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## Assessing micro-level effects of macro-level interventions: a comparison between perceived evaluation pressure and scientific productivity in History.

Carolina Cañibano\* and Carmen Corona\*\*

\*[ccanibano@ingenio.upv.es](mailto:ccanibano@ingenio.upv.es)

INGENIO (CSIC-Universitat Politècnica de Valencia), Ciudad Politécnica de la Innovación. Camino de Vera s/n, 46022 Valencia, Spain.

\*\*[carcosob@ingenio.upv.es](mailto:carcosob@ingenio.upv.es) ; [cbenito@ingenio.upv.es](mailto:cbenito@ingenio.upv.es)

INGENIO (CSIC-Universitat Politècnica de Valencia), Ciudad Politécnica de la Innovación. Camino de Vera s/n, 46022 Valencia, Spain

### Introduction

This paper builds on previous work assessing the perceived effects upon knowledge production dynamics and publication productivity in the field of History of the strong Research Evaluation System (Whitley 2007) progressively implemented in Spain since the 1980's.

The culture of research evaluation and competition for research funding emerged in Spain out of the approval in 1986 of the Science Law (BOE 1986), which was followed by the creation of a number of evaluation agencies and mechanisms to assess the quality of the scientific production of academic and research staff employed by the public research system. Currently, the outcomes of the different evaluations that researchers are subject to condition promotions and access to academic positions, as well as salaries, teaching loads and the capacity to supervise doctoral students and to be part of decision-making committees and recruitment panels in universities. Consequentially, the capacity to overcome periodical evaluations has become an important determinant of individual academic prestige<sup>1</sup>.

The evaluation of academic work performance in Spain relies strongly on standardized metrics and quantitative indicators based on bibliometric techniques, as increasingly characterizing academic and scientific systems across the globe (Paradeise and Thoenig 2015). The Spanish National Agency for the Evaluation of Quality and Accreditation establishes the minimum criteria in all fields and in all regions for obtaining a positive research evaluation for a given period. The indicator of quality preferred is the number of articles published in journals that are indexed in ISI Journal Citation Reports. For some fields, other forms and formats of diffusion of research results are also recognized. However, in general terms, the evaluation criteria in force have been strongly opposed and criticized by researchers from the Humanities on the grounds that they do not take into account the particularities of Humanities fields, notably their local and culturally embedded character and the choice of Spanish as the preferred language for diffusion (FECYT 2006, 16). Of course, this is not a particularly Spanish problem; rather it derives from the specificities of research in

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<sup>1</sup> A more detailed description of the institutional and regulatory landscape framing the Spanish Research Evaluation System and a description of its progressive implementation may be found in Cañibano et al. (2018). Annex 1 below provides a representation of the evolution of the Evaluation System since 1983.

the Human and Social Sciences for which bibliometric indicators are of limited use (Hicks et al. 2015, FECYT 2006).

In the case of History, ‘quality production’ is limited to: i) articles published in journals indexed in the Web of Science or well-positioned in Scopus; ii) books, and chapters in books, published by ‘prestigious publishers’ that accept manuscripts following the procedures described in the Scholarly Publisher Indicators<sup>6</sup>; iii) other productions including mainly reviews and conference proceedings. A major remaining point of controversy is the lack of recognition of contributions to local journals that are favored for research where the topic concerned is locally or regionally focused. The supremacy of high impact publications persists in the criteria of evaluations performed by regional evaluation agencies and by the ANECA to grant access to specific job categories. Currently, the criteria applied to grant access to career entry positions (assistant professor, contracted doctor) weights articles published in international journals or in prestigious national journals more heavily than books and book chapters, which reflects the “Journal Citation Report-centrism” of the system (Ruiz-Pérez *et al.* 2010).

In Cañibano et al. (2018) we assessed the perceptions of members from two very prestigious and productive Spanish university departments in History regarding two main aspects: i) the origin and causes of the academic prestige and reputation cumulated by the departments over the years; ii) the effects of the research evaluation system upon their work and publication strategies. In addition, we contrasted these perceptions with the trend in the overall scientific productivity of both departments without finding a clear correspondence between individual statements regarding the effects of the evaluation system (the macro intervention) and the performance of the departments (the meso-level effects). In this paper we take one analytical step down to conduct an exploratory analysis of five interviewees, comparing their individual statements regarding the effects of the macro-intervention and their actual scientific productivity (the micro-level observed effect).

## Data

The data for this paper derive from a series of in-depth narrative interviews conducted in two History university departments located in two different Spanish regions. The departments were selected on the basis of their position in international and national university rankings together with the recommendations from members of the History scientific community regarding the most prestigious departments in their academic discipline. Overall, 24 in-depth interviews of an average duration of between 60 and 90 minutes were conducted face to face and subsequently transcribed and coded using NVIVO. More extended details of the methodology may be found in Cañibano et al. (2018). For the current study, we first extract from the NVIVO database the explicit statements regarding the effects of the evaluation system upon work practices and publications strategies, which were explicitly formulated by five interviewees. In addition, we download information regarding the scientific publications of these 5 researchers over their careers.

We obtain information about interviewees’ publications from a variety of sources. First, we download all publications registered in Dialnet, which is the most comprehensive bibliographic source of Spanish scientific production. We download from Dialnet all resulting records up to 2017 for each author, except those corresponding to book reviews, supervised

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<sup>6</sup> The evaluation criteria may be found at: <http://www.mecd.gob.es/servicios-al-ciudadano-mecd/catalogo/general/educacion/050920/ficha.html#dc>

dissertations and interviews published in the media. We complement this data by searching on international bibliographic databases for international publications (Web of Science and Scopus), and we use researchers CVs when available, as well as institutional websites containing publication details. In the following section we present three individual cases separately and combine the last two cases. We first present individual statements regarding the perceived effects of the research evaluation system; second, we trace individual publication output. The ordering and presentation of cases responds to the topics addressed in the quoted statements. In the final section we assess overall trends and correspondence between perceived effects and actual observable trends.

