

**WHEN AGENTS BECOME PRINCIPALS:
The Possible Perversion of the Incentive Based Compensation in
the Norwegian Academia**

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ABSTRACT

This paper argues that the publishing of academic research by and large belongs to the public sector domain, and that the scientific knowledge stemming from the public sectors is important for innovation. In 2004 the Norwegian Association of Higher Education Institutions (UHR) introduced an incentive based system in which academic institutions receive economic compensation as a function of their employees' publication rate in academic journals. Outlets are classified into level 1 or 2, but it is not always clear-cut how to classify a journal at either level. I therefore propose that the number of Norwegian scholars contributing in a given journal may increase the propensity of classifying the outlet at level 2. This flux regarding the classification may hamper the quality of research, which can have secondary consequences for production of knowledge and innovation. Furthermore, if scholars from different institutions contribute to the same paper, the UHR has decided that the funding is to be distributed evenly between the institutions as a function of the number of authors affiliated with each institution. This may limit coauthorship.

Keywords: Agency theory; population ecology; incentives; academic publishing; population density; cognitive legitimacy; taken for grantedness; adverse effects; coauthoring; propositions; public sector innovation.

Introduction

In most countries a large amount of the funding of academic research stem from public sources. Numerous recipients of this funding are in addition academic institutions that are owned by the public sector. It is accordingly legitimate to argue that the publishing of academic research by and large belongs to the public sector domain. Scientific knowledge stemming from the public sector is important for innovation (Sternitzke, 2010), and it is also a matter of fact that there has been a steady decline of industrial researchers publishing in academic journals (Tijssen, 2004). It is consequently crucial that the public sector optimally manages academic publishing as source of knowledge and innovation, which can benefit the society at large.

The Innovation Journal: The Public Sector Innovation Journal defines innovation as “the first time a new way of doing something, a policy, service, program or administrative technique, an approach or a technology is introduced in a country” (<http://www.innovation.cc/about-us/what-ij.htm>). In 2004, the Norwegian Association of Higher Education Institutions (UHR) introduced an incentive based system in which academic institutions in Norway receive economic compensation as a function of their employees' publication rate in academic journals, anthologies and monographs. A motive for the implementation of the innovation was to increase the quantity and the quality of the publication of research from Norwegian scholars, and to better distribute the funding to the institutions where the “payoff” is optimal. Before the implementation, the public funding of research was to a larger extent based upon type and size of academic institution and the

funding over previous years. In agency theory a basic premise is to align the agents' interests with the those of the principals', which can be achieved by the use of economic incentives (e.g. Eisenhardt, 1989; Jensen and Meckling, 1976). Thus, the UHR, acting the role as principals, has implemented an incentive based system in order to align their interests with research institutions, acting the role as agents.

To encourage both quantity and quality of publications, the UHR has classified publication channels into two levels; level 1 and 2. A criterion for publication at level 1 implies that the publisher or the journal has formalized a system of peer review, and reaches a broad group of readers, nationally or internationally, within the current discipline. Publication channels at level 2 are those considered to be the leading and most influential within a given discipline. Roughly 20% of the publication channels are classified at level 2. The publication rate in Norway has increased between 8 and 10 % every year since the implementation (Løseth and Ellingsen, 2009), which indicates that the incentive based system has fulfilled its mission.

Nevertheless, it is not always clear-cut how to classify an outlet at level 1 or 2. Representatives of different academic disciplines nominate which outlets should be ranked at level 2, and the list is adjusted on a yearly basis. Yet these representatives themselves are researchers and scholars who publish their own work through the very same publication channels. Furthermore, any scholar in Norway has the possibility to influence the representatives' nominations of distribution channels at either level 1 or 2. Thus, in my opinion there is a flux between the role of the principals and the agents within this incentive based system.

In the following I argue how this flux may have adverse consequences of the classification of academic journals, which can have negative consequences for the quality of academic research in Norway. Moreover, if scholars from different institutions contribute to the same paper, the UHR has also decided that the funding is to be distributed evenly between the institutions as a function of the number of authors affiliated with each institution. I argue that this may limit coauthorship across academic institutions. In the final section I discuss implications for my lines of reasoning, suggest initiatives for public policy, and point to avenues for future research.

