Recruitment policies in Spanish universities, a case study: Teaching and research quality

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Abstract

This article analyzes research and teaching quality of the faculty members of the Department of Business Economics of "Universitat de les Illes Balears" (UIB) depending on the origin of their Doctor degree (local or external). This department changed the recruitment policy, from the traditional policy of hiring the own doctorate students to the policy of hiring doctorate students from other universities. Faculty members with an external Doctor degree were recruited mainly in the Spanish Job Market, most of them obtained the Doctor degree in a high-quality doctorate program, and were focused on high-quality research. Taking into account several control variables, such as age and specialization area, we obtain that faculty members with external Doctor degree show statistically significant better research quality indicators, and present no significant differences in teaching quality indicators than faculty members with a UIB Doctor degree. Therefore, we conclude that the recruitment policy of the department increased research quality without hurting teaching quality. This represents an indirect analysis of the relationship between research and teaching quality, showing a strategy to improve one without hurting the other.

Keywords: Recruitment policy; Endogamy, Research quality; Teaching quality.

1. Introduction

Spanish public universities are well known for their recruitment practices, primarily based on endogamy. Usually, individuals develop their academic careers in the university where obtained their Doctor degree. However, the media, and the society, seems to show a consensus against this recruitment policy, as can be seen in articles published in some of the most relevant Spanish newspapers (*El País* 12/9/2016 "*La evolución de la endogamia…*"; *El Mundo* 6/3/2017 "*La comunidad de Madrid…. ley que acabe con…fichen a sus propios alumnos*").

Usually, universities consider research and teaching activities as their main tasks (Labini and Zinovyeva, 2011). Although, those activities could be complementary or substitutive. Research activities allow faculty to reach the frontier of knowledge, and therefore to know what is more relevant to teach to students. However, research activities are time-consuming and faculty members focused on research might spend less time and effort on teaching activities than members focused on teaching. Spanish universities avoiding the recruitment of their own Doctors usually hire new faculty from high-quality doctorate programs and these candidates focus their effort on research activities. Therefore, if research and teaching activities are substitutive, this recruitment policy could deteriorate teaching quality at these universities. However, previous articles analyzing research and teaching quality found mixed results. Rodríguez and Rubio (2016) found a positive correlation and Hoffmann and Oreopoulos (2009) found no relation.

The object of this article is to empirically study whether research quality increases and teaching quality deteriorates when universities hire faculty from high-quality doctorate programs who focus on research activities. We analyze the Department of Business Economics of *Universitat de les Illes Balears* (UIB) from 2009 to 2017. This department changed its recruitment policy more than ten years ago, forbidding explicitly the recruitment of their own doctorate students. Open positions are posted in the Spanish Job market of Doctors in Economics and Business. In this market, the main institutions are business schools, and a few public universities, such as *Universidad Carlos III de Madrid*. Using several control variables, such as age and the specialization area, we analyze whether there are clear differences in teaching quality and research quality indicators depending on whether faculty members obtained their Doctorate degree from UIB. We find no statistically significant differences in terms of teaching quality, and worse research quality indicators for faculty members with UIB Doctorate degrees.

Our research contributes to the literature on the relationship between research and teaching quality, providing further evidence on the complementarity of teaching and research activities, even when we measure teaching quality only with students evaluations. Rodríguez and Rubio (2016) and Hoffmann and Oreopoulos (2009) analyze other aspects in addition to

students evaluations to measure teaching quality given that Weinberg et al. (2010) find that student marks are a relevant determinant of students evaluations. Relevant difference respect to previous articles is that our analysis is through the recruitment process. Furthermore, our contribution is especially relevant to the public debate on the recruitment policies in Spanish universities, providing evidence supporting that forbidding the recruitment of the own doctorate students in order to hire faculty focused on high-quality research does not deteriorate teaching quality, and indeed increases research quality.

2. Sample and empirical measures of research and teaching quality

Spanish universities have quite an autonomy to designate the panel who is going to evaluate candidates of open positions, and this facilitates the implementation of the traditional recruitment policy, hiring their own doctorate students once they obtain the Doctor degree. Defenders of this recruitment policy argue that local candidates have loyalty to and better knowledge of the university and are better adapted to the teaching needs of the university. Usually, these local candidates hold pre-doctoral teaching positions and therefore have teaching experience, many times in theoretical lessons in addition to the practical ones.

