

Publication Output of Swiss Political Science Departments*

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Abstract

This paper compares the scientific publication output and international academic visibility of Swiss political science departments, using three indicators (number of publications, number of citations, and the h -index) and publicly available data from two sources: the ISI Web of Knowledge and Google Scholar. We also examine whether the publication output of political science professors and postdoctoral researchers in Switzerland varies as a function of academic age. We observe rather strong variation both across and within departments. The analysis also shows that the most prolific professors tend to be those who completed their Ph.D. about 15–20 years ago, and that some postdocs are on a very promising publications trajectory. We derive some benchmarks for publication output that may be useful for hiring decisions or promotions.

1 Introduction

Debates on how to measure the academic performance of individual scientists and the institutions in which they operate are usually controversial and inconclusive because there is no consensus on what criteria should be used for such assessment. It also remains contested how much weight should be given to specific performance indicators when trying to aggregate various performance measures into overall scores (see for example a recent debate in the *Political Studies Review*: McLean et al., 2009; Johnston, 2009; Russell, 2009; Weale, 2009; Butler and McAllister, 2009; Donovan, 2009). Relevant criteria include, for example, student satisfaction,

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third party funding, visibility of research results in the mass media, awards, and last but not least scientific publications.

Each academic institution must and will, of course, determine on its own on what accounts it wishes to excel. We submit, however, that reliable data on performance with respect to specific criteria is useful. In this research note we concentrate on one particular type of performance measurement, namely publication output. The international visibility of research output has in the past few years become one of the most important benchmarks in attempts to measure academic performance (see e.g. Hix, 2004; Plümper and Radaelli, 2004; Benoit and Marsh, 2009), and it has been shown to have a significant effect on academic careers (Plümper and Schimmelfennig, 2007).

We measure and compare the publication activity and international academic visibility of Swiss political science departments. Our goal is to offer, for the first time, an overview of political science research output in Switzerland and to spur a debate on the direction Swiss political science could or should take in this respect. In other words, our intention is to contribute to the ongoing discussion on whether and how the publication output of political science departments in Switzerland should be compared and what conclusions could or should be drawn from such comparisons.

2 Data and Methods

Our dataset covers nine institutions in Switzerland that can be described as political science departments. These departments are located at (in alphabetical order) ETH Zurich (Swiss Federal Institute of Technology Zurich), the Graduate Institute of International Studies and Development (IHEID, Geneva), the Graduate Institute of Public Administration (IDHEAP, Lausanne), the University of Bern, the University of Geneva, the University of Lausanne, the University of Lucerne, the University of St. Gallen, and the University of Zurich.

Because institutional structures differ very strongly—not all political scientists are based in political science departments, political science departments in some cases include non-political scientists, and institutions carry various labels—we had to adopt some simple sampling rules. We focus on university-based research and teaching units that include two or more political scientists at the professor level. If non-political scientists are based in those entities we include

them in our sample if their professorships are formally labeled as political science professorships and/or if their teaching activity focuses on political science studies programs. Because of this heterogeneous institutional landscape, which also produces strong heterogeneity in how authors indicate institutional affiliations, a simple search for publication output by political science unit or department would produce data of highly dubious quality. We thus restrict the dataset to regular faculty members at the rank of assistant professor to full professor. In a separate analysis we also examine publication output by postdocs who completed their PhD within the past ten years.¹ The lists of professors ($N = 52$) and postdocs ($N = 28$) included in our analysis can be found in the appendix. Professors and postdocs were identified via the webpages of the respective institution, and the information was cross-checked with the secretariats of the corresponding institution. Because our focus is not on the publication output of departments within specific time-frames, but rather on the performance of the professors and postdocs based at those institutions, we assume that the publication record travels with the professor or postdoc. That is, if a professor or postdoc is now based, say, at the University of Lausanne, we count all his/her publications, no matter where these publications were produced in the course of her/his career. This sampling approach implies that our results are not commensurable with (but more accurate than) some international comparisons that rely on data retrieved through searches for political science units per se. Hence we refrain from any comparisons of our results with results for other countries.

To measure the scientific publication activity of professors and compare publication output of political science units we use two sources of bibliometric data: the ISI Web of Knowledge (which includes the Social Science Citation Index (SSCI) and other ISI databases) and Google Scholar. The analysis of publication activity by postdocs is restricted to ISI-listed publications. The data for publications by professors was collected between 2 November 2009 and 7 November 2009, the data for postdocs between 25 November and 30 November 2010.

The ISI Web of Knowledge includes only those publications that have appeared in ISI-listed, peer-reviewed scientific journals.² At the time of our data collection, the ISI datasets included around 2,100 journals from around 50 social sciences disciplines, as well as thousands

¹This temporal restriction was chosen to reduce unit heterogeneity; some, but not all, Swiss universities offer tenure to non-faculty teaching or research staff; comparing say 40-50 years old persons of this type with say a 30 years old postdoc does not make much sense.

