# Should Universities Be Conglomerates?

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Abstract

In the economics literature, a lot has been written on the effects of conglomerating different lines of business. In this paper, we will focus on such 'horizontal integration' in a university context and study the pros and cons of 'conglomerating' disciplines like economics, mechanics and medicine into one institution.

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## Introduction

The issue of conglomerating different lines of business has received widespread attention in the economics literature. Recent evidence from this literature points out that, while during the sixties and seventies, firms seemed to believe in diversification, they refocused their business in the eighties and nineties. Scharfstein(1997) summarizes this as follows:

'*Corporate diversification is out of style: focus is in. The consensus among academic researchers, consultants and investment bankers is that diversified firms destroy value. They tend to have a lower Tobin's Q; they trade at discounts to a portfolio of comparable stand-alone firms; they are more likely to be broken up when these discounts are larger; and the stock market reacts favorably to increases in corporate focus.*'

In this paper, we will focus on the 'horizontal integration' in a university-setting: we will study the pros and cons of 'conglomerating' disciplines like economics, mechanics and medicine into one institution. Indeed, over time, more and more knowledge was gathered and more and more disciplines were created. The structure of the university changed too: the number of faculties grew from the four traditional faculties (medicine, law, arts and theology) to a multitude of departments. Complexity hence grew over time. In what follows, we will look for the advantages and the disadvantages of having such 'comprehensive' universities.

In the extensive literature about education, this topic only received some scattered paragraphs[1]. As an appetizer, one of these paragraphs that is highly suggestive (Clark (1993)):

'*Comprehensive universities concentrate many fields in one locale under one official identity. Pretences of equality among fields can then be maintained; humanities professors can mingle with science professors in the academic senate and in other all-campus bodies; invidious comparisons may be made to bring the salaries and work conditions of the poor disciplines closer to those of the rich fields. But the concentration*

[1] F.e. paragraphs in Clark (1992-1995a-1995b)), James(1990), Tuckman and Chang(1990).

*of diverse subject areas in comprehensive universities runs squarely against the desire of many fields to separate from others and the wishes of patrons to sponsor on a highly selective basis…*

*Everywhere there are signs of limits being placed on the comprehensiveness of universities. Current opinion has it that henceforth no university will be able to cover all disciplines and their many specialities, that even the richest universities, for example, Harvard and Stanford in the United States, will need to clearly and decisively choose not to have research, research training, courses and degrees in an increasing number of fields. The spreading of fields differentially among institutions then becomes an important part of institutional differentiation, one that shapes graduate education more than first-tier programs. Notably, the increasing gap among disciplines, especially between the "hard" sciences and science-based professional fields and the "soft" fields of the humanities, social sciences, and related professions, is likely to be more represented among institutions'*

A) The Positive Effects

***A1) Predictability-uncertainty***

A considerable part of the university-income is related to the number of students enrolled[2]. If the evolutions of some disciplines are negatively correlated, then an intelligent choice of disciplines can decrease the volatility of the number of students at the university level. As one can see from table 1, which gives correlations between the number of degrees[3] conferred by field (United States, 1971-1994), the evolution of some subjects are negatively correlated.

[2] In 1995, on average 46% of the revenues American universities was coming from tuition and fees, a further 14% were appropriations by the government, which are often enrollment based (calculated using NSF's Webcaspar-database see http://www.nsf.gov/sbe/srs/stats.htm)

[3] It would be better to calculate this by enrollment though these data do not exist for the United States.

Table 1: correlation between fields of the evolution of the number of degrees conferred

| | Hum. | Nat. | Com. | Prof. |
|---|---|---|---|---|
| Humanities and Social Sciences | 1 | 0.19 | -0.33 | 0.15 |
| Natural Sciences | 0.19 | 1 | -0.81 | -0.57 |
| Computer Sciences and Engineering | -0.33 | -0.81 | 1 | 0.73 |
| Professional Fields | 0.15 | -0.57 | 0.73 | 1 |

Correlations are based on NCES (1996-tabel 27.1).

This coinsurance-effect is likely to be even more important for universities than it is for firms. Given the 'fashion-waves' in students' choices of subjects, negative demand shocks are relatively frequent and violent. To illustrate this, see table 1 and also table 2 which gives the distribution over fields and its evolution. Moreover, non-profit departments have difficulties borrowing money on the capital market (or are even not allowed to do this)[4].

Table 2: the distribution of degrees over different fields.

| | 1971 | 1976 | 1981 | 1986 | 1991 | 1994 |
|---|---|---|---|---|---|---|
| Humanities and Social Sciences | 40.1 | 35.4 | 29.5 | 27 | 32.5 | 34 |
| Natural Sciences | 9.8 | 9.9 | 8.4 | 7.8 | 6.5 | 7.2 |
| Computer Sciences and Engineering | 6.2 | 5.6 | 9.6 | 13.9 | 9.5 | 8.8 |
| Technical/Professional Fields | 43.8 | 49.1 | 52.5 | 51.2 | 50.3 | 49.8 |
| Not classified in a field of study | - | - | - | - | 1.2 | 0.3 |

Based on NCES (1996-tabel 27.2).

