Status spillovers across social boundaries

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Abstract. This study explores how and under what conditions the social status acquired in a field may influence status evaluations in another field. We focus on scientists' involvement with industry and predict that academic status will be partially recognized by private research funders. Yet, such status spillovers are not unconditional, but may vary with the credentials scientists have accumulated in industry and the experience funders have acquired of academia. We test and find strong support for our theory on the full population of scientists at Imperial College London from 2004 to 2011. Contributions to the literatures on social status and organization theory are discussed in conclusion.

INTRODUCTION

To what extent do status orderings transcend social boundaries? Prior works show that social status, an intersubjectively agreed-upon ranking based on social esteem or deference (Deephouse & Suchman, 2008), significantly affects the distribution of benefits among actors within a social world. High status actors enjoy a series of advantages over lower status ones including, for instance, price and costs benefits (Podolny, 2005), a larger choice of business associates (Jensen & Roy, 2008), and the ability to command greater efforts from their exchange partners (Castellucci & Ertug, 2010). The extent to which such advantages may travel across social worlds is however an open question. An esteemed sportsman might not be highly regarded in the scientific world, in the same way that a high status scientist may not enjoy much prestige in sports. However, and under some conditions, status acquired in one domain may enjoy some currency in other domains, giving rise to what we call *status spillovers*.

Existing theoretical accounts suggest that status orderings develop within social contexts. Under the market status view, status signals unobservable quality: participants rely on status in lieu of actual quality observations to economize on search costs when an actor's ability to deliver quality products or services is difficult and costly to observe (Podolny, 1993). To the extent that 'quality' evaluations differ (e.g., sports and science), status may not translate completely across domains. For instance, Sony's status in the consumer electronics market may be only partially related to Sony's status in the motion pictures market. A competing perspective argues that status has little to do with intrinsic quality, but rather relates to unearned privileges and is largely independent on actual merit (Washington & Zajac, 2005). In this view, institutionalized values, assumptions and norms form the bedrock upon which status orderings are built (Lounsbury, 2002): widely shared and taken-for-granted rules of the game shape status contests, and define

how status is gained and lost (Thornton & Ocasio, 2008; Zhou, 2005). Likewise however, such rules, or logics, are specific to given domains, such that the esteem garnered in one domain (e.g., sports) may not be fully recognized in another domain (e.g., science).

We explore the question of status spillovers in the context of scientists competing for research money attributed by industry funders: we examine how academic status affect scientists' success at acquiring research money from industry. We argue that status orderings result from socially constructed field-specific theories of worth, such that academic status will not be taken at face value in industry, yet positively influence status evaluations. We further suggest that status spillovers are limited when scientists have credentials in industry that private funders can use as cues to make status evaluations. By contrast, status spillovers grow with the experience funders have of the academic world. We test our theory using data on the full population of scientists at Imperial College London between 2004 and 2011, and find strong support for our hypotheses. Contributions to status and management theories are briefly discussed in conclusion.

BOUNDARIES TO SOCIAL STATUS

The concept of *social status* is rooted in the sociological conception of social structure, that is the "distributions of a population among different social positions that reflect and affect people's relations with one another" (Blau, 1977). Social status is a form of social valuation constructed through historical legacy and social interactions that translates into unearned positive or negative privileges (Bitektine, 2011; Washington & Zajac, 2005). As intersubjectively agreed-upon and accepted orderings of social actors, status rankings develop within the confines of specific 'social systems' (Washington & Zajac, 2005). Such social systems are located in time

and space: "In warlike tribes and societies, courage and competence have determined the respect men paid to one another. For centuries, the French nobility held to their (erroneous) self-definition at the shield and sword of the kingdom. In classical China, achievements in philosophy, calligraphy, and literature were essential to a mandarin's rank. Landed wealth, and thus family lineage, was required to be a senator in republican Rome, but a senator's sons were also expected to serve as military commanders and magistrates." (Goode, 1978). Extant research shows that social actors acquire status within institutionalized systems of norms, values and beliefs (or institutional logics), emphasizing that status positions are tightly associated to institutional orders: the shift from *classical cuisine* to *nouvelle cuisine* in French gastronomy reshuffled status positions among chefs (Rao, Monin, & Durand, 2003), the gradual replacement of a regulatory logic by a market logic in the field of finance in the United States helped trained professionals gradually gain social stranding (Lounsbury, 2002) and, more generally, professional status positions appear to be tightly related to the legitimate claims for deference and prestige actors can make in a given context (Zhou, 2005).