²The conditions for inclusion of a journal in the ISI datasets are basic standards for peer review and an international editorial board.

of journals from other scientific fields.³ We searched for publications by the respective professor in all categories and all years and included articles in the dataset (excluding book reviews, corrections, editorials, and other, non-article type contributions to ISI-listed journals).⁴

Because the publication process in political science tends to be very slow, particularly in comparison with the natural sciences (it sometimes takes up to two years for an accepted article to be formally published, particularly in the highly-ranked journals), we also used the CVs of postdocs, rather than the ISI Web of Knowledge alone, to construct the dataset for the latter. ISI publications of postdocs are included in the dataset also if they are accepted by the respective journal, even if not yet formally published.

Google Scholar includes also monographs, contributions to conferences, articles in edited volumes and handbooks, and other types of publications, including publications in languages other than English. We use this second source because of frequently voiced criticism that the ISI data tends to discriminate against scientists who publish more books than journal articles and/or who write in a language other than English. We agree with this criticism and think that it is very important to rely not only on the ISI data. We retrieved the data from Google Scholar using the “Publish-or-Perish” software.⁵

As to the publication activity of professors, we collect and compare data for three indicators: the number of publications, the number of citations, and the so-called h -index.⁶ Our two data sources use very different criteria for what counts as a publication. This also implies that citations and the h index are calculated on an entirely different basis. The h -index, whose definition is less straightforward than the other two indices, measures how many of a given scientist’s publications out of his/her total publications (N) have at least h citations, whereas his/her other publications ($N - h$) have less than h citations (Hirsch, 2005). For instance, if a scholar’s h -index is 5, this means that this scholar has five publications that have been cited at least five times each. However, some of these articles may have been cited much more than five times, and the scholar may have published many more articles that have been cited less

³For further information, see www.isiwebknowledge.com.

⁴Because we are interested in the scientific publication activity of Swiss political scientists, rather than the international visibility of Swiss political scientists in the political science community more narrowly defined, we do not limit our search to political science journals, but also take into account publications in other scientific journals

⁵www.harzing.com/pop.htm.

⁶We do not consider the impact factor of publications directly. The impact factor of the journal is correlated with the citations that articles receive, but because there is a certain time lag between publication and the moment when the article starts being cited, our measures tend to be biased against younger scholars.

	Google Scholar		
	# publications	# citations	<i>h</i> -index
ISI	6.2 (0.7)	8.0 (0.8)	2.2 (0.2)
Intercept	22.5 (6.6)	148.5 (66.2)	3.2 (0.7)
R ²	0.62	0.69	0.72
<i>N</i>	52	52	52

Table 1: *Regressions of Google Scholar indicators on ISI indicators (OLS estimates with standard errors in parentheses).*

than five times. Thus, the *h*-index “punishes” authors who score a large number of citations with few publications or publish a lot but attract few citations per publication. Conversely, it rewards scholars who consistently publish frequently cited works. For postdocs, we restrict the analysis to the number of publications in ISI-listed journals. We do not examine the number of citations (and, therefore, also not the *h*-index) because academic age has a considerable effect on the number of citations. This effect would disadvantage younger postdocs.

The correlation between ISI and Google Scholar indicators is statistically significant and substantively strong. The regression results for publications by professors, displayed in Table 1, show that one more ISI-listed publication is associated with about six more Google Scholar publications; one more ISI citation is associated with about eight more Google Scholar citations; and one more point on the ISI-based *h*-index is associated with about two more points in the Google Scholar-based *h*-index. The scores based on the two data sources may differ quite strongly for some individual researchers (perhaps if someone publishes largely in the form of books, and in French, Italian, or German). However, as long as we are interested in comparing entire departments, rather than comparing individual researchers across Switzerland irrespective of their institutional base, it does not seem to matter much whether we use one or the other data source. But we still present results based on both data sources.

Finally, bibliometric information of the kind we use here is obviously open to questioning. This applies in particular to the second indicator we use (number of citations). As shown in a recent study by Fowler (Fowler and Asknes, 2007), self-citation not only increases the number of citations mechanically, but it also affects how many citation the respective author receives from others. Furthermore, the citation process is not necessarily neutral; it can amplify dubious research results and understate solid ones (Greenberg, 2009). However, we still believe that the

number and impact of publications is an important indicator for the international visibility of research activity.

3 Results

3.1 Departments

Figures 1–3 show the distribution of the number of publications, the number of citations, and the h -index for professors at each of the nine institutions included in our sample, using both ISI and Google Scholar data. The boxes (whose width is proportional to the number of professors in the respective department) extend from the 25th to the 75th percentile. The bold line in the box indicates the median. The short horizontal lines at the end of each dotted vertical line connected to the respective box shows the minimum and maximum values. The dashed, horizontal line that extends through the graph shows the median for all professors in our sample. The institutions are sorted according to their median publication output.

