education & Humanities
Engin. & Technology
inbred
non-inbred

Mexico

- Inferior scientific productivity for academic inbreds appears to be prevalent across all institutions and areas of knowledge.
- Moreover, results suggest that the detrimental effect of inbreeding in research is centered in the inbred academic's bias toward information exchange inside their institution.
- This finding reinforces previous analyses emphasizing the notion that the generation of new knowledge requires combining existing and emergent knowledge, with most of the latter residing outside the organization.

Mexico

- **Hypothesis 3:** Estimates suggest that the output benefit for non-inbreds grows until the inbreeding rate is 32%. After that, the effect starts to decline and, when the inbreeding rate reaches 65%, non-inbreds experience a decline in their rate of scientific output.
- There is a trade-off between stability and organizational identity with organizational innovation and change.
- The fundamental problem is that this process of closure and alienation is likely to take place over a long period; as the practice of inbreeding gets progressively institutionalized, the overall faculty gradually turns inward, and power cliques that maintain the status quo emerge and consolidate.

Japan

- Horta ,Sato,Yonezawa (2011)
- The university system in Japan is based on a traditional chair system and on hierarchies of universities (*gakubatsu*).
- For example, in 1962, 24.8% of all academics in Japan were the graduates of Tokyo University- It was still 11.4% by 2001 (Yamanoi 2007).
- A particularity of *gakubatsu* is that one could only find an academic position in universities of similar or lower rank/ prestige than the one where the degree was obtained, thus stressing the institutional hierarchy of the higher education system (Shimbori 1981). Moreover, elite universities constantly obtain key positions in the state administration and large corporations (Tokio University).

Japan

- As a consequence, graduates from a limited number of elite universities always had an advantage in finding an academic position over graduates from other universities.
- The higher a university was in the hierarchy, the higher would be the inbreeding rate because the fewer were the eligible candidates to occupy a vacancy, and schools with near a 100% inbreeding rate at former imperial universities were not unusual.

New categories (Portugal)

- Berelson (1960): academics working at the same university where they held their doctoral degree but having previously worked (no post-docs) at another university after concluding the doctorate could not be considered inbreds. He designated these as 'silver-corded faculty'.
- **New categories:**
- **1.** Pure inbreds (immobile): Inbreds that have always spent their learning and academic career in the same university.
- **2.** Mobile inbreds: Inbreds that have either spent a research or teaching spell at other university during the doctoral degree or did a post-doc at other university (or did both) before taking the first academic appointment at their Alma Mater.

New categories (Portugal)

- **3.** Silver-corded: Academics currently working in the same university where the doctoral degree was awarded, but started the academic career elsewhere after the completion of the doctoral degree.
- **4.** Adherents (non-inbreds): Academics which moved only once in their academic careers: from the university that granted their PhD to the university that granted them their first academic appointment; These academics remained at the latter university throughout their academic career.
- **5.** Non-inbreds: Academics working in an university other than the one where the doctoral degree was awarded and worked on several universities during the academic career.

New categories (Portugal)

- Horta (2012). For Portuguese universities the research performance of adherents (non-inbreds) is lower than that of the silver-corded and similar to that of mobile inbreds. The highest performance corresponds to the non-inbreds and the lowest to the pure inbreds

Other findings

- Wyer and Conrad (1984) found significant differences in time allocation for inbred and non-inbred faculty as inbred faculty devote more time to service and have heavier teaching load (and receive research grants less often!).
- Making an adjustment for the differences in time allocation, inbred faculty were found to be more productive in all areas of scholarly research and they were paid less.

Policy

- In order to alleviate the negative impacts of academic inbreeding, university administrators must cast the widest possible net during job searches in order to assemble the best qualified faculty members.
- They should keep their positions accessible to a wider talent pool including researchers from overseas and foreign nationals if possible. The final selection should solely be on a merit based level.
- Teaching in English.