Status orderings are thus *local* in essence: there are physical, but also social and symbolic boundaries to the recognition of status rankings such that status-based privileges and discriminations are by construction specific to the given area of the social structure – or field – in which they developed[1]. Physical boundaries may for instance result from geographical disconnectedness (Phillips, 2011); history abounds with examples of discriminated (low status) minorities fleeing their region of origin to escape ascribed prejudice and start from a blank slate. There are also more subtle social and symbolic boundaries (Lamont & Molnar, 2002), such as

[1] Contrary to status, celebrity – a social evaluation conveyed by the media though the dramatization of reality – may spread more widely in society through mass communication means, sometimes at the global scale (Rindova, Pollock, & Hayward, 2006). Celebrity and status may considerably differ; for instance, extravagant behaviors or love affairs may confer celebrity on movie actors or actresses in the media and society in general, but fail to attract any esteem among the professionals of the movie industry.

the ones that separates different domains of the social structure, or Weberian 'value spheres'. The esteem one may have garnered for instance on golf courses or tennis courts may not be fully, if at all, recognized in a professional environment – and *vice versa*. In what follows, and for the sake of clarity, we refer to the specific area of the social structure where status applies as a field and regard status as being essentially a field-specific attribute. We investigate how and under which conditions status may spillover across field boundaries.

STATUS EVALUATIONS AND THEORIES OF WORTH

We propose to regard status positions as proceeding from *theories of worth* that are socially and historically constructed in a given social context. Such theories associate a set of observable factors (e.g., lineage, known achievements, visible affiliations or membership, signs of reputation, tokens of legitimacy, physical attributes) to positive or negative status attributions. Largely taken for granted, theories of worth are used by relevant audiences when making status evaluations about people, groups and objects, and inform key decisions about, for instance, whom one should interact, associate or do business with. For illustrative purposes, one may represent a theory of worth as a field-specific function w_f used by actor j, member of field f, to evaluate the status of actor i:

$$\text{status evaluation}_{ij} = w_f\,(\text{observables}_{ij}, e_{ij}) \qquad (1)$$

where $observables_{ij}$ is a vector of factors regarding i that j can observe and e_{ij} is a an error term (bias) specific to j regarding i. Theories of worth are by definition field specific, such that i's status evaluations by actor k of field g will differ from i's status judgment by actor i of field f:

$$\text{status evaluations}_{ik} = w_g\,(\text{observables}_{ik}, e_{ik}) \qquad (1')$$

where w_g is a theory of worth function specific to field g. Theories of worth w_f and w_g being different, the tokens of status i has garnered in field f will not be taken at face value in field g[2].

We may expect status spillovers however if: i) k is aware of such status tokens; i.e., they are included in the vector $observables_{ik}$ in equation (1') (awareness condition) and ii) k will use field f status tokens to make his or her status evaluation; i.e., the theory of worth w_g gives a non-zero weight to status tokens coming form filed f (value condition). The awareness condition is likely to be met in many cases. For instance, if i and k are considering entering in a friendship or a business relationship, i is likely to publicize his or her status in field f and k is likely to search information on i. Fulfillment of the value condition depends on the inter-relationships fields f and g have woven, and the relatedness of their theories of worth. The status one has acquired in the field of table tennis might not be factored in in the field of classical music. Moreover, if the value condition is met, one may not assume that the weight given in field g to status tokens acquired in field f is always positive. The status a thug has garnered in organized crime, for instance, is unlikely to yield any positive esteem in legitimate businesses. When the two conditions of awareness and value are met, status evaluations in field g incorporate status tokens in field f as inputs:

$$\text{status evaluation}_{ik} = w_g\,(\text{status tokens}_{if}, \text{observables}_{ik}, e_{ik}) \qquad (2)$$

where status tokens_{ik} are observable signs of the status i has acquired in field f, and observables_{ik} are other factors k observes about i in field g.

Equation (2) means that actor k uses status tokens_{if} as *complements* to other observables when making status evaluations about actor i. If this is true, one may expect that the weight given to *status* $tokens_{if}$ – that is, the level of status spillovers – will depend on two factors. First,

[2] Status tokens may include, for instance, accolades or nominations (Rossman, Esparza, & Bonacich, 2010), associations with prominent institutions (Benjamin & Podolny, 1999) or actors (Washington & Zajac, 2005), or positions in rankings (Espeland & Sauder, 2007) or group orderings (Podolny, 1993).

the more actor k knows about *observables*$_{ik}$, the less it needs *status tokens*$_{if}$ to formulate status evaluations, and the lower the weight k will give to *status tokens*$_{if}$. In other words, the more i has an established track record in field g, the lower will the status reached in his or her field of origin matter to status evaluations in field g – i.e., the lower the status spillovers. Second, the weight given to *status tokens*$_{if}$ relative to other observable factors in field g will depend on how much k knows about field f, and is able to understand and appreciate the value of *status tokens*$_{if}$. Accordingly, status spillovers will positively depend on actor k's knowledge and experience of field f.

ACADEMIC STATUS SPILLOVERS INTO INDUSTRY

We test this theoretical framework by studying university scientists involved in the acquisition of research resources with external funders that can operate either in the field of academia (e.g., research councils) or in the field of industry (e.g., private funders). We examine how the status acquired in the field of academia by these scientists may affect their chances to acquire research money in the field of industry.

