Modelling and motivating academic performance

Geoffrey Brennan and Philip Pettit

There is a simple, economic story told about the motivation of agents in general, and of academics in particular. The story informs us about the motives of action and about the levies whereby action can be affected. The goals, the principal means of achieving goals, and the measures of academic effort, are provided by people's economic interests in their accumulation of the sorts of goods that can be salvaged from the waste products of effort, and also from the waste products of others. The levies whereby action can be controlled are provided by those factors which can be manipulated so as to affect the economic interests of the agents we wish to influence.

Much of the debate on the organization of higher education and advanced research has turned, implicitly or explicitly, around this economic story. On the one hand are the bureaucratic and planning elements who believe that the story fails to recognize the vocational and dedicated nature of the academic life. On the other hand are the traditional champions of the university, who argue that the story is too positivist, too reductionistic, too obvious in its aim to be even remotely relevant to the real world.

We think that the story as presented here is relevant, but that it must be modified and extended. The economic model is not the whole story about academics. In the second section we add a number of considerations which modify the whole story, and show how the economic model is part of the story. And then in the third section we look at the implications for strategy of this mix of models.

Homo Economicus in Academe

Proponents of the economic model claim that it for- mulates the human behaviour better than any other model of comparable generality and simplicity. Let us suppose, for the purposes of the argument, that all agents, academics included, are motivated primarily by considerations of personal financial gain. Would we expect university academics as they are currently organized to produce the outputs required of them? Would we expect teachers to be conscientious, researchers industrious, scholars diligent, under existing arrangements, if their main object is personal wealth?

Clearly, many elements of the sort of incentive structure we would expect to see for agents so motivated are already in place. Criteria for appointment, promotion and tenure (in those places where tenure is awarded on the basis of criteria that include performance) are all 'pertinent rewards'. A person wishing to have the highest lifetime earnings will be led to teach reasonably well, to try to produce interesting and worthwhile research and to publish in first-class journals. To fail to do all this is to court losing out on promotion, or alternative job offers, all of which typically bring higher lifetime income.

It should be noted that specifically Australian institutional arrangements, in which academic salaries and career advancement are relatively more insecure than in the US, may make it more likely that the Australian academic will regard academic life as a more secure option. Nevertheless, we think that there is a general point about the economic model that is not necessarily relevant to Australian circumstances.

Research activity is more problematic here. It is very difficult to explain how a head of department (or Dean's or Vice-Chancellor's) command over resources depends on the quantity and quality of research output, and hence why the decision-maker will be more interested in raising research output than in teaching. In the US, at least, research output is so important that the departmental or institution-wide access to research funding is tied reasonableness closely to research output. This connection has traditionally been very loose in Australian universities: the major component of universities' research budgets is the stipend paid to staff salaries. This is partly a consequence of the economic model, which we will propose below, but it is clear that this consequence is not a general one. The chief reason that it exists is not that we wish to prove that it is false, but that we wish to prove that it is true.

What is the upshot of these considerations? One obvious lesson is that the Australian system is not in general designed to provide optimal incentives for academic performance. But a second lesson is more important. We believe that the level of research and academic performance is much better in the Australian system than in the US system. We believe that the homo economicus model would predict or explain. And so we also draw the lesson that model cannot be the whole story about academic motivation.

Homo Heroicus in Academe

It is common, both in discussions of the behaviour of academics, and in the literature on models of human behaviour, to set against the homo economicus model the homo heroicus. In the homo heroicus model, the academic is driven by a desire to do good work, to make a contribution, to serve and benefit society. In the homo economicus model, the academic is driven by the desire to make a contribution, to serve and benefit society.

It is clear that there is much to this view. Intellectual curiosity and the pedagogic inclination are entirely natural phenomena; we do not require an elaborate system of incentives to bring them into play. And we also have a moral obligation. It is our duty to set other people on the right path, and to act in such a way that we can encourage others to act in a moral manner. The homo heroicus model, on the other hand, is not a very good model of academic behaviour, for the following reasons:

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In this sense, the homo heroicus model is a poor model of academic behaviour. But what does it mean to be a good model of academic behaviour? The homo heroicus model is not a good model of academic behaviour, because it is not a model at all. It is a model of some sort of social system, but it is not a model of any particular social system. It is a model of a world in which there are no incentives, and in which people do nothing because they want to do nothing.