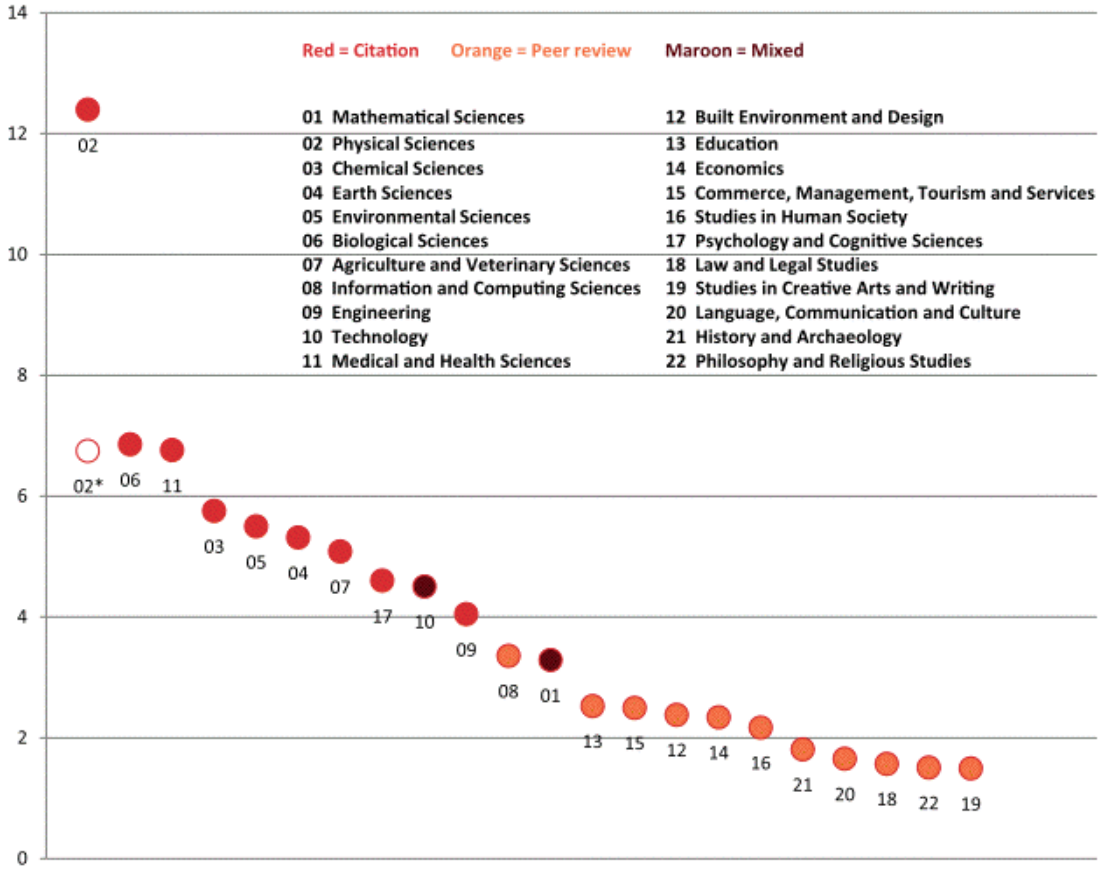
- Encouraging mobility of students (to generate habits). Different degrees obtained from different institutions. **Erasmus program?**
- The academic career should start after getting the PhD degree, not before!

Economics

- *Economics:* after obtaining a PhD a student is able to conduct independent research and publish single or double authored papers in top journals.
- In the fields of Economics and Business the average number of authors per paper is 2-3. In Experimental Sciences the number of authors is much higher (laboratories and research teams).

Economics

Average authors/output by two-digit FoR code



* Note: Presents the average authors/output for Physical Sciences (FoR 02) not including Astronomical and Space Sciences (FoR 0201). Astronomical and Space Sciences has an average authors/output of about 27 compared with the average of about 7 for the other four-digit FoRs in Physical Sciences.