Status spillovers and the acquisition of industry research money

We expect academic status to spillover into industry, as the two conditions of awareness and value are likely to be met. Scientists applying for research projects with industry partners are likely to put forward their academic credentials, such that decision-makers in funder firms will be aware of the status tokens received by the scientists they are dealing with. Funders engaged in private research are also likely to give some (positive) value to academic status, as they are likely to have some knowledge and appreciation of academia. Accordingly, we expect that industry funders will incorporate and give a positive weight to the status a scientist has acquired in the

academic field when making status evaluations, resulting in positive status spillovers across the two fields: tokens of academic status will positively influence status evaluations in industry. In other words, academic status will provide scientists with some form of status-based privileges in industry. In particular, we expect that academic status will ease the acquisition of research money with industry funders. All else being equal thus, we posit that academic status will positively influence the chance a scientist has to acquire private research money.

Hypothesis 1 (status spillovers): The higher the academic status a scientist has obtained, the greater are his or her chances to acquire industry research money.

The moderating effects of scientists' industry credentials and funders' academic experience

We theorized that tokens of academic status are complementing factors used by private funders when making status evaluations about scientists they consider providing research money to. Based on the propositions developed in the previous section, we expect that the more scientists have accumulated credentials in industry, the less academic status will be factored in by industry decision-makers to formulate status evaluations. Accordingly, status spillovers will be attenuated when scientists have established credentials in industry.

Hypothesis 2 (industry credentials): The relationship between a scientist's academic status and her likelihood to acquire industry research money will be negatively moderated by the credentials she has acquired in industry.

We also reason that the relative weight private funders give to academic status in status evaluations depends on their own knowledge and appreciation of the norms, value and beliefs of academia. As funders become socialized in academia, they learn to recognize and value tokens of academic status. By contrast, funders new to the academic world are more likely to ignore

academic status tokens as relevant cues to make status evaluations. Hence, the relationship between academic status and the acquisition of industry research money will be dependent on the experience funders have had of the field of academia.

Hypothesis 3 (funders' academic experience): The relationship between a scientist's academic status and her likelihood to acquire industry research money will be positively moderated by the experience of academia her funders have accumulated.

EMPIRICAL SETTING, VARIABLES, AND METHOD

Data

We longitudinally study the population of 4,678 scientists who acquired research funding from both public and private bodies, between 2004 and 2011, at Imperial College London. With 14 Nobel Prizes to its record, Imperial College is a large research university primarily specializing in the natural sciences, medicine and engineering. The start of the study coincides with major reforms in the College aimed at fostering the acquisition of external research money by academics: dedicated support teams were created to streamline the administrative processes and an internal information system was deployed to monitor and control resource acquisition efforts throughout the College faculties.

With approval of the Imperial College Research Ethic Committee, we collected proprietary data on the 32,689 grant applications filed by Imperial College scientists through the College's internal information system during the period. This information was matched and complemented with data on 4,196 research contracts concluded between the College and industrial firms. We define grants as funding provided exclusively for the purposes of academic

research, while research contracts refer to projects aimed at fulfilling specific, usually practice-driven requirements stipulated by a commissioning party.

Additional data from College internal systems was obtained on scientists' academic career paths, such as academic age, rank, and scientific field, as well as on publication history. We also collected data on positions held by Imperial College scientists on the board of directors of public and private companies via Bureau Van Dijk's FAME database, which contains information on 7m public and private U.K. and Irish companies. In this paper, we restrict our sample to the 2,986 scientists who have had at least one research publication throughout their career,, thereby obtaining 17,916 individual-year observations.

Variables

Dependent variable. We study how academic status affects the acquisition of *industry research funding*. Our dependent variable is the natural log of the cumulative amount of funding from research contracts obtained by individual academics in each year of observation. Foreign currency amounts are converted back to British pounds (GBP) using average annual exchange rates.

Independent variable. Since the seminal work of Merton on the Matthew effect in science, *academic status* has been conceived in terms of cumulative advantages (or disadvantages): "eminent scientists get disproportionately great credit for their contribution while relatively unknown scientists get tend to get disproportionately little credit for comparable contributions*"* (Merton, 1968). One consequence of such disproportion in credit is that "the rich gets richer and the poor gets poorer": high-status scientists have more resources (e.g., research budgets, labs, assistants), they appear as desirable collaborators and have more opportunities to take part in promising research projects, and thus – all else being equal – enjoy higher chances to

see their work published in prestigious journals, leading to an increasing likelihood of further publications. Accordingly, we model academic status by examining variations across individuals in terms of how publications chances are shaped by past publications. To do so, we rely on the estimation method proposed by Arellano and Bond (1991), which delivers consistent estimates under the assumption of no correlation in the error term. We estimate the following model:

$$\text{publications}_{it} = ß_0 + ß_1 \ \text{publications}_{i(t-1)} + ß_2 \ \text{controls}_{it} + \sqrt{}_i + e_{it} \qquad (3)$$

where i and t refer to individual scientist and time, respectively, and e_{it} is an error term. Equation (3) seeks to explain the research publication output of a scientist i in time t (publications_{it}) based on the number of publications scientist i had in time t-1 ($\text{publications}_{i(t-1)}$), and a vector of control variables (controls_{it}). We control for scholarly experience by including in our model variables for *academic age* (number of years elapsed since first publication) and *academic age squared*, and add dummy variables for faculty membership and *year* fixed effects.