## **Perceived effects of the evaluation system and publication output: individual cases**

### **Case 1:**

#### *Perceptions*

Books and monographs are understood as the natural output of a History research program or project, as the type of product that is highly recognized by the disciplinary community. However, interviewed historians perceive that the system favours and values more the publication of journal articles than of books and monographs. In particular, Case 1 feels pressured to publish more articles, pointing out that he/she and his/her colleagues publish now more journal articles than they used to.

“We write now many more articles than we used to. We target certain journals, not only for the interest in externalizing our research but also because this will count when applying for research projects or sexenios” [sexenios: a type of evaluation]

“We publish many more articles because the system forces us to go that way”

In addition, this researcher also feels pressured to publish internationally “in English”, which is difficult since he/she perceives that change in language implies learning a different type of academic language:

“Not publishing in English has consequences for the profession. It means that even if Spanish research is of very high quality it remains unknown to researchers who do not read Spanish or the rest of our local languages”

“It is not easy because we have been trained in a certain way because our journals have a certain focus. Academic standards are different.”

Publications

Figure 1: Case 1 total published output

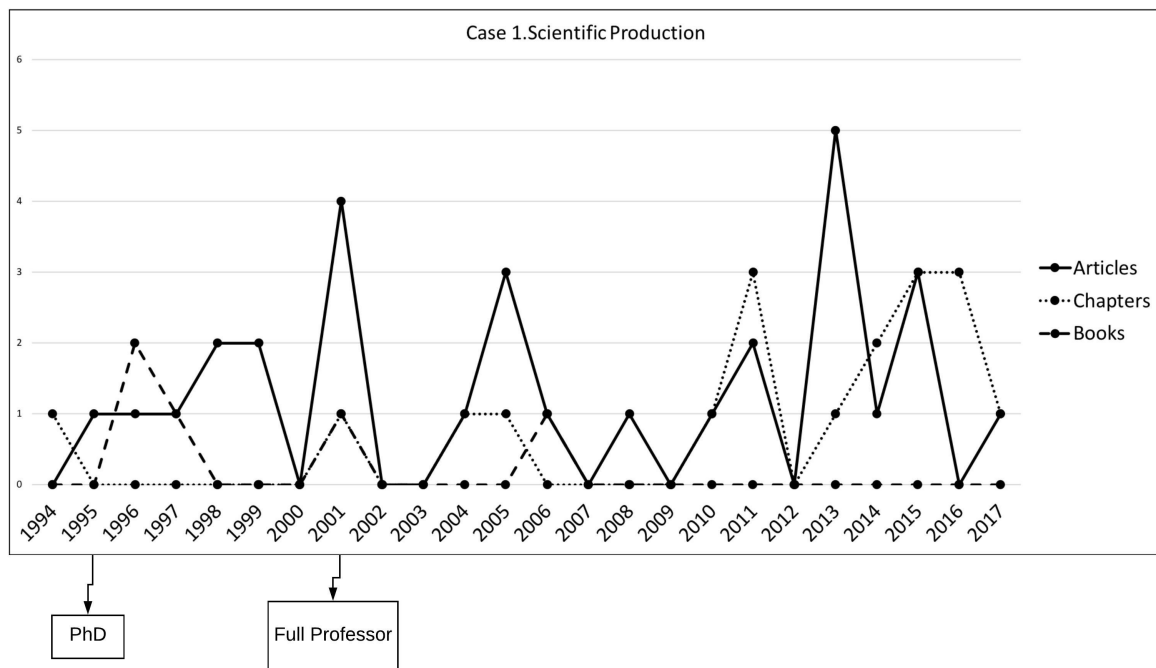
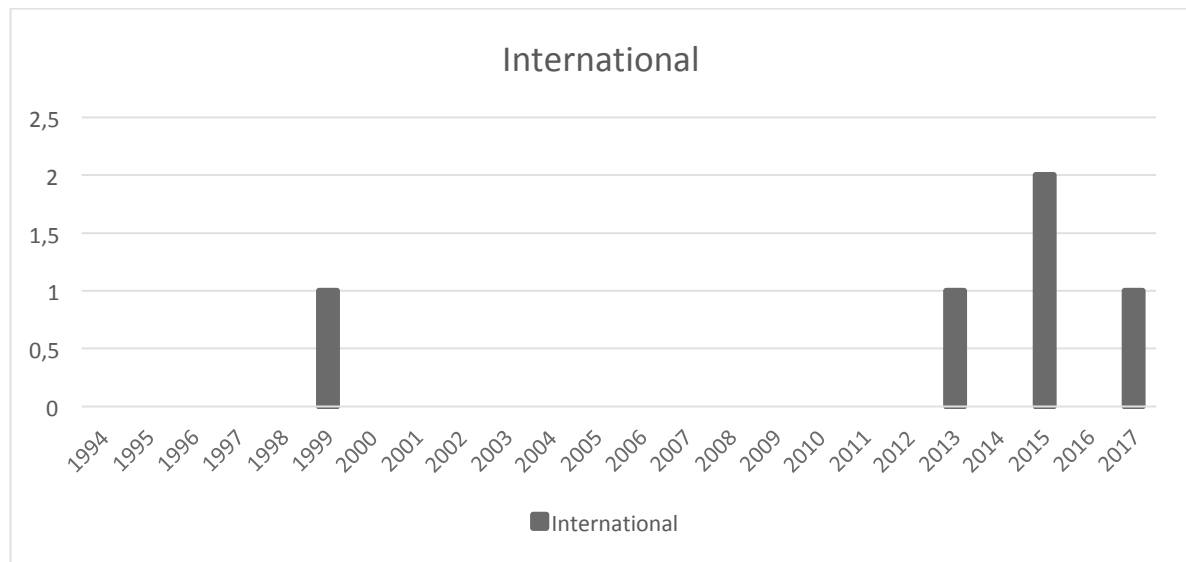