The market for PhDs

- Thus, in Economics and Business the figure of post-docs is not so frequent as in Experimental Sciences.
- This calls for organized markets to fill academic positions at the junior level. These markets are also used by private sector (consulting and financial firms) and national (central banks, regulatory agencies) and international (IMF, WB, EU, UN) institutions: **ASSA and SAE/SAEe meetings.**
- Role of the universities producing PhD that do commit to a no-inbreeding policy:
  - Higher standards in research since the students have to face outside market competition.
  - Mock interviews and seminar rehearsals

The DEEH (UFAE) at the UAB

- The Department of Economics and Economic History (Unit of Economic Analysis-UFAE) had the tradition of promoting mobility: bright students from the UAB were pushed forward towards obtaining their PhD degrees abroad. (Joaquim Silvestre, Xavier Calsamiglia, Joan Ma. Esteban, Isabel Fradera, Lluis Barbé, Josep Ma.Vegara and, later on, Salvador Barbera with Andreu Mas-Colell providing expert external advising).
- Since mid 80's there was a constant inflow of new faculty with PhDs from (mainly) US universities. Strict no-inbreeding rule since the late 80's.

The SAE

- The Simposium of Economic Analysis (SAE) started in 1975 and has evolved to become the most important academic meeting in Economics in Spain (three days in mid-December).
- Now is in its 38th edition.
- In 1995 the SAE started hosting interviews to candidates (Isabel Fradera was the first organizer) as the pool of eligible PhDs became larger.

The Spanish Job Market

- In 2001 (26th edition) the Simposyum was transferred to the Spanish Economic Associaton (founded by Salvador Barberà in 1996) and eventually it became the Simposium of the Spanish Economic Association (SAEe). Since then, the SAEe has been organized every year by different universities located in Spain.
- The SAEe also hosts the job markets for new PhD in Economics: interviews and job market sessions (from 100 to 120 candidates present their papers and by doing so they are "signalling" their preference for Spanish institutions).
- The Fundación Ramon Areces is currently sponsoring de job market and provides fellowships to the PhD candidates attending the job market.

The Spanish Job Market

- *Spanish Economics Departments:* UAB, U. Pompeu Fabra (1990), Universidad Carlos III de Madrid (1990), U. Alicante were the first in implementing this strict no-inbreeding policy and this policy was percolating through the rest of the Spanish departments.
- Average of 10 Spanish institutions and 5 foreign institutions participate in the SAEe job market.
- Other participants: Research Centers (CREI, IAE-CSIC, Bank of Spain, and CEMFI), Private and Public sectors.