Our main interest lies in the individual fixed effects $\sqrt{}_i$ in equation (3), which capture individual-level differences in the publication model. If there is a Matthew effect in research publications, we expect that on average past publications will lead to future publications, i.e. $ß_1 > 0$, and that this self-breeding effect of past publications on future ones will be stronger for scientists enjoying high ascriptions of status than for lower standing ones. If one would graphically represent the likelihood an individual scientist has to publish research articles as a result of his past publications, individual fixed effects in equation (4) would represent different intercepts at which the predicted line (with $ß_1$ slope) crosses the y-axis.

Moderators. In order to test our theoretical model, we investigate two different moderators that may affect the relationship between academic status and the acquisition of industry research money. First, we examine the *industry credentials* a scientist has obtained by

averaging the number of directorship positions he or she has occupied in firms' board of director during the period under study. Directorship positions signal a scientist's overall involvement with industry to the audience of private funders. Second, we seek to capture the extent to which funders know and understand academia. We compute *funders' academic experience* by calculating the average amount of money (logged) funders provided to the College during the period, averaged at the individual scientist level. In unreported models, we studied the average number of projects (vs. amounts) passed with the College as an alternative measure of funders' academic experience and obtained very similar results.

Controls. We control for several factors that may affect the scientists' likelihood to obtain industry research money. As hierarchical positions may condition access to external funders, we include variables that capture the roles occupied by scientists in research teams: the variables *principal investigator* and *co-investigator* capture the number of times a scientist has been involved in industry research contracts in the corresponding roles during the period under study. The principal investigator is in charge of leading the resource acquisition project and assembles a team of co-investigators, researchers and administrative staff. In addition we control for the discipline in which scientists were primarily involved by introducing dummy variables for each faculty in the college: *business school*, *engineering*, *history of science*, *humanities*, *medicine*, *natural sciences*, and *other faculty* (excluded).

RESULTS

We conduct our empirical analysis in two steps. In the first step, we run an Arrelano and Bond dynamic panel data estimation of equation (3). Our goal is to capture *academic status* by estimating individual fixed effects in publication outputs. In the second step, we enter academic

status, as estimated in step 1, as an independent variable in a linear regression aimed at modeling the acquisition of industry research money by individual scientists.

Step 1: Individual fixed effects in dynamic publication model

Table 1 presents pairwise correlations and descriptive statistics for the publication dynamic panel data model (N=23,888). Except for the high correlation by construction between *academic age* and *academic age (squared)*, no correlation appears above .25.

The results of the dynamic panel regression are presented in Table 2. Model 1 shows that the coefficient for prior year publications, $ß_1$ in equation (3), is positive and highly significant as expected, after accounting for the significant inverted U-shape effect of *academic age* and faculty control variables. The average scientist does not seem to benefit from a snowballing effect of past publications: the coefficient for prior year publications is far below 1 (.336, $p < .001$). The predicted number of publications for a scientist with average characteristics (including an average number of 3.7 publications in prior year) is about 3.3.

Insert Tables 1 and 2 about here

Consistent with the Matthew effect view, however, individual predictions vary widely, such that average values can be misleading. We represent in Figure 1 below the predicted number of publications for different percentiles of the distribution of individual fixed effects. For instance, while the prediction is close to zero (about .40) for an individual at the 10th percentile (low academic status), it climbs to 6.7 at the 90th percentile of the distribution (high academic status). As expected, and consistent with traditional views of social status, the distribution of

status in the population is highly skewed: a small elite of high-status scientists appears to stand out the crowd of lower status researchers (Figure 2).

Insert Figures 1 and 2 about here

Step 2: The acquisition of industry research money as a function of academic status

Pairwise correlations and descriptive statistics of the industry research money model are shown in Table 3. Consistent with hypothesis 1, the correlation between academic status and industry money is positive and significant (.29, $p < .001$).

Table 4 presents the results of the second step or our analysis: the regression of industry research money (ln) on academic status and two moderating variables. Model 2 introduces control variables, which explain .338 of the variance of the dependent variable. We add *academic status* in Model 3. The coefficient estimate is positive and significant (.140, $p < .001$), consistent with hypothesis 1: the probability to acquire industry research money increases with academic status, supporting the view that academic status spillovers into the field of industry. On average, a scientist enjoying an academic status one standard deviation above the mean acquired 86.2% (6.16*.140*100%) more industry research money that a scientist with mean status.

Insert Tables 3 and 4 about here

To investigate further the relationship between academic status and industry research money, we introduce *industry credentials* as a direct and moderating factor in Model 4. The direct effect appears positive and significant (.513, $p < .01$), suggesting that scientists present in

private firms' boards of directors get on average more research money from private funders. The coefficient for the interaction term between academic status and industry credentials is negative and marginally significant (-.038, $p < .10$), consistent with the prediction of hypothesis 2: the effect of academic status tends to be lower for scientists with a strong industry foothold. As interaction coefficient estimates are conditional on the value of the moderator, their examination in isolation may be misleading (Brambor, Clark, & Golder, 2006); to address this concern, we plot in Figure 3 the marginal effect of academic status conditional on the scientist's industry credentials. We observe that the effect of academic status on industry research money marginally decreases as industry credentials increase, to the point that it become non significantly different from zero above a value of about 3 directorship positions.