While the positions of the nine political science units change to some extent depending on the data source used and on the specific indicator, the overall picture is fairly consistent. While the University of Lausanne, IDHEAP and IHEID tend to appear primarily on the left-hand side of the figures, the Universities of Zurich, Lucerne, Bern and ETH Zurich are located primarily on the right-hand side. At the same time, there is also significant variation within departments, which means that professors with stronger publication outputs are not grouped in a single or even a few institutions.⁷

3.2 Academic Age and Publication Output of Professors

We also collected information on when the professors in our sample received their Ph.D. degree. The information on the dates of Ph.D. degrees of professors is unfortunately quite incomplete (N=39 out of 52 for which we collected the information presented above). Hence we should be cautious in drawing strong conclusions. However, professors for whom we could not identify the year when they completed their Ph.D. score lower on our ISI and Google Scholar indicators.

⁷We do not present the publication output of postdocs per political science unit, but only individually (see below) because of the very uneven distribution of postdocs across political science units (e.g., IHEID has no postdocs).

To the extent that these professors are older, which arguably is a reasonable assumption, our findings tend to overestimate the average output for older age groups.

Figure 4 suggests a non-linear relationship between academic age and publication performance for some output measures. While the publication output of young scholars is, for obvious reasons, still rather small, scholars in the middle of their academic career (around 10–20 years after their Ph.D.) score somewhat higher than those who completed their Ph.D. degree 25 or more years ago. The available data thus suggests a rather rapid increase of publication output after completion of the Ph.D., as well as the presence of cohort effects. These trends also suggest that the generation of political scientists around the ages of 30–50 have adapted quite well to the stronger emphasis on publications that has characterized most Swiss universities for the past decade.

3.3 Academic Age and Publication Output of Postdocs

Figure 5 illustrates how academic age is correlated with the publication activity of postdocs. As noted above, this data covers postdocs who completed their PhD within the past 10 years and focuses on ISI-listed publications. The left panel of the figure shows the absolute number of publications, the right panel shows the number of publications weighted by the impact factors of journals. The two measures are highly correlated: postdocs who publish more articles tend to publish in journals with a higher impact factor.⁸

Three observations are particularly noteworthy. First, there is no statistically significant relationship between academic age and the publication output of postdocs. This could be due to the fact that postdocs with stronger publication records are more likely to become professors and exit our dataset for postdocs sooner. This effect is quite likely because our sample includes postdocs with an academic age of up to 10 years. If anything it will reduce the average publication output of older postdocs. Second, when comparing the distance between the lines showing the different percentiles, we can see that the distribution is more skewed towards fewer publications when the number of articles is weighted by the impact factors of journals. This means that the publication output of postdocs is less homogeneous once the quality of journals is taken into account. Finally, there are some very strong performers among

⁸Weighted number of articles = $-0.18(0.40) + 1.23(0.14) \times$ number of articles (OLS estimates, standard errors in parentheses, $N = 28$, $R^2 = 0.75$).

the postdocs who obtained their PhD within the past 5 years. Those postdocs who completed their PhD within the past four years and are among the top 10 performers are in fact on par with the median Swiss professor who completed her/his PhD within the past ten years. This bodes well for the next generation of political science professors in Switzerland.

The data on postdocs and their publication activity also sheds some light on efforts by Swiss political science departments to promote young scientists. Our data shows that postdoctoral research activity, as visible through the number of postdocs and their ISI-listed publications, is heavily clustered in Zurich. 14 postdocs who obtained their PhD within the past ten years are currently located at ETH Zurich or the University of Zurich, and 14 in the rest of Switzerland. 11 postdocs who obtained their PhD within the past four years are located at ETH Zurich or the University of Zurich, and 10 in the rest of Switzerland. Postdocs located in Zurich who obtained their PhD within the past ten years have produced a total of 37 ISI-listed publications, whereas postdocs located in other parts of Switzerland have produced a total of 20 such publications. The corresponding numbers for postdocs who obtained their PhD within the past five years are 30 for Zurich and 11 for the other parts of Switzerland, suggesting a particularly strong clustering of young and very productive postdocs in Zurich. Similarly, the number of ISI-listed publications per postdoc is significantly higher at ETH Zurich (3.2 for both subsamples) and the University of Zurich (2.33 for both subsamples) than in the other parts of Switzerland. The corresponding numbers are 1.44 for postdocs who obtained a PhD within the past ten years, and 1.1 for those who obtained their PhD within the past four years.

4 Conclusion

The overall picture that emerges from this data is that there are rather strong differences between Swiss political science units in terms of how internationally visible their research output is. It will be interesting to see how the relative position of Swiss political science units develops over time. Because, under our sampling rules, the publication output travels with the professor and postdoc and because some political science units are very small (e.g. the University of Lucerne with only two professors, and the University of St.Gallen with only three) significant changes from year to year are quite likely.