The Department of Business Economics of UIB has teaching duties in Financial Economics, Accounting, Management, and Marketing. In these areas, there are a few universities in Spain with high-quality doctorate programs, such as *Universidad Carlos III* or *Universidad Pompeu Fabra* (their students are hired even internationally). These universities do not hire their own doctorate students. There is a Job Market in Spain for new Doctors in Economics and Business, organized by the Spanish Economics Association. Usually, new Doctors from the high-quality doctorate programs participate in this Job Market. Additionally, given that most of the public universities hire their own doctorate students, most of the candidates in the Spanish Job Market are from the high-quality doctorate programs. In this market, universities have access to high-quality faculty candidates, highly focused on research activities, overcoming the research standards of the national accreditation system (mandatory to hold positions in Spanish universities) more focused on the number of articles than on the quality of articles.

In a smooth process, through several years, the Department of Business Economics of UIB adopted the new recruitment policy, posting the new faculty positions in the Spanish Job Market. As a result, the new faculty members are much more research-oriented than the rest of the faculty. In our time sample, from 2009 to 2017, we find local doctorate faculty members (with UIB Doctorate degree) and external doctorate faculty members (with Doctorate degree from another university). Therefore, we are able to compare the research and teaching quality of faculty with local and external doctorate degrees. We analyze only full-time faculty members with a Doctor degree. Table 1 shows the growth of the department

during our sample period, rising from 30 members in 2009 to 43 members in 2017. This table shows the distribution of faculty in areas (accounting, finance, management, marketing), sex, age, the type of contract, and the type of doctorate degree. In 2009 only one-third of faculty members hold a Doctorate degree from another university, it is around 40% in 2017. During our sample period, 5 faculty members without a Doctorate degree (a minority in the department) obtain it form UIB.

Table 1. Characteristics of faulty members

	2009-2010		2010-2011		2012-2013		2013-2014		2015-2016		2016-2017		*Total*	
	#	%	#	%	#	%	#	%	#	%	#	%	*#*	*%*
Area														
Accounting	7	23%	8	25%	9	24%	10	26%	10	24%	10	23%	*72*	*24%*
Finance	10	33%	10	31%	12	32%	11	29%	11	26%	12	28%	*89*	*30%*
Marketing	4	13%	4	13%	4	11%	4	11%	5	12%	5	12%	*34*	*11%*
Management	9	30%	10	31%	13	34%	13	34%	16	38%	16	37%	*102*	*34%*
Sex														
Female	8	27%	9	28%	12	32%	13	34%	14	33%	14	33%	*92*	*31%*
Male	22	73%	23	72%	26	68%	25	66%	28	67%	29	67%	*205*	*69%*
Age														
20s	0	0%	0	0%	1	3%	1	3%	0	0%	0	0%	*2*	*1%*
30s	9	30%	11	34%	5	13%	5	13%	10	24%	8	19%	*61*	*21%*
40s	16	53%	16	50%	21	55%	21	55%	20	48%	20	47%	*152*	*51%*
50s	4	13%	4	13%	10	26%	10	26%	11	26%	12	28%	*71*	*24%*
60s	1	3%	1	3%	1	3%	1	3%	1	2%	3	7%	*10*	*3%*
70s	0	0%	0	0%	0	0%	0	0%	0	0%	0	0%	*1*	*0%*
Type of contract														
Temporary	4	13%	5	16%	7	18%	7	18%	10	24%	11	26%	*58*	*20%*
Permanent	26	87%	27	84%	31	82%	31	82%	32	76%	32	74%	*239*	*80%*
Type of doctorate degree														
External program	10	33%	11	34%	14	37%	14	37%	17	40%	18	42%	*112*	*38%*
Local program	20	67%	21	66%	24	63%	24	63%	25	60%	25	58%	*185*	*62%*
Total	30	100%	32	100%	38	100%	38	100%	42	100%	43	100%	*297*	*100%*

Number and percentage of full-time faculty members of the Department of Business Economics of UIB by specialization area, sex, age (in decades), type of contract, and of doctorate degree for each academic year. Academic years 2011-2012, and 2014-2015 omitted to save space. Data from the internal documents used to plan the yearly activity of the department.

To measure research and teaching quality of faculty we have data on students evaluations and the internal document the university uses to plan the teaching activity of each academic year. The teaching load of each member decreases if she/he achieved relevant goals in research and in teaching activities. Students evaluations are obtained from the Quality Service of the university, and we were able to obtain data only for academic years 2009-2010, 2014-2015, 2015-2016, and 2016-2017.