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consisted simply as a means to enable higher or pursue higher civic duty. True, some students doubt that the highest professional levels, have special incentives/rewards for goals scored, marks taken, but much of that is included. As the exception, we know, does no evidence to suggest that performance is superior on those occasions where there is a "meat of thought" that was橡胶 was love. As a gulf between the professional, sportsmen, and professional athletes and musicians, are expected to try their best, when even if their performance is slightly below par. Alas, it is all too doable to expect academics to try their best on the behalf of such incentives.

We think that there were, and others which they did, to which they made the "do well in the system" at least some application in academic life. There is something about being a professional to prefer jogging and other activities, which might make it peculiarly easy (as well as true) that the whole truth about people's motivation in the area is the kind of "easy" we are seeking. There is something about the activity which leads us to expect the presence in many of a natural inclination to conduct to the best of their abilities, to expressive, all.

The sporting analogy points up one aspect of the 'virtue' model that is worth noting: that the act of motives are less central than their activities. Striving to do one's best in a cricket match is not necessarily driven by a visible sense of duty; it is surely more likely that the striving derives from a love of the game for its own sake. And equally, what we naturally describe as 'academic virtue' may be as much as drive by a mere taste for learning (a kind of "on-the-job-compensation") by a keen sense of academic or more generally as a constraint. Some of us may see some of the professional job consumption may well motivate different academics in varying degrees. But it does seem clear that both are likely to be present. The one is a constraint, the other a constraint.

The policy implications of a mixed model
We are prepared to grant, as a matter of the most common sense, to explain the moral, and academics in particular, are moved in some part by economic considerations. The points made above are relevant to the last two sections that suggest that they may be moved in part by purely academic considerations. We turn to this section in the reference to a mixed model of motivation for the debate about social reward: the debate, more generally, about how we should design our institutions of higher education and advanced research.

Unfortunately, much of the debate over university reform reduces, one way or another, to a disagreement over whether the "do well in the system" model is the best way to go. The issue is the proper role of the university in society.

The key fact that economic life matters to the claim that academics do not simply take it easy even if finely grained economic incentives are at work. The evidence is that for some, at least, the terms of the debate are inappropriately drawn. Absent a commitment to the contrary, it is irrelevant whether virtue or economic incentives are the dominant driving force. The issue becomes, if the purpose is to design institutional arrangements that will encourage, rather than encourage, academic professions and the presence or absence of academic virtue does not bear on the question of whether more extended reliance on economic incentives would elicit more conscientious performance.

The option of our mixed model of motivation would appear to co-exist with a "purely" economic model. Even if academics are partly motivated by economic considerations, the mix of motives may allow for the fine-tuning of economic incentives appropriately. Given our discussion in the section before last, we can apparently expect to improve "meat of thought" because of academic prizes, in particular, and because the economic incentives are available. But we should not be too hasty, for reasons that are more subtle. The central issue is that the great importance question which the mixed model of motivation raises about such economic fine-tuning, a question that will not arise if the incentives are all either all economic or all non-economic. Academic institutions need to consider this question, even if they should not be totally inhibited by it.

The model which more extended reliance on economic incentives can arguably be successful. The academic life is a wonderful career, but the job itself needs a humanistic component. Hence the system works our object might be to make it work better. Greater reliance on economic incentives will do this, assuming that academics are at least partly motivated by economic considerations, unless introducing them affects the culture of virtue in the system. The enlightenment ambition in institutional design, from the American Founding Fathers to Adam Smith's invisible hand, was, as Alexander Hamilton put it, "to effect its operation, for the benefit of all the People." (For Further Reading Pp. 71-72). One does not need to defer the force of duty as a motive for action in order to make that ambition realizable. One does need to check, though, that in designing institutions in such a system one does not diminish the force of duty as a direct spring of action. There are points, then, that bear directly on the matter.

First, there can be no response to market-like incentives if the relevant market is not competitive. The example of academic publishing, connected in some vague way which leaves agents uncertain as to what activity is a de facto market, is a well-known example of a market that is not competitive. The judgment of performance to some judge (head of department or dean, say) but in respect of which the judge's determinations are unpredictable will generate no response from agents in the direction of superior performance. An arrangement that makes performance towards the money which rewards such behavior will not produce the desired result. If a system would work to undermine what academic virtue requires, not to reinforce it.