Finally, even though we are fully aware that hiring or promotion decisions must take into

	SSCI			Google Scholar		
	# pub.	# cit.	<i>h</i> -index	# pub.	# cit.	<i>h</i> -index
Median prof.	6.00	23.50	3.00	55.50	246.00	7.00
75th pctile prof.	11.25	61.75	4.00	99.00	731.00	13.00
Max prof.	25.00	351.00	8.00	242.00	3668.00	26.00
Median prof. in top dept.	14.00	72.00	5.00	130.00	773.00	14.00
Median prof. if Ph.D. < 10 yrs	4.00	4.00	1.00	40.00	112.00	5.00
75th pctile prof. if Ph.D. < 10 yrs	5.00	13.00	1.00	44.00	133.00	7.00
Median postdoc if Ph.D. < 5 yrs	2.00	–	–	–	–	–
90th pctile postdoc if Ph.D. < 5 yrs	4.00	–	–	–	–	–
Max postdoc if Ph.D. < 5 yrs	6.00	–	–	–	–	–

Table 2: *Summary of publication output.*

account a wide range of criteria we submit that publication output should play an important role as well. Table 2 summarizes some important pieces of information that may serve as benchmarks.

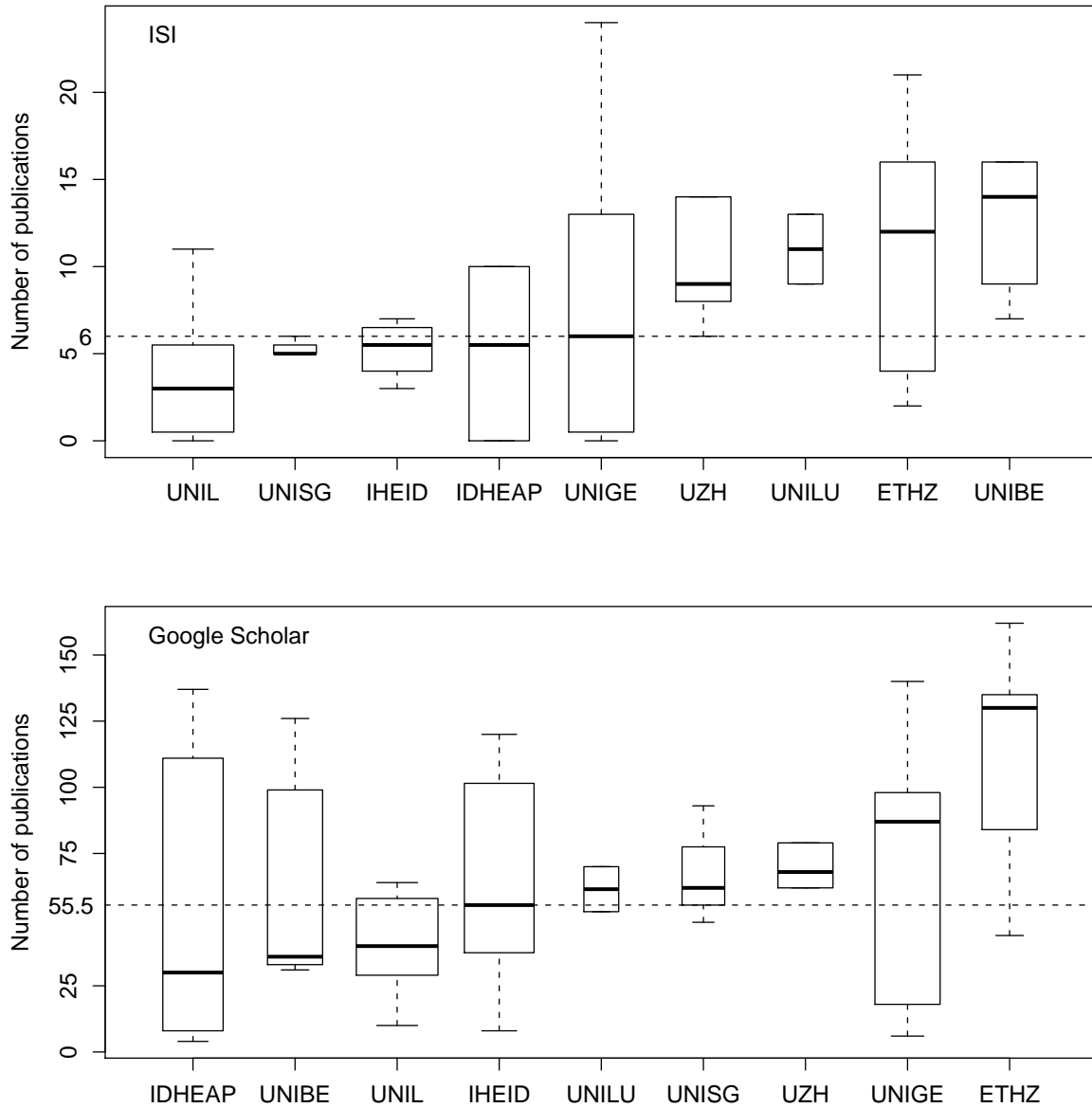


Figure 1: *Distribution of the number of ISI and Google Scholar publications by department. The width of the boxes is proportional to the number of professors in a department. The solid line indicates the median value; boxes and whiskers extend, respectively, from the 25th to the 75th percentile and from the minimum to the maximum. The horizontal line indicates the median value for all professors in Swiss political science units.*