We measure teaching quality with three alternative indexes. Teaching quality index 1 is computed directly from students evaluations (available only for four academic years). It goes from 0 (globally, is a very bad teacher) to 10 (globally, is a very good teacher). Teaching quality index 2 is computed as index 1, plus 1 if she/he supervised at least a doctorate thesis last year, plus 1 if she/he supervised at least a master thesis last year, and plus 1 if she/he participated in the organization of students mobility programs last year. Index 3 is index 2 without students evaluations. In Spain, the research activity of each faculty member is evaluated every six years by a central government agency. This evaluation is based on the number and quality of journal publications. Additionally, research is mainly funded by

another central government agency, and different teams of researchers compete to obtain these funds. The university uses these data to determine the teaching load of each faculty member. Therefore, we are able to compute the following indexes to measure research quality. Research quality index 1 is measured as the number of six-year periods of research with a positive evaluation, plus 1 if the researcher participates in a funded competitive research project, plus 1 if she/he is the director of the project, plus 1 if the researcher is active in research (the last positive evaluation of a six-year period is within the last six years). We are able to measure whether a researcher is active in research only for the last two years of the sample, therefore this index is larger for active researchers only in the last two academic years. Consequently, we also compute the research quality index 2, that is index 1 except the "being active in research" measure. Teaching quality indexes are positively correlated, as are research quality indexes. However, teaching quality indexes are negatively correlated with research quality indexes, suggesting a substitution effect between teaching and research quality.

3. Empirical analysis

Our main objective is to determine whether there are significant differences in terms of research and teaching quality between faculty members depending on the origin of their doctorate degree (local or external). A simple univariate analysis shows that faculty members with external doctorate degree present worse teaching quality indexes and better research quality indexes (Table 2).

Table 2. Average value of research and teaching quality indexes

Doctorate degree	**Teaching Index 1**	**Teaching Index 2**	**Teaching Index 3**	**Research Index 1**	**Research Index 2**
Local	6.4	6.6	0.2	**2.0**	**1.4**
External	**6.8**	**7.2**	**0.3**	0.8	0.6
Total	**6.7**	**7.0**	**0.3**	1.2	0.9
# Obs.	132	132	297	297	297

Average value of the indexes depending on the doctorate degree of faculty members, whether it is local (UIB) or external (from any other university). Teaching quality indexes 1 and 2 are computed with fewer observations since data on students evaluations are available for only four academic years.

However, other faculty characteristics than their Doctorate degree (local or external) may affect these quality measures. Therefore, we use a multivariate analysis, adding control variables. These variables are faculty characteristics, which we are able to measure, that might affect research and teaching quality. First, we consider age, since experience and professional targets of each faculty member may change with age. For example, older faculty may be more interested in consulting services than on research. Consistently, our data reveals lower research quality among the older faculty members (omitted to save space). Our second control variable is a dummy variable to detect faculty members with a permanent position (at

least "Contratado Doctor", with less pressure to publish in academic journals). In our data, permanent faculty obtain better measures in all quality indexes, consistently with these members being successful to obtain a permanent contract. Third, we consider a dummy variable to identify males. For example, Boring (2017) found a negative bias in students evaluation of female faculty. However, in our raw data females obtain better measures in teaching quality and worse measures in research quality. Fourth, we take into account that some faculty members hold academic managing positions, such as director of the department, or dean. These faculty members have less time to spend effort in research and in teaching activities, although their notoriety might affect students evaluation. The university reduces the teaching load of these faculty members, according to the relevance of the position they hold, the maximum reduction is for the members of the executive committee of the university. We measure this control variable dividing the reduction of teaching load of each faculty member by the maximum reduction. We also take into account that the specialization area of faculty members may be relevant for student evaluations (usually students prefer marketing than finance at UIB), and to obtain high values of research quality indexes (e.g., depending on the area there may be differences in the difficulty to publish in academic journals). In our data, marketing faculty members obtain better students evaluations, and management and finance faculty obtain better measures in research quality indexes. Additionally, in order to disentangle the relationship between the quality indexes and the type of doctorate degree (local versus external) we also consider that any faculty member especially focused on research might spend less effort in teaching activities and vice versa. Therefore, our last control variable is the teaching quality index in the empirical models of research quality, and the research quality index in the models of teaching quality indexes. This also allows us to measure the direct relationship between research and teaching quality. Finally, we add year fixed effects in order to control for systematic changes from year to year in our measures of teaching and research quality. We estimate the empirical models with Ordinary Least Squares and robust standard errors clustered by year (Huber, 1967; White, 1980, 1982).

Table 3 contains the estimation of these empirical models when we measure research quality with index 1. Results are equivalent when research quality index 2 is used instead (omitted to save space, available on request). In these models, a dummy variable identifying faculty members with a local (UIB) Doctorate degree is the key explanatory variable. It is not statistically significant in models 1 to 3, where teaching quality is the dependent variable, and show negative and statistically significant coefficients when the dependent is research quality. Therefore, we may conclude that after taking into account the effect of control variables, there are no significant differences in teaching quality depending on the origin of the Doctorate degree, although faculty members with external Doctorate degrees show better research activity.

