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Why business schools do so much research: A signaling explanation

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ABSTRACT

Criticism is mounting on business schools for their excessive focus on research and the relative neglect of teaching quality. This paper shows that if students have imperfect information about teaching quality and if business schools differ in their research productivity, the least productive schools would do as much research as the top-tier ones only to manipulate students' expectations. In turn, the most productive schools might resort to excess research in order to signal their type in the eyes of prospective students. Since resources are limited, they also tend to neglect teaching quality. Such a situation is socially inefficient as compared to the perfect information case.

1. Introduction

The ongoing development of the service sector in the Western economies and the increased competition between firms in a globalized world brought about a substantial demand for high quality managerial skills. This transformation helped Business Schools [B-Schools, thereafter] to become important players in the education sector. While in the 1950s their main purpose was to provide basic, professionally oriented education, these days scholarship and research become essential dimensions of their mission such as understood by society and by themselves. Furthermore, with the deeper programme standardization and the reduced mobility costs for students, the market for business education itself became global. Since a school's reputation is connected to its research performance (Armstrong, 1995; Becker et al., 2003), B-Schools have no other choice than to compete on this dimension too (Kwok and Arpan, 2002). In the last few years, B-Schools seem to have engaged in a genuine academic reputation race (Van Vught, 2007).

The growing enthusiasm of B-Schools for theoretical advances has recently been subject to criticism. This is not a surprise: such a strategic orientation towards maximizing academic prestige requires substantial investment in traditional research inputs (human capital, physical capital, data and information) and the returns are difficult to measure. A recent report of the Association to Advance Collegiate Schools of Business (AACSB) – an influential US accreditation agency for B-Schools – summarizes well the widespread popular grief: "business schools have recently been criticized for placing too much emphasis on research relative to teaching, and for producing research that is to narrow, irrelevant and impractical" (AACSB, 2008, p. 10). The criticism sounds louder with respect to the top institutions. For instance, Bennis and O'Toole (2005, p. 98) claim that: "many leading B-Schools have quietly adopted an inappropriate – and ultimately self-defeating – model of academic excellence. Instead of measuring themselves in terms of the competence of their graduates, or by how well their faculty understand important drivers of business performance, they measure themselves almost solely by the rigor of their scientific research".

This criticism is twofold. On the one hand comes the issue of social utility or relevance of research. On the other hand, comes the idea that too much research drains resources from the other essential activity of B-Schools that is business education. It is beyond the scope of this paper to address the important topic of the relevance for practitioners and firms of the research carried out by B-Schools. We just can notice that, as highly ranked academic papers present more generally a fundamental than an applied nature, the reputation race probably will stimulate a type

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of research that might be considered as poorly relevant from a professional point of view. This does not mean that this type of research is necessarily socially inefficient, insofar it could nourish future applied research.[1]

With respect to the second type of criticism, Laband and Tollison (2003) have pointed out that the huge increase of the investment in academic research is carried out to the expense of time and effort that could have been devoted to providing education. If there is such a thing as a socially optimal level of research and education, any form of over-investment in research should come with some form of under-investment in education. Some authors have argued that excess research can be a Nash equilibrium strategy in a game where each dean pushes his faculty to target the top-tier journals, although such a strategy generalized across schools harms the quality of the top-tier journals and pushes down the return from publishing (Besancenot and Vranceanu, 2008; Besancenot et al., 2009). Other explanations put forward some form of deans' irrationality, who, being fascinated by rankings, would become unable to perceive what firms and students really need (e.g., Pfeffer and Fong, 2002; Bennis and O'Toole, 2005).

Without aiming at answering whether business research is excessive indeed, in this paper we put forward a set of necessary conditions for such a configuration to emerge. Our model builds on a traditional signaling game with imperfect information.[2] The business education sector features two types of schools that differ only in the publication productivity of the representative professor. Teaching productivity is similar, and so is the number of professors. We refer to the highly efficient ones as *H*-schools, and to the less efficient ones as *L*-schools. Students, who value both teaching quality and faculty publications, cannot directly assess the quality of education. In a perfect information set-up, *H*-schools would deliver better research and education than *L*-schools and could command higher fees. In an imperfect information set-up, publication can be used by schools strategically. In particular, a *L*-school could choose to deliver as much research as the *H*-schools, only to appear in the eyes of the prospective students as a *H*-school. By so doing, they neglect teaching quality. This situation can prove to be extremely detrimental not only to students, but also to *H*-schools that can get smaller fees than in a perfect information framework. Depending on parameter values, it may become interesting for *H*-schools to provide such a high level of research that *L*-schools cannot give suit. It will be shown that, in a static framework with a predetermined distribution of schools, the game presents several equilibria, most of them characterized by an excessive amount of research as compared to the perfect information case. An equilibrium is defined as a situation where schools implement their optimal research strategies given students' beliefs and students' beliefs are correct given the optimal strategies of the schools.