Figure 2: Case 1 International publications



This researcher has published over his/her career a total of 4 books, 13 book chapters and 17 journal articles, starting in 1994, one year before obtaining the Ph.D. The largest number of journal articles (9) and books (3) was published in the period 1995-2001 (before the strong evaluation system enforced by the creation of the ANECA was implemented) and right before being promoted to a Full Professor position in 2001. Since then, his/her scientific output has mainly taken the form of book chapters (11), followed by journal articles (8). He/she published one article in Spanish in an Italian journal in 1999. The rest of international

publications have been published between 2013 and 2017, in France, Italy and the UK, both in Spanish and English. After the promotion to a full professorship, the evaluations faced by this researcher were limited to the recognition of ‘sexenios’ (quality production over periods of six years).

## **Case 2:**

### *Perceptions*

This researcher also feels pressured to publish his/her output in the form of journal articles and to publish in the international sphere. He/she points out the inadequacy of an evaluation system over-valuing articles and undermining books for a field like History:

“The only possibility to have a future in the field is to publish articles in international high impact journals. It is the only way to compensate for the fact of not being a doctor from Yale and to have some visibility, as much here as outside”

“It is striking that articles in indexed journals are the most valued (. . .) the evaluation criteria have been established on the bases of the research practices of other sciences. Our research is proved in monographs. You may find it in articles but articles have to be brief which often does not allow you to develop a long argument, which is fundamental to our discipline, to our historic methodology”

In addition, this researcher perceives that the pressure to publish articles in indexed journals is undermining the quality of the published output; that it privileges quantity over quality and encourages the publication of irrelevant work:

“The ability to sell the research product has become more important than its intrinsic quality”

“Articles end up being theoretical contributions or papers with a very limited empirical quantitative base... They are thus not significant, they do not contribute much, they do not allow the discipline to progress, they do not contain substantial knowledge”

Publications

Figure 3: Case 2 total published output

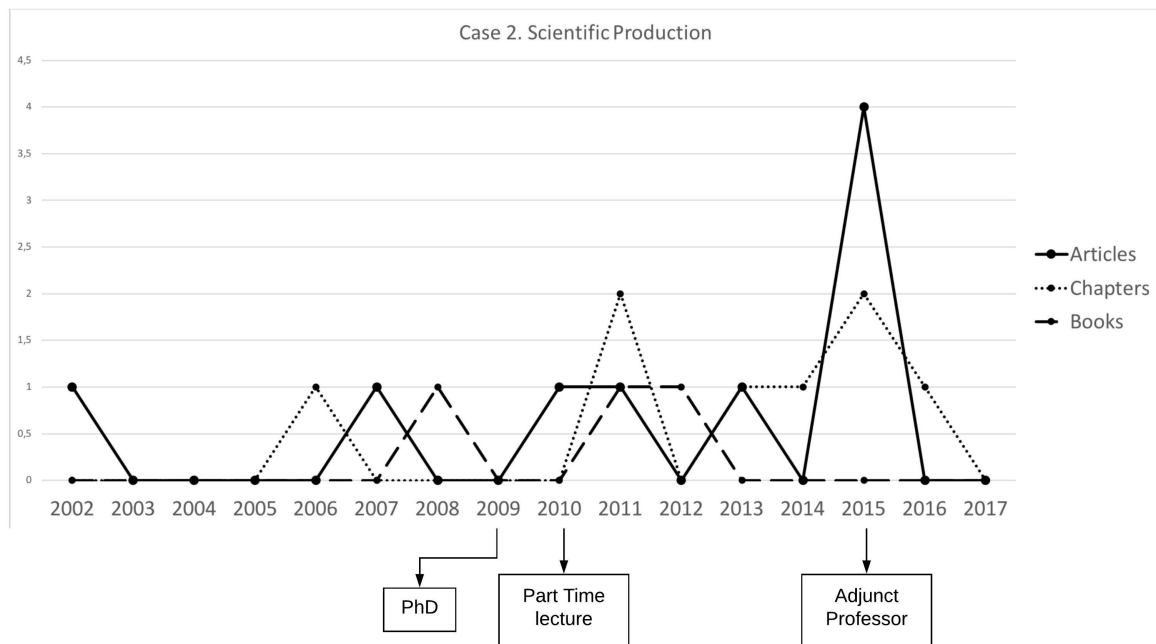
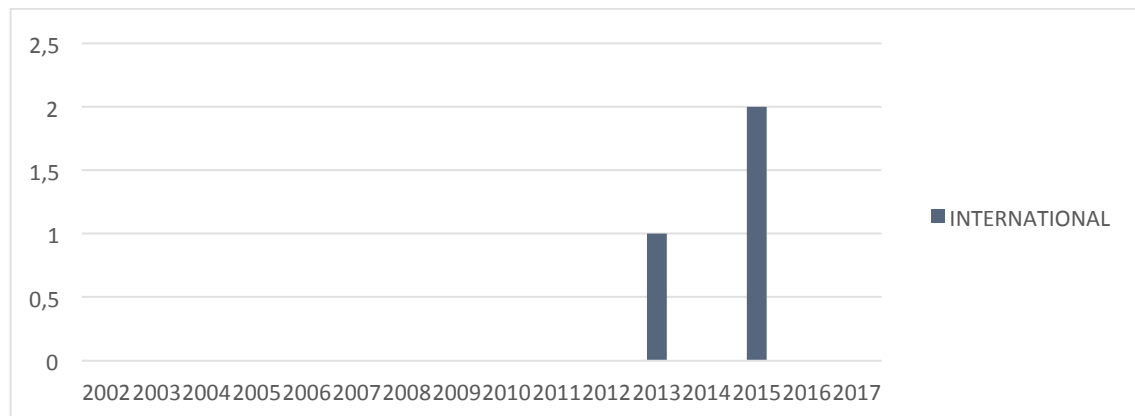