Theory and Propositions

Numerous contributions have studied the issue of aligning the agents' interests with those of the principals (for a recent review, see Makadok and Coff, 2009), and studies have also examined the use of incentive based mechanism in academia (Gomez-Mejia and Balkin, 1992; Gomez-Mejia et al., 2009; Johnes, 1999; Manning and Barrette, 2005). Nevertheless, I have found no study which explicitly examines the role of agents influencing the principals, or agents partly acting the role as principals, neither within nor beyond academia. Scholars may have good reasons to influence the level in which they publish or have the potential to publish their research. Publishing at level 2 increases the public funding to their workplace (e.g. publishing in a journal at level 2 triples the funding as compared to publishing at level 1), it increases the prestige of the work (at least in a Norwegian context), and some institutions even grant personal bonuses to employees who publish in journals at level 2. (Publishing in an academic journal at level 2 will in 2010 result in an economic compensation of 108,720 Norwegian Kroner, or almost 20,000 USD at the time of this writing.)

Anything else being equal, it is more difficult to publish research in a highly cited journal (e.g. Journal A) than in a less cited journal (e.g. Journal B) within the same discipline.

As a consequence, more scholars have the potential to successfully publish their work in Journal B than in Journal A. If we now assume that Journal B is published in Scandinavia and Journal A is published outside Scandinavia, a relatively large amount of publications in Journal B from Norwegian Scholars may stem from two reasons: 1) The journal is the more relevant outlet for research conducted in a typically Scandinavian context, or 2) the threshold of a successful publication in this journal is lower than in Journal A. As noted, it is intuitive to assume that a scholar who publishes or has the potential to publish his/her work in a given journal, would like this outlet to be classified at level 2. More Norwegian scholars would accordingly prefer Journal B to be ranked at level 2 than Journal A. In turn, this may increase the pressure on the representatives appointed by the UHR to classify Journal B at level 2, as compared to Journal A.

Hannan and Freeman (1989) have argued that the density of organizations within a population increases cognitive legitimacy, and numerous contributions have investigated this issue (e.g. Baum, 1996; Baum and Oliver, 1991; 1992; Baum and Singh, 1994; Hannan et al., 1995; Scheitle and Dougherty, 2008). In my opinion, however, cognitive legitimacy may also be reflected by the number of articles published in a given journal in which one or more Norwegians contribute, and hence increase the journal's possibility of being classified at level 2. I have not found empirical studies which directly supports this argument, but McLaughlin and Khawaja (2000) find that the number of environmental books published is related to the founding rate of national environmental organizations between 1895 and 1994. Taking the source of publication (i.e. the journal) as the level of analysis, I therefore propose:

Proposition 1: The number of Norwegian scholars contributing in a given journal may increase the propensity of classifying the outlet at level 2.

Since only about 20% of the publication channels can be classified at level 2, the UHR states that if a journal within a current discipline is upgraded to level 2, another journal within the same discipline has to be downgraded. Accordingly, an implication of my arguing above is that journals that are cited to a relatively low degree may be classified at level 2 (e.g. Journal B), whereas journals that are cited to a relatively high degree may be classified at level 1 (e.g. Journal A). The adverse effect of this outcome may be that Norwegian scholars will aim to get their work published in Journal B at the expense of Journal A, which in turn can harm the quality of research. In other words, I suspect that the UHR's incentive based compensation will lead to a relatively increase (decrease) in publications from Norwegian scholars in journals with a relatively low (high) impact factor. Again taking the source of publication (i.e. the journal) as the level of analysis, I therefore propose:

Proposition 2: The UHR's implementation of incentive based compensation will result in that Norwegian scholars to a relatively lesser extent publish research in highly cited journals.