We test the effect of the second moderator, *funders' academic experience*, in Model 5. The direct effect appears negative and significant, indicating that scientists dealing with experienced academic funders obtain less research money. This could be related to various factors; it might be that experience funders tend to be more demanding and selective when offering research money. Important to our theory, the coefficient of the interaction between academic status and funders' academic experience is positive and significant, supporting hypothesis 3. Figure 4 shows that marginal effect of academic status condition on funders' experiences increases, but is only significant for high values of experience, above a value of 14 – about £1.2m (the variable is logged) – over the 8-year period 2004-2011 (the average in the sample is 16.17): status spillovers appear significant only with experienced private funders. Finally, we combine both moderating effects in Model 6. Coefficients remain in the same region – adding confidence in our findings – with the exception of the moderating effect of *industry credentials*, which loses statistical significance.

Insert Figures 3 and 4 about here

CONCLUSION AND DISCUSSION

This study provides evidence that status orderings are established on locally and historically rooted theories of worth, which prevent status evaluations from being taken at face value outside the field where they developed. This work makes important contributions for the literature on organization theory – and specifically the question of social and symbolic boundaries across fields. It also has implications for the management of academic institutions and other professional bureaucracies. We focus below on the contributions this study makes to the literature on social status.

This work contributes to the status literature in two ways. Empirically, we make a contribution by suggesting a novel way to capture status. We develop a method aimed at capturing the Matthew effect by extracting individual fixed effects in dynamic panel data models of personal achievements. This method is applied to capture academic status, but has the potential to be transposed to other empirical settings where status affects how past achievements breed current performance at both the individual or organizational levels. Compared to methods that rely on relational (network) measures to capture status – e.g., eigenvector centrality in networks of ties (Bonacich, 1987) – the method suggested here has several advantages. First, the method does not require assumptions regarding how local group orderings reflect larger status rankings, e.g., how underwriting project-specific tombstone advertisements capture field-wide status orderings (Podolny, 1993). Second, the method relies on a dynamic modeling that factors

in past outputs. This approach significantly alleviates concerns that the measures of status may correlate with size, an issue particularly salient in studies of organizational status.

Theoretically, we contribute to status theory by offering evidence that status rankings are based on field-specific theories of worth, underlying valuation processes (Lamont, 2012; Zuckerman, 2012). In doing so, we help reconciling the view of status as a signal of quality (Podolny, 2005), with the more sociologically-oriented view of status as an unearned (often inherited) ascription of social esteem (Washington & Zajac, 2005): status orderings are socially constructed within a given field, but they reflect deeply taken-for-granted beliefs about what is 'quality' or worth in this field. If one accepts that perceptions of quality result from more or less agreed definitions within a field at a given point in time (e.g., a 'good' professor is one who publishes in top journal more than an outstanding teacher, a 'good' law firm is one that does corporate law rather than one involved in family law), status can be regarded a signal of quality in this field. Outside the field however the signal looses significance. Our findings suggest that audiences that have experience with the field of origin of the status position are more likely to reward status signals with privileges. But the strength of the signal decreases as credentials are accumulated in the field where the evaluating audience is positioned.

By revealing boundaries to status effects, this study complements recent works that seek to examine not only the advantages associated with status, but also the limits of such benefits (Bothner, Kim, & Smith, 2010) – contributing to explain why high-status do not 'take all' in markets and organizational fields.

Figure 1 – Predicted number of research publications (mean) for different academic status positions