Figure 4: Case 2 International journal articles



This researcher has published over his/her career a total of 3 books, 8 book chapters and 9 journal articles, starting in 2002, 7 years before completion of the Ph.D. The most productive years in terms of publications was 2015 (with 4 articles and 2 book chapters), which coincides with the year of professional stabilisation by accessing a permanent academic position as ‘contracted doctor’. Out of the 4 articles published in 2015, 2 were published in international journals. One article was published in a German journal in 2013. This researcher had to pass the accreditation as ‘contracted doctor’. After accessing this position he/she is eligible to apply for the recognition of ‘sexenios’ and for further accreditations to get promoted to a civil servant academic position (as associate or full professor).

Case 3

*Perceptions*

This researcher commented extensively on the pressure to and the difficulties of publishing internationally, which according with his/her experience, transcend the quality of the work:

Publishing in international journals “is not easy. It is not easy because we have been trained in a certain way because our journals have a certain focus. Academic standards are different”

“I have tried to publish in the United States. I have invested a lot of money to translate the article. I have tried to make it suitable for over three years. I keep trying and it keeps being rejected. I talk about this personal example because it upsets me. Because we write an article with a Hispano-American perspective, we send it to a journal in the United States, one of the top 10. We discuss it over and over among the authors. (. . .) The experience has been devastating, our pride is hurt. This is terrible because there is a lot of effort behind it. There are too many obstacles.”

*Publications*

Figure 5: Case 3 total published output

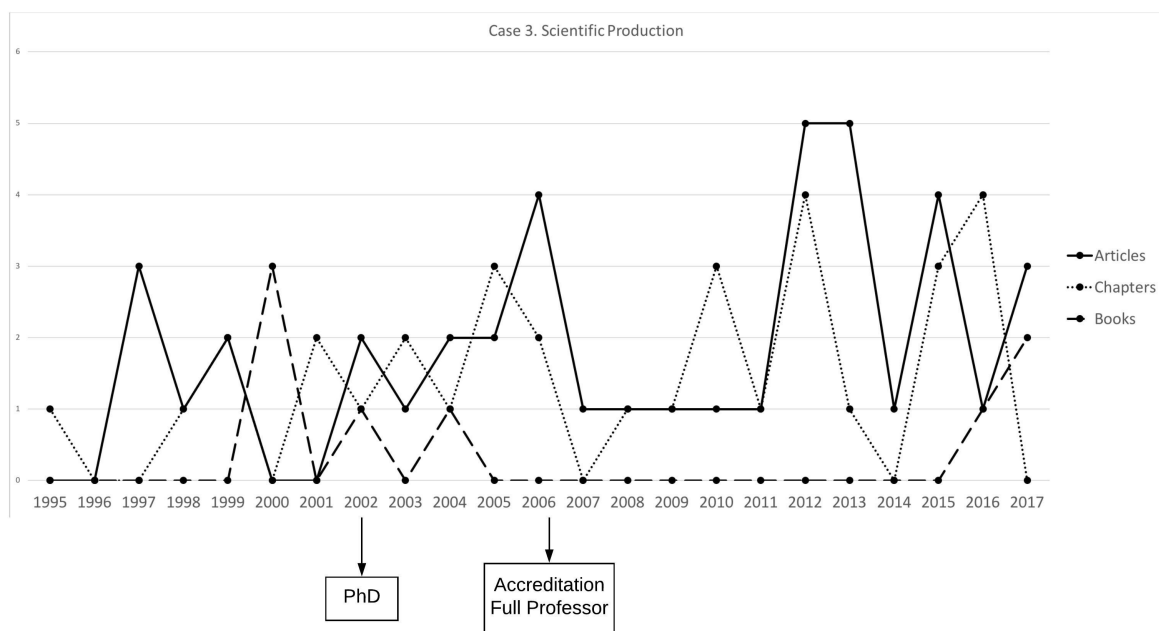
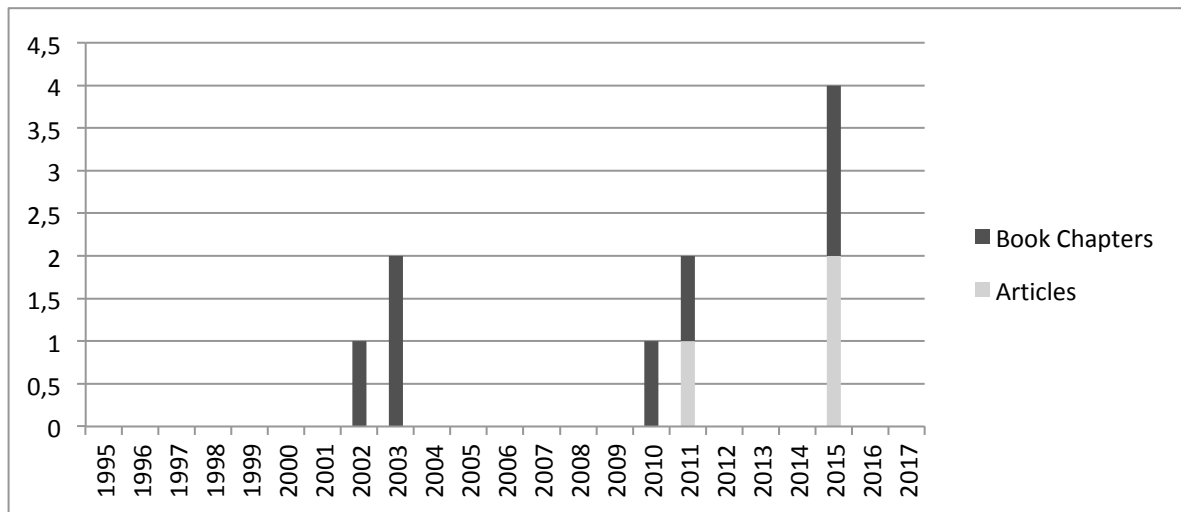