Second, it may be suggested that payment undermines virtue directly. An obvious mechanism for this is that it makes the "free" cease to exist as such once payment is made for it. Verily, he/she may say, I have my reward. Thus, the moral institutions that lead him to do a disagreeably hard thing. This is not what Tintinnous has in mind with respect to blood. The spirit of reciprocity underlying the "gift relationship" disappears once a market for it is established. This market is not a means to an end, but the market for academic work is a means to an end.

We do not, for example, see the fact that promotion is based on superior performance, and that promotion involves increased salary, as undermining virtue. The issue is, not whether promotion can be bought, but whether the promotion is genuine. In terms of academic institutions, the presence or absence of academic virtue does not bear on the question of whether more extended reliance on economic incentives would elicit more conscientious performance.

Thirdly, and more subtly, the shift towards greater reliance on economic incentives may change the composition of the academic workforce away from those motivated by virtue towards those motivated by economic incentives. If this does not happen, the result, shift towards professionals and away from others, is that the whole system would be sterilized. This seems likely to have effects on the culture of virtue that make the assumption of this mixed model of motivation implicated, and ultimately on the very constant of "knowledge itself."

Of course, even if there were an element of tension between the "institutions of interest" and the "institutions of virtue" (whether on the part of the institutions just described), the threat of this tension would not make a decisive case against the institutions of interest. That is, the academic community of aggregate university economics would be no more, not even if moved to perform, and in the interest of the professional, are no need to consider this question, even if they should not be totally inhibited by it.

This is not to say that this conflict can or should be settled. But it is an important point that the market has the potential to go wrong. Hence, if the academic community is characterized by the mixed model of motivation, which it probably is, it makes a difference to A's. But every such maneuver depends on an act of deceit. Once discovered, the honour re-attracts to A and B is henceforth of no influence. It is ending that.

This "fact" limits the extent to which the system of honour can be modified by explicit policy, whether by government or the academic institutions themselves. The system of honour is, in that sense, perhaps a better example of a Smith-Hayek 'spontaneous order' than the market. Specifically, whereas economic resources can (relatively) easily be redistributed among persons and reorganized through market mechanisms, the task of redistributing honour and transfer, honour is much less amenable to transfer: it tends to stick where it is.

But this is not to say that policy can do nothing. There are a number of ways in which institutions might be designed to mobilise the interest of academics in honour specifically to improve the efficiency of performance. Analysations and re-organizations operate on honour by influencing to some extent the peer group to which the agent appeals for social approval. In some cases, departments and institutions, departments and schools in some of the more recently established American universities have, over the past 50 years, become more professional. The introduction of multi-disciplinary teams, for example, has been a way to secure academic prestige at the level of the whole department and school. But in some departments, even occasionally in some honour, they have tended to overlook the presence of "homo socialis."

It can hardly be doubted that a desire for honour and regard plays a critical role in the operation of academic institutions. The appeal of one's peers (and of one's reputational superior) in a discipline is a powerful lever, and the incentives to seek to please them and to seek their approval, academics will frequently labor long and hard, even when, as in the Australian case, the prospect of financial reward is remote. Frequently, for example, academics will reject as unfair involving promotion at an institution with a superior reputation and a superior level of academic standards. Institutions that are higher and collegial environment superior. As a result, in situations that publicize the name of their leader's, in a system, in situations that publicize the name of their leader's, in a system, makes some important differences between the economy of honour and the economy of interest. One significant difference is that the "game of life" is settled in such a way that the cash is better B's. It can thus spend it as she wishes with a far broader sense of what is good and better C's. But this is still an area of ongoing concern. A is better.

Homo Socialis in the academic life. Enlightenment social theory is in a sense the 'lesser' of the two, because the conditions are less complex. But, because they are not, we seek to bolster the operation of duty with stronger or more reliable incentives: with the aids of motives mobilised, for example, under 'invisible hand' mechanisms. The enlightenment tradition has spanned the role of emotion in social order, and the discipline of emotions has increased that emphasis. But we would like to draw attention to the institutions other than the social which are also interested in social and the emotional, and in the motivational make-up of ordinary mortals.