Additionally, if several scholars at different academic institutions in Norway contribute to the same paper, the UHR has decided that the public funding is to be distributed evenly between the academic institutions as a function of the number of authors affiliated with each institution, independent of the ordering of authors. In my opinion this may hamper collaboration across academic institutions and cause further negative consequences for research in Norway. Let me take an example in which we assume that a paper has five authors. The first author is affiliated with a given institution and the four others are affiliated with another institution. If they successfully publish a paper, 80% of the public funding will be attributed to the institution of the coauthors, whereas the first-author's institution will only

receive 20%. Potential first-authors may therefore prefer to avoid collaboration or collaborate with colleagues within their own institution (and also with foreign institutions since the UHR only grants compensation to Norwegian academic institutions), at the expense of collaborating across academic institutions in Norway. In other words, the UHR's incentive based mechanism may induce lack of collaboration or create suboptimal constellation of cooperation in academic research. Taking a dyadic level of analysis between pairs of academic institutions in Norway I therefore propose:

Proposition 3: The UHR's implementation of incentive based compensation will lead to less coauthorship across academic institutions in Norway?

Discussion and Conclusion

I write this paper with the aim to question the implementation of the incentive based mechanism that is related to the publication of academic research in Norway. In addition, I hope to foster debate among researchers and other stakeholders of academic institutions. The issues which I raise in this contribution can furthermore have implications beyond a Norwegian context, I argue. As noted, the Norwegian scholars' publication rate has increased since the incentive based compensation was implemented, which – at least outwardly – can indicate its success. Other countries may accordingly be prone to adopt a similar system of incentive based compensation, and Sivertsen (2008) argues that several countries are being inspired by the Norwegian model.

I have argued that the UHR's implementation of incentive based compensation can result in that Norwegian scholars to a relatively lesser extent publish research in highly cited journals. Moreover, incentive based compensation may also lead to less coauthorship across academic institutions in Norway. Some academic institutions in Norway have implemented personal bonuses that are related to publications at either level 1 or 2. The University of Agder – a publicly owned institution – even strictly grants funding for R&D that is related to *individual* achievements in terms of publications. For instance, a sole author of a published paper at level 1 will receive 1 score point, whereas the first author of another paper – coauthored by three other colleagues – will only receive .25 score points. (To achieve maximum time allocated to research, a scholar at the University of Agder has to “gain” at least 2 score points over three years.) As a consequence, this may not only limit coauthorship between academic institutions, but also within institutions. On the other hand, research has clearly demonstrated the benefits of collaboration between scholars (e.g. Jones et al., 2008; Wuchty et al., 2007).

The tendency of academic institutions to adapt to the UHR's incentive based compensation is – in my opinion – a sad example of how incentives can foster adverse consequences, both for scholars as individuals as well as for the public sector and the knowledge society at large. Nevertheless, I do not claim that the classification of research channels and the implementation of the incentive based mechanism related to the publication of academic research should be abandoned altogether. However, I call for some prudence and pragmatism, in addition to the application of additional criteria when evaluating quantity and quality of research. Ideally, the system should also be more fine-grained than it is today. I acknowledge that this may prove challenging, but at least when it comes to outlets that are classified at the Thomson/ISI database, taking account of journals' impact factor within disciplines may serve as a suitable approach. This will furthermore reduce the possible adverse consequences of classifying outlets at either level 1 or 2, which I discussed above.

Coauthorship should finally be encouraged and not be discouraged, as it is today. This could be done by giving more credit to first authors of coauthored papers.

This paper is a theoretical contribution and I do not empirically test the propositions that I advance. Some anecdotal evidence, however, may indicate that journals' impact factor and the classification out outlets at either level 1 or 2 are poorly associated. For instance, *Acta Sociologica* – a Scandinavian outlet in Sociology – had a five year journal impact factor of 1.45 in 2009 and is classified at level 2 by the UHR. *Social Networks* – another outlet in sociology but published in the Netherlands – had a five year journal impact factor of 3.33 in 2009, but is classified at level 1. I furthermore found that more than 17% of the published documents from *Acta Sociologica* that were available at the Thomson/ISI database, were associated with authors affiliated with academic institutions in Norway. The parallel case of *Social Networks* was 0.15 % (1 out of 673 published documents). This anecdotal information indicates support for Proposition 1, but future research should aim to study all the three propositions in a rigorous manner applying established econometric methodology. In the meanwhile, I suggest that stakeholders of academic research take modest and prudent steps – if any steps at all – in the implementation of incentive based mechanisms for academic publication, and also consider some of the practical advices which I have suggested in this paper. All in all, I conclude that the disadvantages of the UHR's implementation of economic incentives related to publication of academic research may prove larger than the advantages.

About the Author:

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