Figure 6: Case 3 international articles and book chapters



This researcher has published over his/her career a total of 8 books, 33 book chapters and 41 journal articles, starting in 1995, 7 years before completion of the Ph.D. The only year without registered publications is 1996 and the most productive years are: i) 2006, with 4 articles and 2 book chapters, year in which he/she obtained the national accreditation to access academic civil servant positions at the intermediate and highest level (associate and full professor)); ii) 2012 with 5 articles and 4 book chapters. This researcher has published 3 articles in international journals and 7 chapters in international books. The quoted statement refers to the difficulties of publishing in English language in Journals from the United States. This researcher has passed all the possible accreditations of the system and is eligible to apply for the recognition of ‘sexenios’ every six years.

## Cases 4 and 5

### *Perceptions*

The pressure to publish their research in articles instead of in other formats is perceived by interviewed researchers as having an impact on the quality of the product. They would rather not have to publish so many short articles. The statements of these two researchers refer specifically to the perceived undermining of quality induced by the evaluation system that privileges the number articles as favourite research outcome. They convey that the article format is not the most adequate to publish results in the field:

“Articles allow us to advertise ourselves and an idea, or a part of an idea, but when the number of words is limited the article often ends up being shorter than it should be” (Case 4)

“A complex explanation requires space for its presentation and its demonstration. Demonstrations in the Humanities are hard to make” (Case 4)

“A very small detail may require a note of four or five lines to explain that you have the proof for your argument, which is not a mathematical formula.

Explanations tend to be extended. The paper format is too short. The products that are really recognized and prestigious are books, which result from trajectories of two or three years working on the same topic. Books are produced after having published a few articles but they are not the sum of the articles. Articles permit us to develop partial ideas that later on will lead to the full picture” (Case 4)

“Theoretical frameworks are reutilized; the state of the questions is repeated. There is no time to elaborate solidly founded and well documented work. What matters is to augment the production and its publication. Evaluation criteria affect the orientation of what researchers want to publish and where they want to publish” (Case 5)

*Publications*

Figure 7: Case 4 total published output

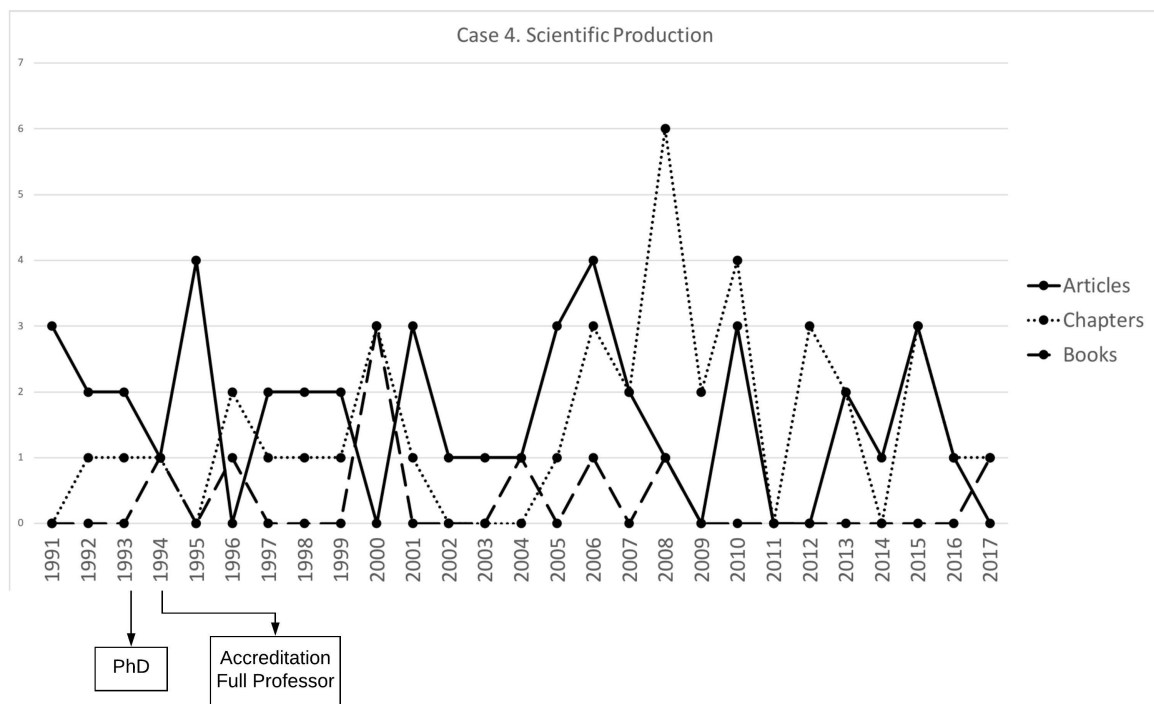
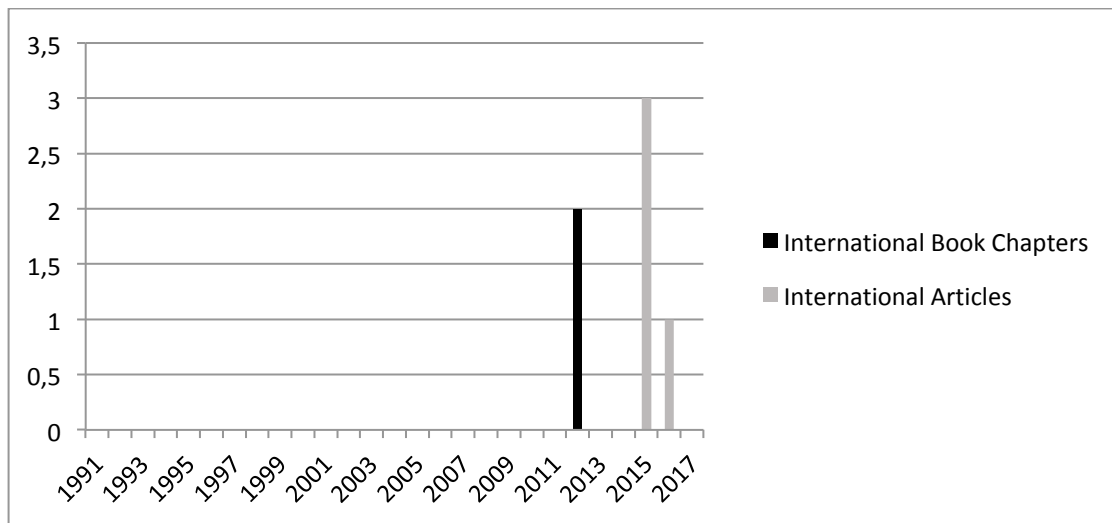