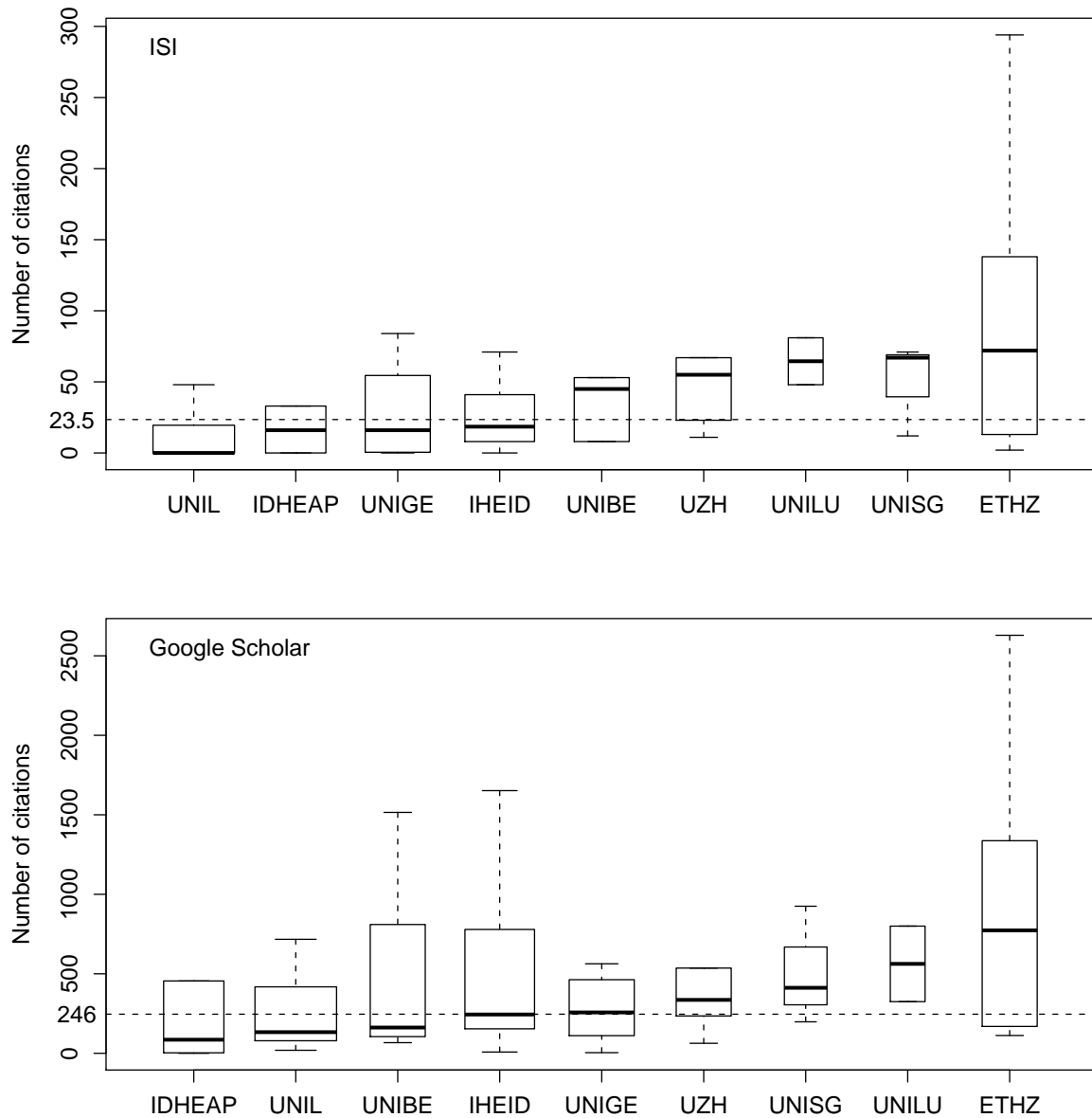


Figure 2: *Distribution of the number of ISI and Google Scholar citations by department. The width of the boxes is proportional to the number of professors in a department. The solid line indicates the median value; boxes and whiskers extend, respectively, from the 25th to the 75th percentile and from the minimum to the maximum. The horizontal line indicates the median value for all professors in Swiss political science units.*