The Barcelona GSE

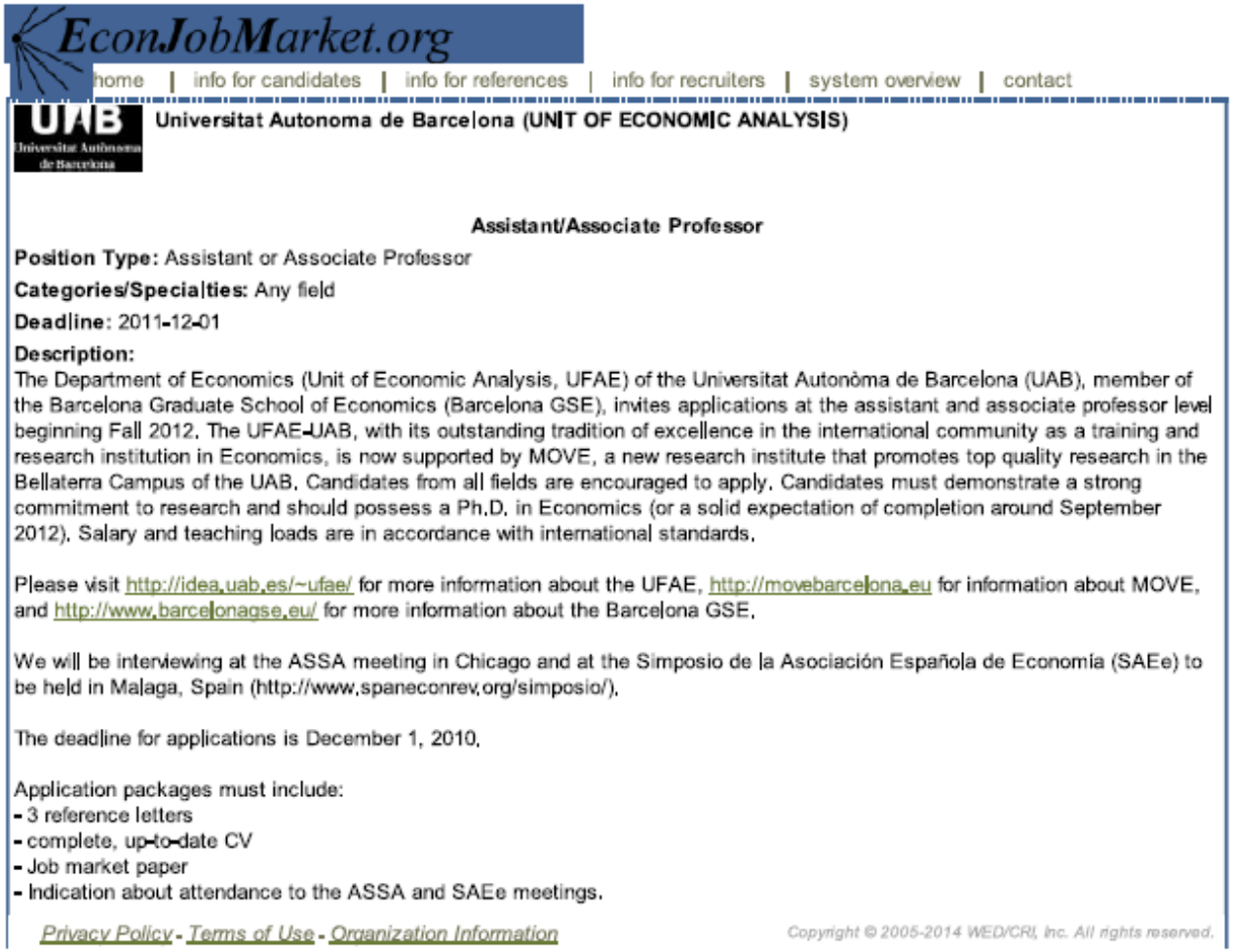
- UAB-UPF-CREI-IAE form the academic body of the Barcelona GSE (founded in 2006 by Andreu mas-Colell).
- Common advertising and coordinated hiring.

The Job Market

- Selection of candidates to be interviewed.
- Two platforms:
  - Job Openings for Economists (American Economic Association). To list an open position: $300 (before paper, now electronic)
  - Econjobmarket (Econometric Society, European Economic Association, Society for Economic Dynamics, Canadian Economic Association). In the last 5 years has become the most popular platform. (electronic).

EconJobMarket

EconJobMarket



EconJobMarket.org

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Universitat Autonoma de Barcelona (UNIT OF ECONOMIC ANALYSIS)

Assistant/Associate Professor

Position Type: Assistant or Associate Professor

Categories/Specialties: Any field

Deadline: 2011-12-01

Description:
The Department of Economics (Unit of Economic Analysis, UFAE) of the Universitat Autonòma de Barcelona (UAB), member of the Barcelona Graduate School of Economics (Barcelona GSE), invites applications at the assistant and associate professor level beginning Fall 2012. The UFAE-UAB, with its outstanding tradition of excellence in the international community as a training and research institution in Economics, is now supported by MOVE, a new research institute that promotes top quality research in the Bellaterra Campus of the UAB. Candidates from all fields are encouraged to apply. Candidates must demonstrate a strong commitment to research and should possess a Ph.D. in Economics (or a solid expectation of completion around September 2012). Salary and teaching loads are in accordance with international standards.