While plausible, our assumptions are not innocuous and deserve further scrutiny. A crucial assumption is that teaching quality cannot be observed by prospective students. Diamond (1993) notices that the debate on whether teaching quality is observable or not can be traced back at least to Adam Smith, who suggested to modulate teachers' pay according to their performance in the classroom. Nowadays, B-Schools all have implemented systems of student evaluations aiming to survey students' satisfaction about a course, and deans tend to assign them substantial weight when deciding on bonuses or promotions (Forbes and Paul, 1991). However, it is not clear what student evaluation really measure. Probably, they do capture the communication skills of the professor, whether he starts on time, is nice, open-minded, has humor, etc. but might not measure the relevance or the intrinsic value of the transmitted knowledge. To quote Paul and Rubin (1984, p. 143), "in most disciplines, students are, by definition, incapable of judging the 'state of the art' or of determining the 'usefulness' of the material presented in class". More recently, Weinberg et al. (2008) use data from economics courses at Ohio State University, and conclude that students cannot gauge the amount of human capital produced in class. True, many formal aspects of teaching can be observed (textbooks, cases, teaching material), but less so the quality of the curriculum, i.e. whether it is really adapted to the new challenges for tomorrow managers, whether it takes into account the most relevant theories, whether it uses the most efficient teaching methods. Even if prospective students have access to several sources (Internet, newspapers, magazines) providing information about the teaching quality of Business Schools such as assessed by alumni or recruiters, one cannot discard the fact that "faculties often have better information about what students will find useful than the students themselves, or even recruiters" (Demski and Zymmerman, 2000, p. 343).

The assumption according to which the publication record of a given school is public information is also quite plausible. Many bibliometric measures are available and media, researchers and administrations use them to compile annual rankings and evaluations of various schools and departments. Schools themselves advertise loudly about their research credentials and achievements. Some empirical studies have put forward that a school's research performance has an impact on the prospective students decision to joint that school and pay high tuition fees (Siow, 1997; Becker et al., 2003). Such correlation suggests that information conveyed by standard measure of research performance reaches future students.

Paul and Rubin (1984) argued that publishing one paper in a refereed journal allows to signal that a professor keeps the pace with the latest advances of the field, and therefore can serve deans as a signal for teaching quality. In turn, this would explain why the first publication is in general associated to a high increase in a professor wage than subsequent publication. This argument does hold only if research and teaching were positively correlated, and this whatever the level of teaching: undergraduate, graduate and doctoral. The belief that research and teaching are complements is strong among professors themselves and was at the heart of the reform of the Prussian University undertaken by W. Von Humboldt at the beginning of the 19th century. Yet the debate on whether research and teaching are substitutes, complements or orthogonal activities is far from being been closed (Marsh and Hattie, 2002). Hattie and Marsh (1996) surveyed the empirical literature on this subject (58 papers and 498 correlations) and show that the overall correlation is as small as 0.06. Our model builds on the simplifying assumption according to which at the school's production level, research and teaching are orthogonal activities, i.e. the time spend on research does not affect teaching quality and vice versa. If we further assume that production of publications and teaching quality is realized with constant marginal returns to working hours, the production frontier between teaching quality and research is a straight line, with a negative slope that illustrates that faculty total hours is a scarce (predetermined) resource. Yet the structure of our model would not be altered if we allow for a more sophisticated technology, including one where research and teaching are complements.[3] In this case the production frontier would be concave; this would not alter the

[1] Starting with the pioneering work by Hamilton (1990, 1991), a vast strand of research discusses the social efficiency of scientific research. See Laband and Tollison (2003) or Van Dalen and Klamer (2005) for an analysis of this topic as applied to economics.

[2] This analytical framwork can be traced back to Spence (1973). See also Spence (2002) and Vickers (1986).

[3] See Becker (1975) for a static model with a flexible research-teaching technology and El-Ouardhighi and Vranceanu (2008) or Besancenot and Faria (2008) for a dynamic approach.