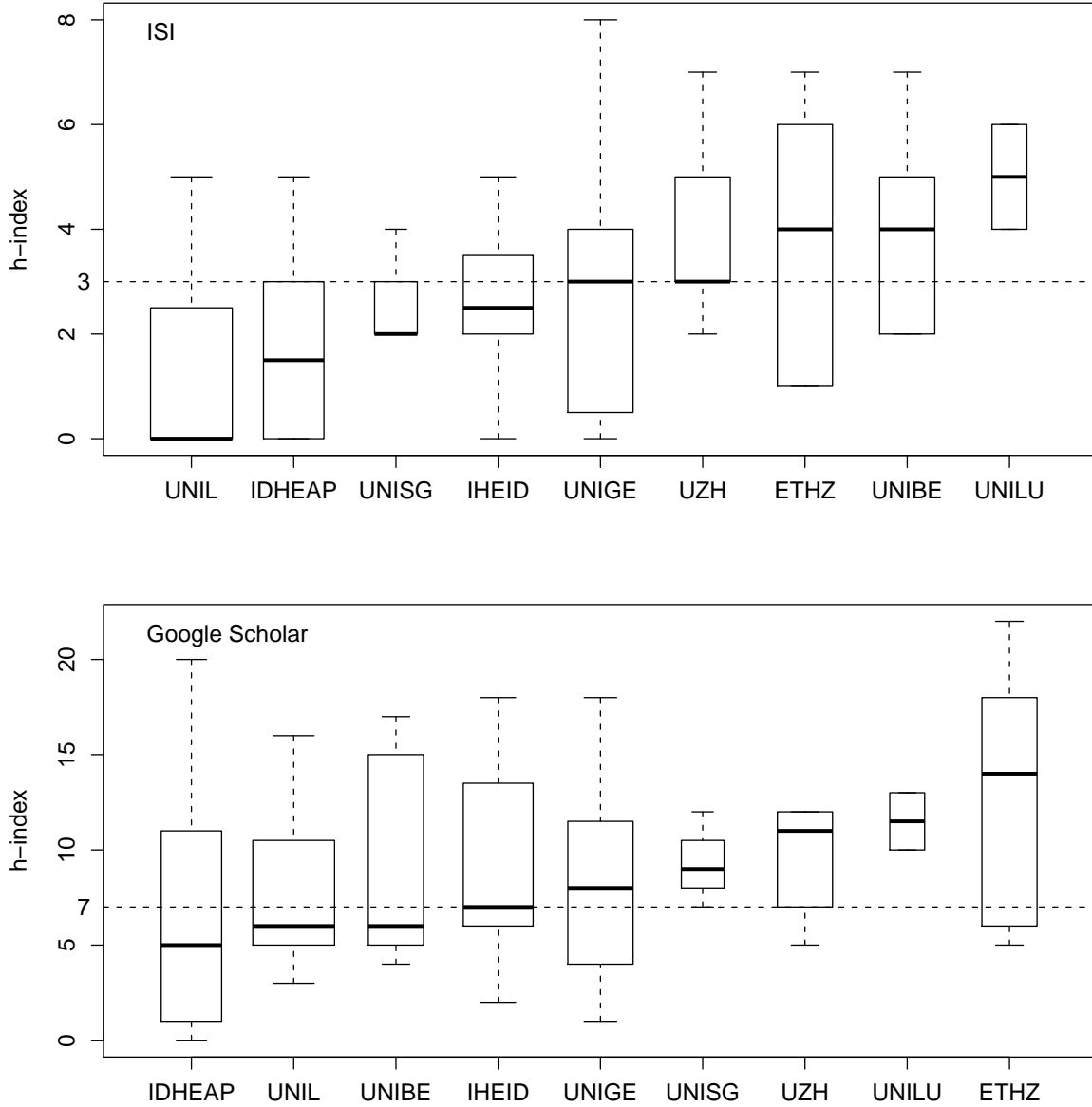


Figure 3: *Distribution of the ISI and Google Scholar h-index by department. The width of the boxes is proportional to the number of professors in a department. The solid line indicates the median value; boxes and whiskers extend, respectively, from the 25th to the 75th percentile and from the minimum to the maximum. The horizontal line indicates the median value for all professors in Swiss political science units.*