Please visit http://idea.uab.es/~ufae/ for more information about the UFAE, http://movebarcelona.eu for information about MOVE, and http://www.barcelonagse.eu/ for more information about the Barcelona GSE.

We will be interviewing at the ASSA meeting in Chicago and at the Simposio de la Asociación Española de Economía (SAEe) to be held in Malaga, Spain (http://www.spaneconrev.org/simposio/).

The deadline for applications is December 1, 2010.

Application packages must include:
- 3 reference letters
- complete, up-to-date CV
- Job market paper
- Indication about attendance to the ASSA and SAEe meetings.

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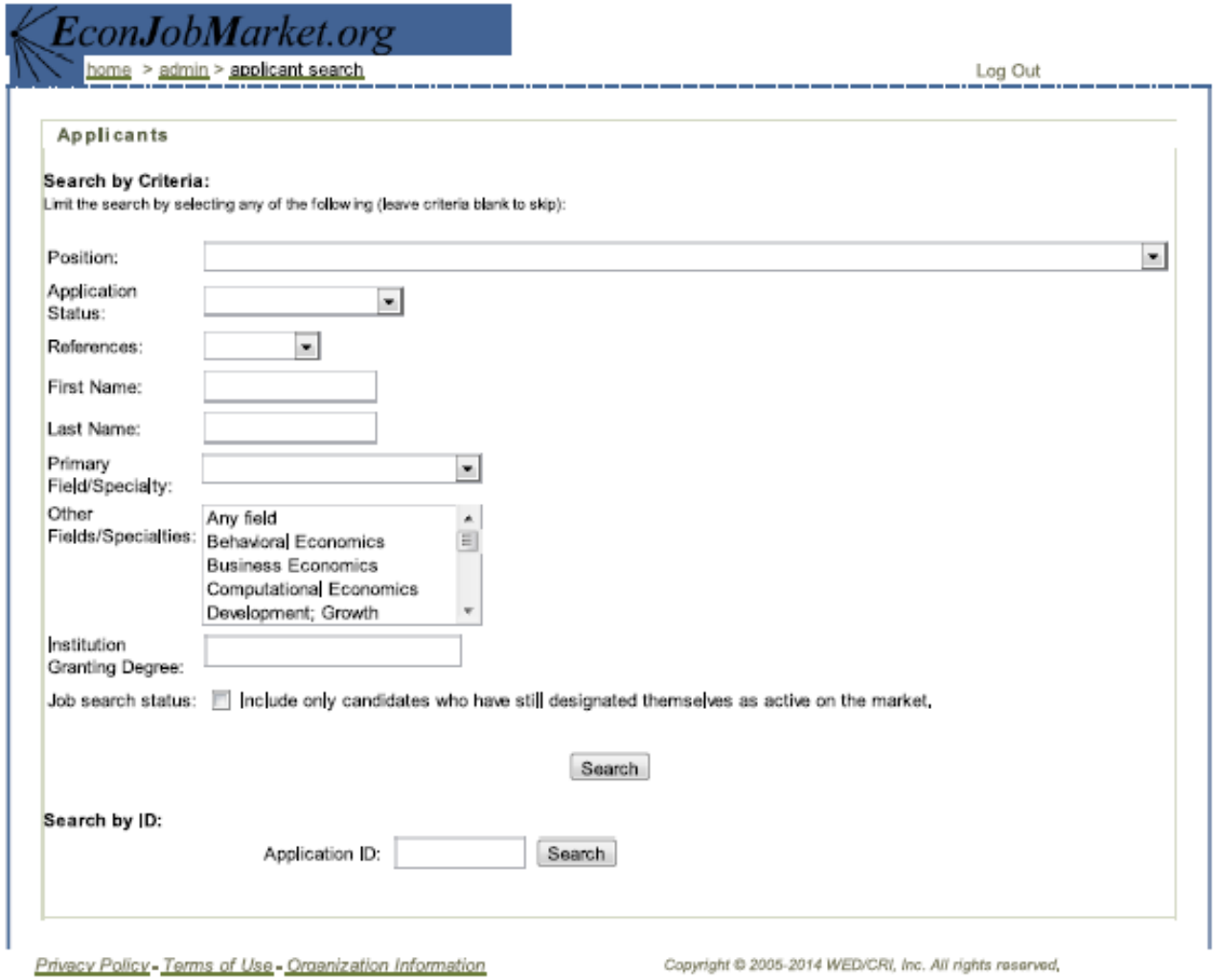
EconJobMarket