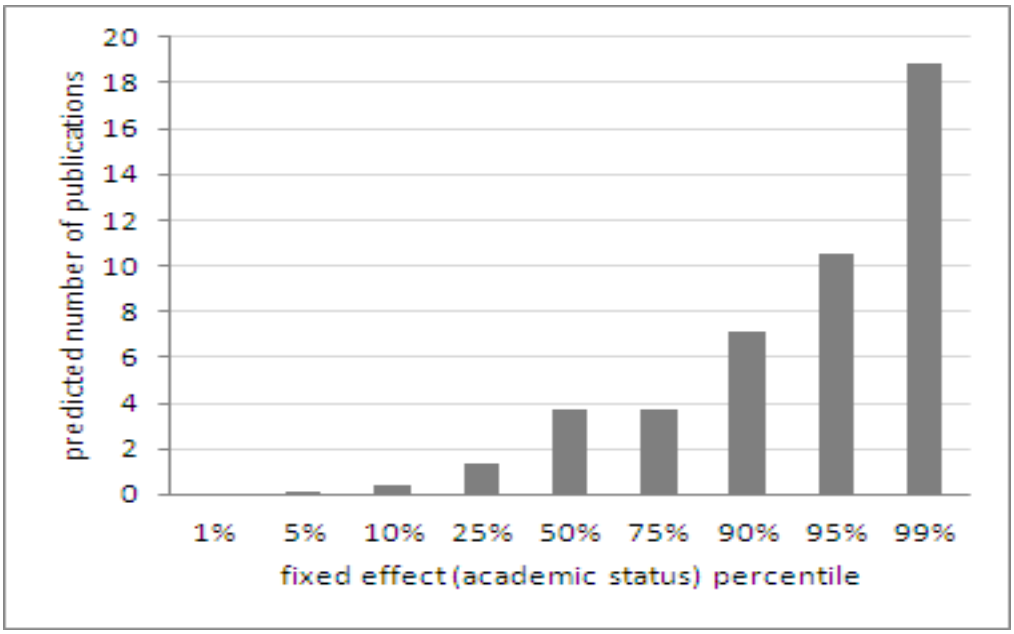


Figure 2 – Probability distribution of academic status among the population of Imperial College scientists (Kernel density estimate)

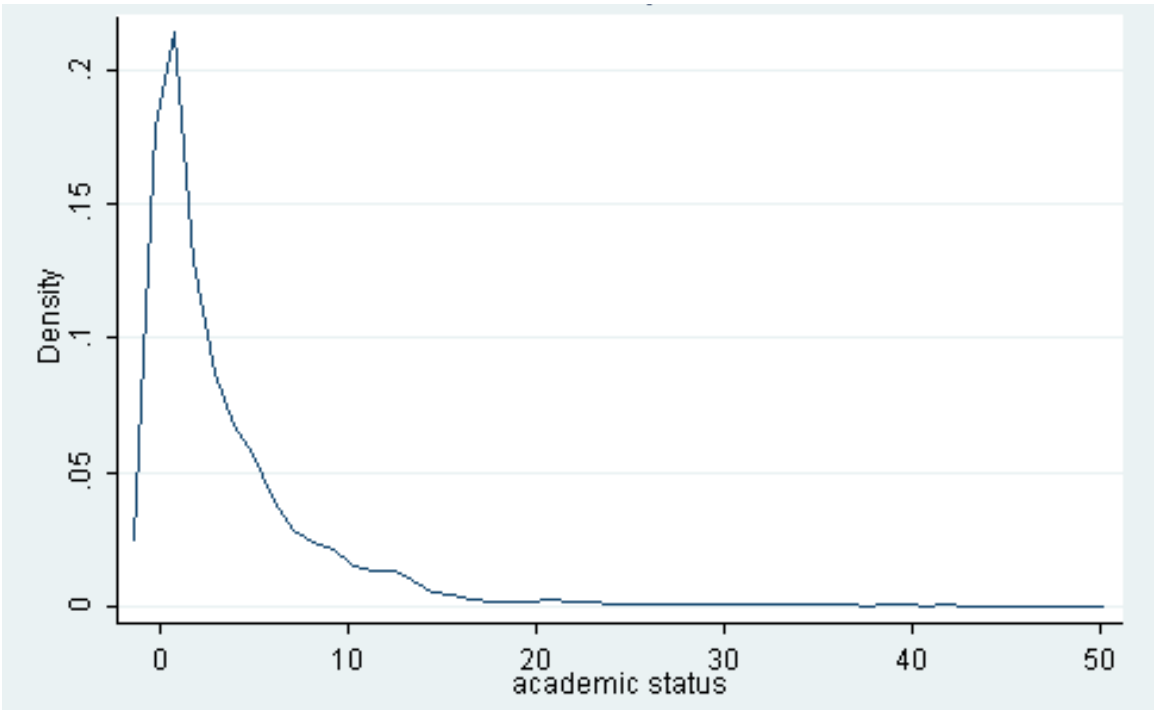
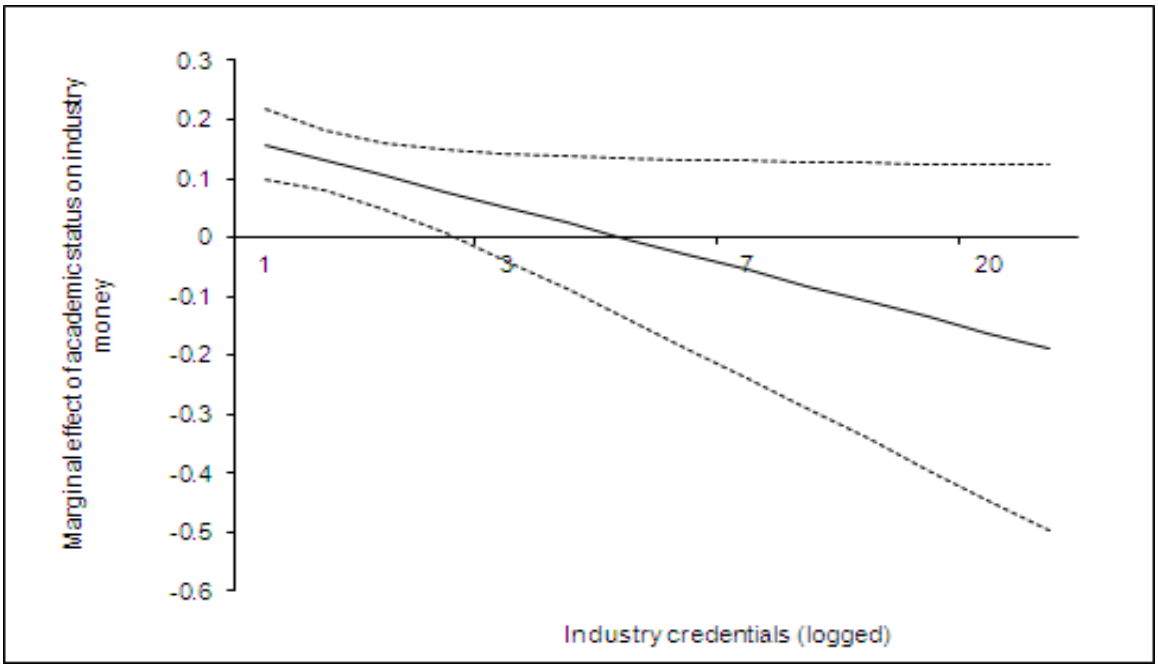