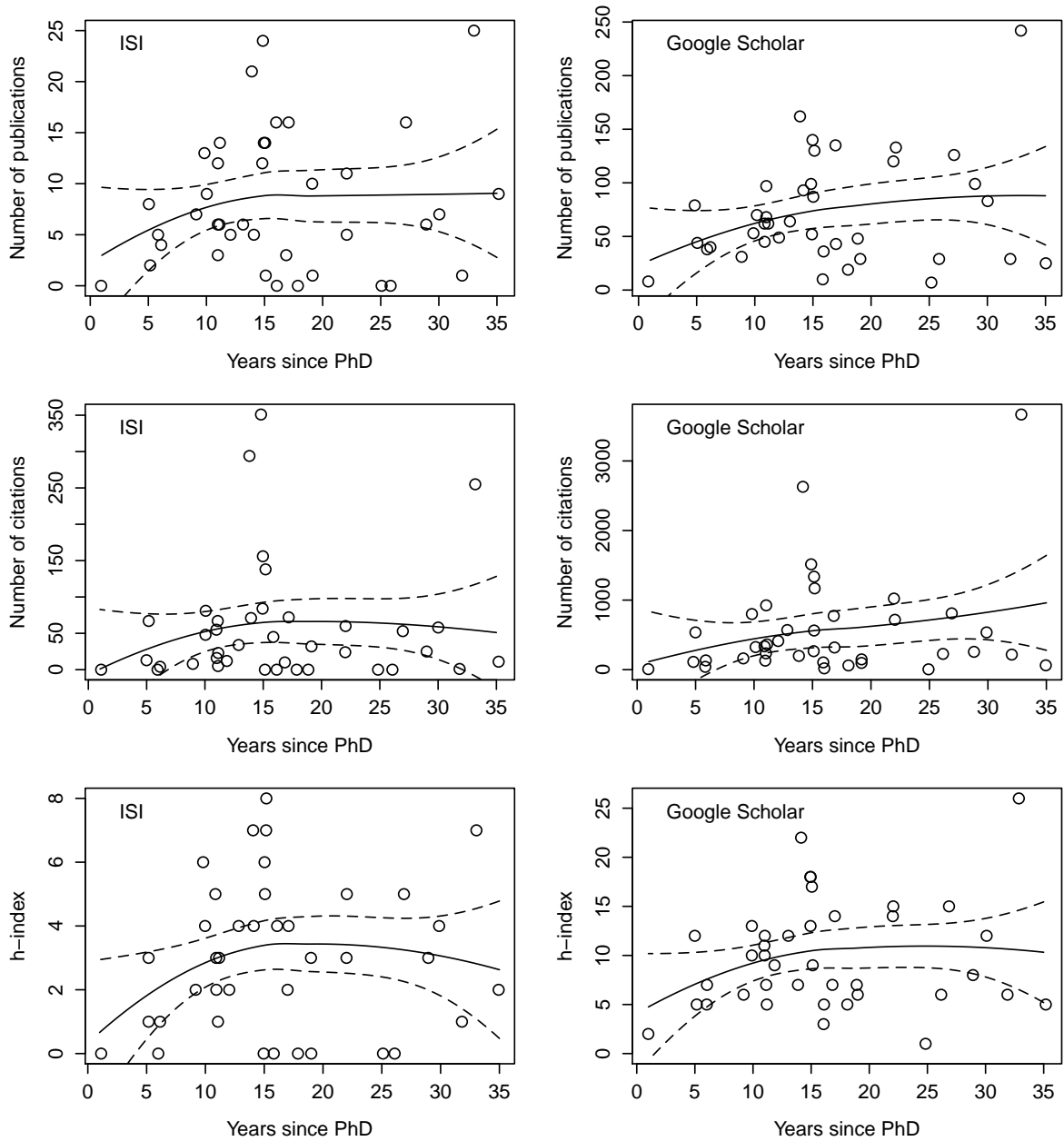


Figure 4: Academic age and publication output for 39 professors, with nonparametric regression lines and 90% confidence intervals.

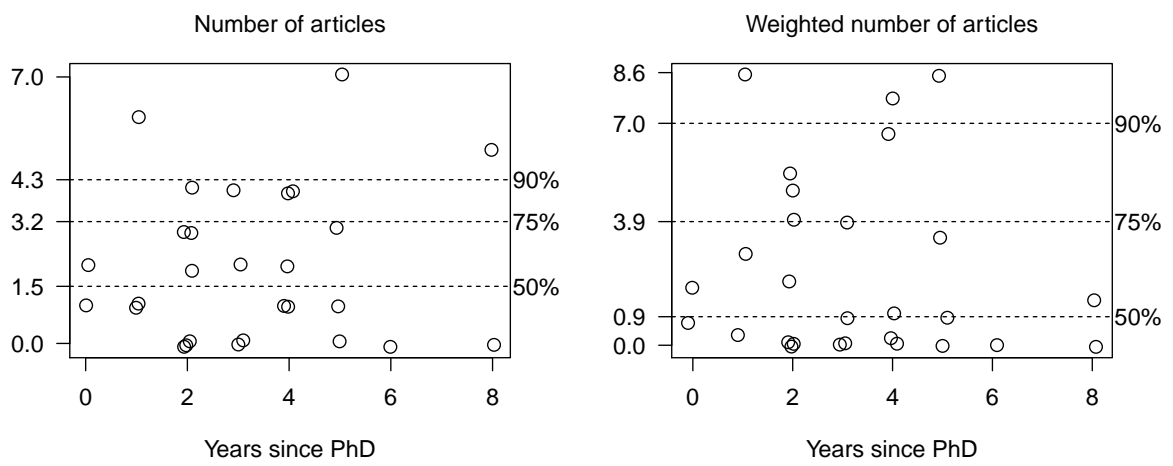


Figure 5: Academic age and publication output for 28 postdocs. Dotted lines indicate the 50th, 75th, and 90th percentiles of the distributions.