Figure 8: Case 4 International publications



Case 4 has published over his/her career a total of 9 books, 40 book chapters and 44 journal articles, starting in 1991, 2 years before completion of the Ph.D in 1993. He/she became a Full Professor in 1994. Over almost three decades of experience only the year 2011 registers zero publications. The most productive years are 2006, with 4 journal articles, 3 book chapters and one monograph and 2008, with 6 book chapters and one monograph. This researcher has published 4 international journal articles and 2 international book chapters between 2012 and 2016. International journal articles were published in French language in French journals and in Italian and Portuguese journals in Spanish language. This researcher was already a full professor when the accreditation system was put in place. He/she applies for the recognition of ‘sexenios’ very six years. Up to the interview date he/she had obtained all possible ‘sexenios’ according to the length of hi/her career.

Figure 9: Case 5 total published output

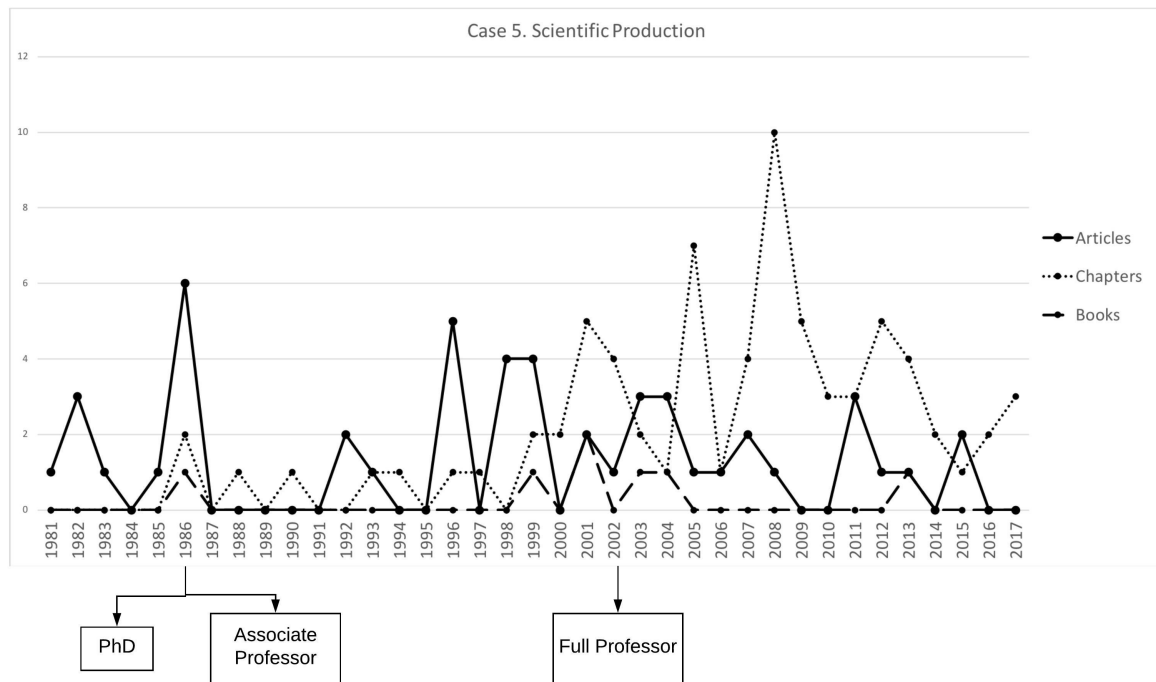
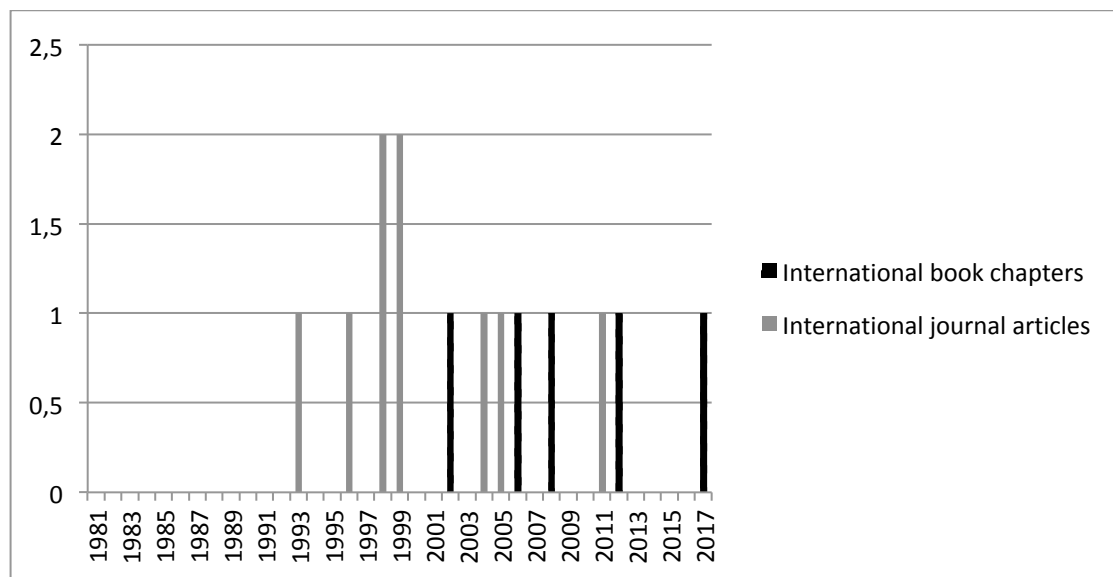