Figure 3 – Marginal effect of academic status on industry research money conditional on industry credentials (step 2)



(Note: the x-axis is on an exponential scale)

Figure 4 – Marginal effect of academic status on industry research money conditional on funder's academic experience (step 2)

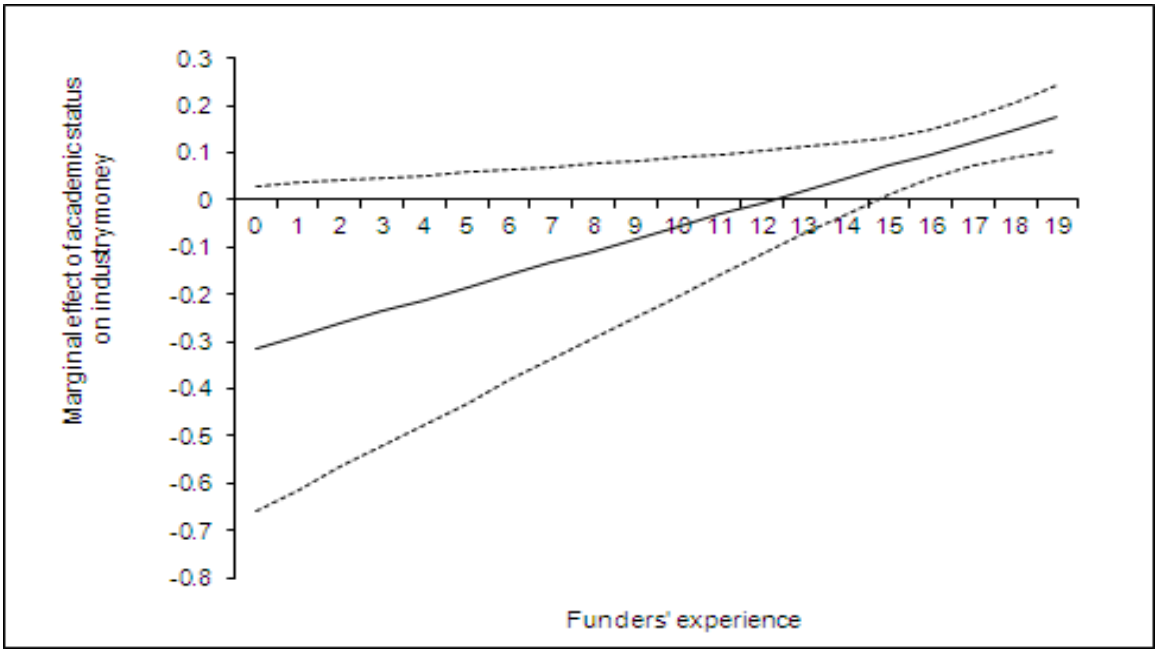


Table 1 – Pairwise correlations and descriptive statistics, publication model (step 1)

	variable	mean	s.d.	1	2	3	4	5	6	7	8	9	10
1	publications	3.73	6.21										
2	academic age	13.44	9.56	0.25									
3	academic age (squared)	272.0	360.5	0.20	0.94								
4	business school	0.01	0.10	0.00	0.01	0.00							
5	History of science	0.00	0.02	-0.01	0.01	0.00	0.00						
6	college headquarter	0.00	0.01	0.00	0.02	0.02	0.00	0.00					
7	engineering	0.12	0.32	0.11	0.09	0.06	0.02	-0.01	0.00				
8	medicine	0.23	0.42	0.22	0.07	0.03	-0.02	-0.01	0.00	-0.12			
9	natural sciences	0.10	0.31	0.11	0.13	0.10	-0.01	-0.01	0.00	-0.01	-0.11		
10	humanities	0.00	0.02	-0.01	0.00	0.00	0.00	0.11	0.00	-0.01	-0.01	0.00	
11	other faculty	0.00	0.02	0.01	0.01	0.01	0.02	0.00	0.00	0.03	0.00	0.00	0.00

(N=23,888)