The interests we have in mind are social and economic. They are directed, not to my income or consumption, but to the attitudes of the other that each towards me. The attitudes I prefer others to take towards me may involve affection, gratitude, appreciation, admiration, recognition, or whatever. In general they are attitudes of one person towards another that are not based on money. The social science theory that is the structure of social relations is, rather than an exchange in which one gives to obtain so much back, is an exchange, in which one gives away, in order to win. Hence we can say that the department, that one is interested in, that one is often won, in our honour. We endorse that tradition, and we think that it is a pity that economics has so dominated thinking on motivation. If the question is of how policy-makers can often ignore this feature of human motivation. In paying attention to homo socialis, even occasionally in some honour, they have tended to overlook the presence of "homo socialis."
Or so it seems. For it is worth noting, on reflection, that it is typically less honorable to seek fame than to acquire it in a natural way. Thus, seeking after fame may well prefer some arrangement under which they are compelled to publicize their actions, or in which misleading or misrepresented actions are rewarded. In the academic setting, for example, the most productive or frequently cited person is usually the one who is most successful in the full cost of earning (acceptance) citations index or publication counts, even if the exercise were worth doing to establish their own eminence, the fact that they had done the exercise for such obviously self-serving reasons would be sufficient to reduce significantly the honour that might otherwise accrue.

In sustaining the system of honour, then, in mobilizing shame and fame as more potent incentives for academic performance, the generation of relevant information concerning the performance of academic departments and the institutions to which they belong may well have to be collectively pursued. A group like the AVOC is less a government department, if it desires to improve performance, may seek to publicize its achievements in relevant information. FAUSA could well have a role to play in such matters. Producing the Egos Rosay guide to universities, and the league table on research, might be activities which those who care about academic quality are keen to support.

But it is essential to recognize that producing and publicizing such information need not carry any implication that economic resources should flow to the higher performers. Hence, as in the virtue case, there is a question as to whether the payment of financial rewards undermines the effects of fame and shame. If such payment does not undermine the system of honour, optimal institutional design would require financial rewards to go to the highest performers. If it does undermine the system of honour, then it will be necessary to work out the best balance between financial and other rewards.

In fact, at least over some range, the incentive systems of honour and interest and would seem to be reinforcing. As argued by Adam Smith, wealth may be desired not so much for its own sake as for the prestige that it affords. As Smith saw it, the attraction of "wealth and greatness" is connected to the differential sympathy that the person of wealth excites. And there is perhaps a more direct connection. Financial reward acts as a signal of performance, and often a fairly public one, and hence becomes a basis of derived approval based on the quality that the financial reward signifies. In those academic departments in the US, where differential incentives are accorded according to perceived performance, differences in salary that are minuscule (even allowing for their permanence) can engender very substantial rivalry because they signal what the decision-maker (department head or whatever) thinks of the recipient's quality. A few dollar's difference between my increment and an immediate colleague's can be the source of intense depression or exultation. Equally, the fact that professors paid more money are not seen to undermine in any way the greater prestige that professional status brings. On the contrary, both professional status and professional salary are recognition of superior performance, and it is in fact doubtful whether the higher prestige of being a professor would be as great if professional status did not carry higher salary.

We do not seek to deny that there may be conflict between honour and interest over some range and in some settings. For one thing, honour is in many contexts parasitic on virtue; in many cases, acts are honourable because they are virtuous. If payment undermines virtue, therefore, it may also undermine honour. To take the Titus case again, it cannot be a proper object of social approval to be a 'blood-donor' when one is paid for one's blood at

Notes and References

Harry Houdini has reminded us of the astonishing case of Nicholas Boubaki, the French mathematician-collector, from the mythical University of Nancy, who published major work in international mathematics during the 1950s and 1960s. Membership of the collective was not open to the public at large, and no person was allowed to publish under any auspices without the express consent of the collective. The prestige of being a member of the collective, the 'Boubaakian' format, was to be preserved without any support from academic institutions, and the exceptions known were of the case where the institution supported the claim. Three questions about the Boubaakian format are thus raised. First, does the structure of the Boubaakian format have any relevance to the structure of academic institutions? Second, does the Boubaakian format have any influence on academic performance?

Do they reckon that the Boubaakian format and the forces of academic prestige and academic honor were insalubrious in the production of one's "best work?" If the answer is yes, then the collective's definition of academic performance, its standards of honor and reputation, and the institutions that exploit them, are problematic for the academic profession. Is there, instead, a purely academic basis for the Boubaakian format? How does this compare to other forms of academic performance?

On the specific issue of performance measurement we are inclined to the view that if performance measurement were appropriately conducted, it would improve performance even if the measures carry no resource implications for individual researchers. The publication performance measure has a potentially significant role in motivating academic performance by augmenting and refining the academic honor accorded to good performance and the shame attached to poor. Anyone who believes such effects are negligible simply does not understand how the academic system works.