Figure 10: Case 5 International publications



Case 5 has published over his/her career a total of 7 books, 74 book chapters and 49 journal articles, starting in 1981, 5 years before completion of the Ph.D in 1986. He/she became a Full Professor in 2002. A high level of productivity is sustained since 1996, with 2006 appearing as the most productive year. This researcher has published 9 international journal articles and 5 international book chapters. He/she has published articles in Spanish, Italian, Portuguese and English language in Argentina, Italy, the UK and Portugal. This researcher has passed all the possible accreditations of the system and is eligible to apply for the recognition of ‘sexenios’ every six years.

## Aggregated trends

As mentioned earlier, the studied researchers belong to very prestigious departments and research groups. Their publication track-record shows their very high productivity level, considering that History is their field of research and the corresponding publication practices in the field. The five researchers have published books, journal articles and book chapters almost uninterruptedly since the beginning of their careers, measured in terms of the year of their first publication. They all have published internationally, in several countries, mainly in European journals and mostly in Spanish language. From their reported statements regarding the effects of the evaluation system upon publication practices we would expect: i) an increase in the publication of journal articles over time; ii) an increase in international publications notably of work published in English; iii) a decrease in the publication of books and monographs over time; iv) a certain degree of repetition (i.e. salami slicing practices) and a decrease in the quality and innovativeness of the output. The techniques applied in this paper do not allow us yet to check on this last point regarding the content and quality of publications.

Table 1 below gathers the total publication output of the studied cases, ordered by career length (measured as years between first publication and 2017). Not surprisingly, we observe a certain correlation of accumulation of output and career length at the individual and aggregated level. In other terms, younger researchers do not seem to be publishing substantially more as could be expected since they are subject to more pressure by the evaluation system.

Table 1: Overall publication output by author, by type of publication and career length

	Career length	Articles	International Articles	Chapters	International Chapters	Books	TOTAL
Case 2	15	9	3	8	0	3	20
Case 3	22	41	3	33	7	8	82
Case 1	23	30	5	18	0	5	53
Case 4	26	44	4	40	2	9	93
Case 5	36	49	9	74	5	7	130