Table 2 – Research publication model, Arrelano and Bond dynamic panel data regression (step 1)

VARIABLES	Model 1
publications (prior year)	0.336***
	(0.060)
academic age	0.121+
	(0.062)
academic age squared	-0.010***
	(0.001)
college headquarter	1.311***
	(0.252)
engineering	0.269+
	(0.139)
medicine	0.361***
	(0.092)
natural Sciences	0.426**
	(0.145)
humanities	1.712
	(1.152)
other faculty	-7.840***
	(0.410)
year fixed effects	YES
Constant	3.268***
	(0.948)
Observations	17,916
Number of cid	2,986

Robust standard errors in parentheses
*** p<0.001, ** p<0.01, * p<0.05, + p<0.1

Table 3 – Pairwise correlations and descriptive statistics, industry money model (step 2)

	variable	mean	s.d.	1	2	3	4	5	6	7	8	9	10	11	12	13	14
1	industry money	4.72	6.16														
2	academic status	3.27	4.69	0.29													
3	industry credentials	0.27	0.88	0.14	0.22												
4	status X ind. credentials	1.80	9.27	0.16	0.42	0.76											
5	funders' academic exp.	16.27	3.35	-0.06	0.11	0.00	0.02										
6	status X funders' exp.	62.45	84.76	0.25	0.99	0.20	0.41	0.19									
7	principal investigator	1.15	2.89	0.53	0.36	0.16	0.21	0.07	0.35								
8	co-investigator	0.39	1.17	0.45	0.25	0.10	0.17	0.06	0.24	0.49							
9	business school	0.02	0.13	-0.03	-0.05	0.01	-0.02	-0.07	-0.06	-0.03	-0.04						
10	engineering	0.22	0.41	0.19	0.00	0.02	0.01	0.10	0.01	0.10	0.15	-0.07					
11	history of science	0.00	0.04	-0.03	-0.01	-0.01	-0.01	-0.02	0.00	-0.01	-0.01	0.00	-0.02				
12	humanities	0.00	0.04	-0.03	-0.02	0.00	-0.01	-0.04	-0.03	-0.01	-0.01	0.00	-0.02	0.00			
13	medicine	0.54	0.50	-0.07	-0.03	0.02	0.03	-0.13	-0.04	0.00	-0.02	-0.14	-0.58	-0.04	-0.04		
14	natural sciences	0.22	0.41	-0.09	0.05	-0.04	-0.04	0.08	0.06	-0.09	-0.11	-0.07	-0.28	-0.02	-0.02	-0.57	
15	other faculty	0.00	0.02	0.02	0.04	-0.01	0.00	0.01	0.04	0.01	0.01	0.00	-0.01	0.00	0.00	-0.02	-0.01

(N=2,986)

Table 4 – Effect of academic status, industry credentials and funder's academic experience on the acquisition of industry research money, ln (step 2)

VARIABLES	Model 2	Model 3	Model 4	Model 5	Model 6
academic status		0.140***	0.152***	-0.314+	-0.307+
		(0.025)	(0.028)	(0.176)	(0.179)
industry credentials			0.513**		0.408*
			(0.184)		(0.190)
acad. status X ind. credentials			-0.038+		-0.027
			(0.021)		(0.021)
funders' academic experience				-0.287***	-0.286***
				(0.041)	(0.041)
acad. status X funders' acad. exp.				0.026*	0.026*
				(0.010)	(0.011)
principal investigator	0.848***	0.777***	0.767***	0.717***	0.709***
	(0.071)	(0.070)	(0.070)	(0.065)	(0.065)
co-investigator	1.237***	1.175***	1.188***	1.045***	1.054***
	(0.221)	(0.214)	(0.210)	(0.195)	(0.193)
business school	-5.790***	-4.398***	-4.421***	-3.852***	-3.905***
	(0.761)	(0.771)	(0.770)	(0.963)	(0.959)
engineering	-4.223***	-2.955***	-2.929***	-2.148***	-2.163***
	(0.247)	(0.291)	(0.313)	(0.307)	(0.330)
history of science	-8.820***	-7.553***	-7.453***	-8.939***	-8.879***
	(0.281)	(0.334)	(0.342)	(0.299)	(0.302)
humanities	-9.032***	-7.629***	-7.631***	-8.728***	-8.788***
	(0.327)	(0.356)	(0.344)	(1.024)	(0.968)
medicine	-5.940***	-4.719***	-4.678***	-4.647***	-4.647***
	(0.232)	(0.271)	(0.283)	(0.274)	(0.289)
natural sciences	-5.924***	-4.837***	-4.799***	-4.533***	-4.537***
	(0.301)	(0.317)	(0.326)	(0.337)	(0.347)
Constant	3.030***	7.262***	7.121***	12.646***	12.553***
	(0.716)	(0.317)	(0.328)	(0.722)	(0.734)
Observations	2,986	2,986	2,986	2,395	2,395
R-squared	0.338	0.348	0.350	0.339	0.340

Robust standard errors in parentheses
*** p<0.001, ** p<0.01, * p<0.05, + p<0.1

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