The Job Market

- - Interviews (30 minutes) of the selected candidate with faculty members of the hiring institution.
  - **ASSA (AEA) meetings.** (beginning of January, interviews in suite rooms of "several" hotels).
  - **SAEe.** (mid-December, interviews in university venues or hotel rooms).
- Only registered institutions and candidates can book rooms.
- Flyouts (from mid-January to mid-March). Invitations to deliver a seminar and interviews with the rest of the faculty.
- Formal offer.

Obstacles

- Main: financing this external recruiting policy.
  - 1) Travels to SAEe, ASSA, fly-outs.
  - 2) Salary paid to the new faculty.
- Language.

Salaries

- Average starting salary for an assistant professor (recent PhD) in Economics: $80,000 (for Finance and Accounting: $105,000).
- For senior assistants: $96,000.
- Tenured faculty: $128,000 (associate), $200,000 (full-professor).
- Average starting salary in Physics: $58,000.

Salaries

- PhDs in Economics and Business enjoy better outside options beyond academia (financial sector, agencies, etc.). Of course, this has nothing to do with the "quality" or "reputation" of the field.
- Spain has a rigid system of wage compensation with some incentives for productivity and almost null incentives for excellence.
- Impossible to hire an international candidate with a starting salary below €40,000.
- To overcome this problem we need unconventional sources of funding (Consolider, Severo Ochoa Programs, ERC, Marie Curie, private sponsorship, visiting professorship) so as to complement the wage.

Tenure-track

- Standard tenure-track offer: 6 years. Mid-term evaluation at the beginning of fourth year based on external referees. This evaluation is soft and has only consequences in extreme cases. It is intended to provide advise and show "yellow/red lights".
- Final evaluation at the beginning of last year. After obtaining a positive evaluation, the candidate is "endorsed" by the department.
- Final decision taken either by a committee or by the whole group of tenured professors. External referees are also important to reach a decision.

Legal procedures

- Here we have a tension between the legal procedures for getting a tenured position in Spain and the typical practices in the US system that we try to adopt.
- Dysfunction: tenured professors are civil servants.

RePEc Rankings (Citations)

1. Harvard University, 1.17
2. MIT, 2.49
3. University of Chicago, 3.94
4. Oxford University, 4.12 (*)
5. Princeton University, 4.33
6. University of California-Berkeley, 4.85
7. New York University, 7.75
8. Paris School of Economics, 9.4 (*)
9. Columbia University, 9.55
10. Stanford University, 10.3
11. Toulouse School of Economics, 11.51 (*)
12. Barcelona GSE, 12.25 (*)
13. Yale University, 12.82
14. Brown University, 15.12
15. University of Pennsylvania (Penn), 16.48
16. Boston University, 16.84
17. Northwestern University, 16.95
18. University College London, 17.08 (*)
19. University of Michigan, 17.88
20. Columbia University (Business), 19.27

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64. Universidad Carlos III de Madrid, 63.7

Final Thought

"The art of economics after all is nothing but to find the balance between scarce resources and unrelenting desires. This time the highly educated human capital is indeed the scarce resource and academic inbreeding results in wasting this resource." (Hugo Horta).

Many thanks!