Figure 11: Total journal articles published per year per author

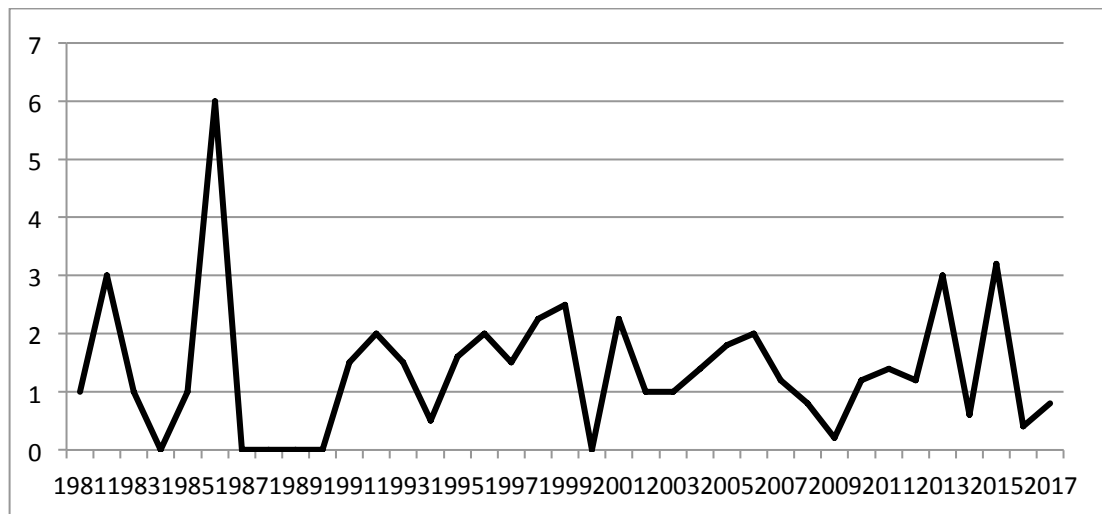
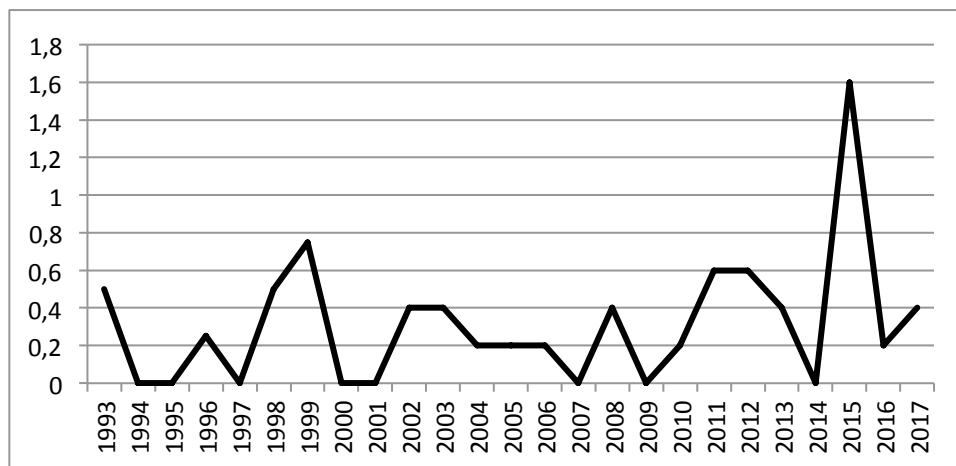


Figure 11 shows the trend in journal article publication per author per year. Each author enters the total number of authors considered in the year of his/her first publication. Despite their narratives, these researchers do not seem to be publishing substantially more journal articles over time. Notably they do not publish more since the creation of the ANECA in 2001, compared to before 2000. The publication of journal articles has been a common practice for them since the beginning of their careers. However, what we observe at the individual level in all five cases is an association between journal article productivity picks and career milestones or transitions which take the form of promotions or accreditations to access permanent academic and civil servant positions. In other terms, researchers seem to boost their production of articles in years in which they compete for promotions and accreditations. This picks are observable since 1986, year in which case 5 had access to the first academic position in his/her department.

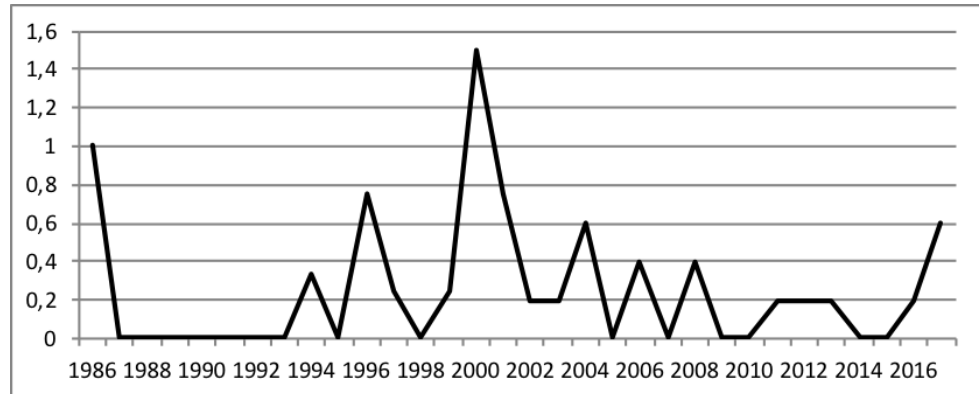
Figure 12 does not show a clear trend either regarding international publications. The pattern seems quite stable since the publication of the first international article in 1993, with the exception of the observed pick in 2015, in which 2 of the studied authors published several international articles.

Figure 12: Total international publications per year per author



The publication of books per year and per author does not show a clear descending trend as might be expected following the interviewees narratives. Books continue to be published all throughout the period.

Figure 13: Total books published per year and author



### Preliminary conclusion

We do not observe a correspondence between individual statements regarding the perceived effects of macro-interventions and observed individual and aggregated trends in scientific publication productivity. What we observe throughout the studied period (1981-2017) is a correspondence between individual career milestones (promotions, accreditations) and journal article productivity picks. This applies throughout a period in which different evaluation cultures and macro-intervention systems have prevailed. The question regarding the explanation for this lack of correspondence between perceived effects of the evaluation system as stated in the interviews and actual trends in publications remains open. A possible interpretation is that the five researchers studied belong to departments and research groups where high quality production standards have always been imposed. Feeling part of the group, required being productive, right from the creation of the departments. The pressure was internal, informal, not standardized and therefore better accepted by researchers (Cañibano et al. 2018), who were subject to a Soft research evaluation system – RES – in Whitley's terms (Whitley 2007). The progressive development of the 'Strong' RES implied the externalization, formalization and standardization of evaluation practices and indicators, to which even very productive historians as the ones interviewed, resist. Their practices do not seem to have actually changed much but they feel pressured to work differently, as they express.

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