A List of political science units, professors, and postdocs

Our publications data covers assistant professors, associate professors, and full professors as well as postdocs. Postdocs are included if they obtained their PhD within the past ten years. We exclude retired (emeritus) professors, adjunct professors, and other staff that is not defined as regular faculty member or postdoc (e.g. Titularprofessor/professeur titulaire, even if these persons have a regular employment in the respective political science unit).

University	Acronym	Name	Position
University of Lucerne	UNILU	Blatter Joachim	Professor
	UNILU	Lavenex Sandra	a.o. Professorin
University of Bern	UNIBE	Armingeon Klaus	Professor
	UNIBE	Vatter Adrian	Professor
	UNIBE	Sager Fritz	Assistant professor
	UNIBE	Steenbergen Marco	Professor
	UNIBE	Trampusch Christine	Assistant professor
IHEID Geneva	IHEID	Andonova Liliana	Professor
	IHEID	Biersteker Thomas	Professor
	IHEID	Dupont Cedric	Professor
	IHEID	Krause Keith	Professor
	IHEID	Luterbacher Urs	Professor
	IHEID	Sylvan David	Professor
	IHEID	Pruegl Elisabeth	Professor
	IHEID	Hoffmann Stephanie	Assistant Professor
ETH Zurich	ETHZ	Bernauer Thomas	Professor
	ETHZ	Cederman Lars-Erik	Professor
	ETHZ	Schimmelfennig Frank	Professor
	ETHZ	Wenger Andreas	Professor
	ETHZ	Bailer Stefanie	Assistant Professor
University of Geneva	UNIGE	Allan Pierre	Professor
	UNIGE	Balmer-Cao Thanh-Huyen	Professor
	UNIGE	Baudoui Rémi	Professor
	UNIGE	Horber Eugne	Professeur en sciences sociales
	UNIGE	Hug Simon	Professor
	UNIGE	Sciarini Pascal	Professor
	UNIGE	Varone Frédéric	Professor
University of Zurich	UZH	Gilardi Fabrizio	Professor
	UZH	Kriesi Hanspeter	Professor
	UZH	Kübler Daniel	Professor
	UZH	Michaelowa Katharina	Professor
	UZH	Ruloff Dieter	Professor
IDHEAP	IDHEAP	Bonoli Giuliano	Professor
	IDHEAP	Horber-Papazian Katia	Professor
	IDHEAP	Knoepfel Peter	Professor
	IDHEAP	Ladner Andreas	Professor
	IDHEAP	Maiani Francesco	Assistant Professor
	IDHEAP	Villeneuve Jean-Patrick	Professor
University of St.Gallen	UNISG	Caramani Daniele	Professor
	UNISG	Davis James W.	Professor
	UNISG	Lehmkuhl Dirk	Professor
University of Lausanne	UNIL	Bennani-Chraibi Mounia	Professeure associée
	UNIL	Braun Dietmar	Professeur
	UNIL	Fillieule Olivier	Professeur
	UNIL	Fontana Biancamaria	Professeure
	UNIL	Giauque David	Professeur assistant
	UNIL	Graz Jean-Christophe	Professeur
	UNIL	Leresche Jean-Philippe	Professeur associé
	UNIL	Papadopoulos Ioannis	Professeur
	UNIL	Passy Florence	Professeure associée
	UNIL	Pflieger Géraldine	Professeure assistante
UNIL	Voutat Bernard	Professeur associé	

University	Acronym	Name	Year of PhD
University of Lucerne	UNILU	Schlenker Andrea	2007
University of Bern	UNIBE	Baechtiger André	2004
	UNIBE	Beyeler Michelle	2004
IHEID Geneva	UNIGE	Hedjazi Alexandre	2006
ETH Zurich	ETHZ	Bechtel Michael M.	2008
	ETHZ	Leuffen Dirk	2005
	ETHZ	Ruoff Gabriele	2009
	ETHZ	Schwellnus Guido	2007
	ETHZ	Warren Camber	2008
University of Geneva	UNIGE	Gianni Matteo	2006
	UNIGE	Guillaume Xavier	2006
	UNIGE	Hedjazi Alexandre	2006
	UNIGE	Nicolet Sarah	2006
	UNIGE	Tresch Anke	2007
University of Zurich	UZH	Bornschiefer Simon	2007
	UZH	Bruetsch Christian	2003
	UZH	Buehlmann Marc	2005
	UZH	Haeusermann Silja	2007
	UZH	Lachat Romain	2004
	UZH	Manea Elham	2001
	UZH	Milic Thomas	2005
	UZH	Stojanovic Nenad	2008
	UZH	Vanderheiden Nico	2009
IDHEAP			
University of St.Gallen	UNISG	Habegger Beat	2005
	UNISG	Weber Ralph	2007
University of Lausanne	UNIL	Avanza Martina	2007
	UNIL	Baume Sandrine	2005
	UNIL	Mach André	2001
	UNIL	Pechu Cecile	2004

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