Regarding the rest of variables, we find no evidence of a diret relationship between research and teaching activities, holding an academic management position is positively related to teaching quality if it is computed with students evaluations (indexes 1 and 2), consistently with a positive effect of their notoriety among students. Age is negatively related to teaching quality, reflecting less effort by the old faculty members. Results also confirm the univariate analysis (omitted to save space) in terms of the type of contract, with permanent faculty showing better results in all dimensions. Faculty who teach finance and management show better results in research quality. Finally, taking controls into account we do not detect any difference in teaching and research between males and females.

Table 3. Empirical models of teaching and research quality

	Teaching Index 1	Teaching Index 2	Teaching Index 3	Research Index 1	Research Index 1	Research Index 1
	(1)	(2)	(3)	(4)	(5)	(6)
Local Doctorate Degree	0.350	0.154	-0.030	-1.280**	-1.303**	-1.344**
	(0.636)	(0.228)	(-0.152)	(-2.088)	(-2.143)	(-2.225)
Research Index 1	-0.166	-0.186	0.022			
	(-1.297)	(-1.086)	(0.328)			
Teaching Index 1				-0.113		
				(-1.256)		
Teaching Index 2					-0.103	
					(-1.077)	
Teaching Index 3						0.092
						(0.336)
Index of academic managing positions	1.272***	1.651***	0.051	0.690	0.717	0.926
	(2.855)	(3.362)	(0.284)	(0.948)	(1.007)	(1.446)
Age	-0.090***	-0.080***	0.011	-0.032	-0.031	-0.009
	(-3.132)	(-3.093)	(1.394)	(-1.364)	(-1.288)	(-0.427)
Permant contract	1.353**	1.398**	0.062	1.498**	1.489**	1.325***
	(2.424)	(2.155)	(0.355)	(2.450)	(2.418)	(2.815)
Marketing	0.842	1.034	0.450	0.556	0.567	0.574
	(1.356)	(1.453)	(1.085)	(1.032)	(1.047)	(1.301)
Finance	-0.260	-0.546	-0.119	0.582*	0.554	0.870***
	(-0.480)	(-1.036)	(-0.884)	(1.810)	(1.653)	(2.740)
Management	0.468	0.309	0.049	0.819	0.798	0.868*
	(0.961)	(0.634)	(0.454)	(1.632)	(1.608)	(1.811)
Male	-0.381	-0.592	-0.028	0.316	0.298	0.390
	(-1.021)	(-1.638)	(-0.301)	(1.285)	(1.166)	(1.611)
Constant term	Yes	Yes	Yes	Yes	Yes	Yes
Year fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
# Obs.	132	132	297	132	132	297
R^2	0.305	0.307	0.155	0.468	0.468	0.480
adj. R^2	0.235	0.237	0.107	0.414	0.414	0.451
F	4.154***	4.906***	3.974***	6.614***	7.178***	7.371***

Empirical models of teaching and research quality estimated with Ordinary Least Squares with year fixed effects on an unbalanced panel data set of faculty members of the Department of Business Economics of UIB. Models 1, 2, 4 and 5 are estimated using teaching quality indexes computed with students evaluations, available only for academic years 2009-2010, 2014-2015, 2015-2016, and 2016-2017. The rest of models are estimated with data on academic years from 2009-2010 to 2016-2017. Local Doctorate Degree is a dummy variable identifying faculty members who obtained their doctorate degree fom UIB. Permanent contract is a dummy variable identifying faculty members with a permanent contract. Marketing, Finance, and Management are dummy variables identifying the specialization of faculty. Male identifies male faculty members. t statistics in parenthesis, computed with Huber-White robust standard errors clustered by year. F is a test of the joint statistical significance of all explanatory variables. * means statistical significance at 10% level, ** at 5% level and *** at 1% level.

4. Discussion and conclusions

This study contributes to the literature on the relationship between research and teaching quality in universities. While Rodríguez and Rubio (2016) found a positive relationship, Hoffmann and Oreopoulos (2009) found no relation. Both use a measure of teaching quality based on more teaching measures than students evaluations. We analyze the relationship between research and teaching quality through the analysis of the quality of faculty members depending on the origin of their Doctorate degree (local or external) since those with external Doctorate are more focused on high-quality research (overcoming the national accreditation system, which fixes the minimum research and teaching requirements to be able to obtain any position in Spanish universities). With this analysis, we find no negative relationship between research and teaching quality. Faculty members with external Doctorate degree do not show lower teaching quality, although show better research quality, even when we measure teaching quality only with students evaluations. Additionally, we find no significant direct relationship between teaching and research quality. Our results are relevant for universities and for regulators who consider the possibility forbidding the incorporation of own former doctorate students as faculty members. Our results suggest that this policy might promote research quality of Spanish universities without a cost in terms of worse teaching quality.

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