Especially the universities' employees will benefit from a decline in uncertainty: the managers' and the professors' income from labor is dependent on their job in that particular university and in that particular discipline. Diversifying labor income by working in more than one university[5] or in more than one discipline seems a bit difficult[6].

[4] According to McDaniel (1996) American institutions are more likely to be allowed to borrow money on the capital market than are European institutions. Moreover, there even exist Standard and Poor's credit ratings for debt issued by American universities. Also British universities are more and more turning to the private capital market (see http://www.hefce.ac.uk/Finance/PFU/default.htm). And the German Rectors lobby for the possibility to use private capital (see http://www.hrk.de/archiv/stellungnahme/Plen185_1.html).

[5] Though this 'prof-sharing' does happen in Belgium, it seems exceptional in the United States. Feldstein (1993,p40) :' Colleges and universities do not permit faculty members to teach regularly at other institutions…Any such change would antagonize a considerable number of faculty members, who might worry that this would eventually lead to lower salaries as it becomes expected that faculty members will do such outside teaching. The academic profession as a whole would frown on such an innovation as potentially reducing the demand for faculty members. Students and alumni of Yale would fear that the Yale

And the human capital of professors is very (subject-) specific which makes finding a new job more difficult.

There are two possibilities to buffer (temporary) shocks to total university enrolment. The first is diversifying the resources: if a university has resources that are not related to the number of students, she can use some of this other income to keep employment at the original level. A second solution is offering a wide range of (negatively-) correlated subjects: changing student preferences then mean that some departments lose while others win. The university council can then allocate the funds in such a way that the losing departments will lose less money by giving them funds that were won by the winning departments. Notice however that the first solution deals with shocks to the distribution, over the different subjects, of the total countrywide enrollment and to shocks to the total number of students. The second however is more powerful in protecting against shocks of the former kind while it can't protect against the latter kind[7].

Empirical support for the possibility to hedge by having a differentiated curriculum comes from Paulsen and Pogue (1988), who find that universities can reduce the sensitivity of their enrollment to economic conditions by dividing their students about equally over 'traditional arts and sciences' and 'vocational' degrees.

Finally, Weiler (1996) finds that 'availability of majors of interest' is a factor that significantly influences the students choice to enroll at a particular institution: prospective students who are uncertain about their choice of major thus will prefer comprehensive universities, which gives the latter a competitive advantage. So for United States universities, where students only choose their discipline of specialization during the first year, comprehensiveness could both reduce risk and increase size.

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education would no longer be seen as unique…With no market competition forcing the change and no incentive for personal gain to make the university administrator accept the pain of making the change, the status quo continues.'

[6] Though this isn't impossible either: I counted the number of people that work in more than one discipline of the University of Antwerp (Ruca-website). On a total of 424 people, 24 (5.6%) were 'bi-departmental'. Of course, the best insurance is working in different disciplines at different universities.

[7] Rose and Shepard (1997), on the other hand, find that greater variability in performance (of a firm) raises the wage of the managers.

Thus, at first sight, wide-ranging universities, by reducing (the consequences of) uncertainty, can be positive for university employees and students. However, this optimistic view will be tempered once we consider later on the moral hazards that are connected with sharing resources.

***A2) The internal capital market***

Suppose that there exist single department universities. Moreover, that for outside funding-organizations, it is difficult to obtain the information that is necessary to evaluate and control these departments. The solution is then the creation of the multiple department university: the governing council will have better information, hence control will be less costly and 'investment-possibilities' will be easier to evaluate. This could be a very important reason: countries, such as Australia (Watts (1996)), the United Kingdom (El-Khawas and Massy (1996)) and Belgium (Flanders, (Tavernier (1993), Wallonia (Bayenet and Thys-Clément (1995))) use funding rules that give a fixed amount of money for each student, though by the discipline, to the university. The fact that it doesn't give this immediately to the department could imply that the government expects the university to have better information and to apply other rules to distribute it internally[8]. The allocation-models used at three Flemish universities confirm that universities indeed do this. They all start from the principle that the department that teaches the course receives the money (which would allow the government to give it directly to those departments). However, they differ in their parameter-value choices, which could be interpreted as adaptations to idiosyncratic circumstances. Moreover, publicly provided research money is divided internally on basis of relative quality (within the university), irrespective of what department 'earned' the money (because the money is mainly dependent by the number of students).

Again, a little word of caution about this paragraph is appropriate because more information for the managers does not imply necessarily that this information will benefit the 'owners', but more about this later under the 'complexity' –heading.

[8] This is even explicitly stated in Australia and the United Kingdom (see infra). However, at the same time it induces universities to specialize into subjects that gives them the most rents (the same phenomenon but applied to hospitals is studied by Dranove(1987)).

***A3 )Complementarities- lower 'transaction costs'- integration of knowledge***

Third, complementarities might exist between related faculties: law professors could give courses to economics students. Hence, broader universities will be less costly because indivisibilities can be avoided and the number of students per course can be increased.

Clark (1995) further argues *'But the specialized university reduces interaction across disciplines and specialties, while the university that encompasses a good share of the disciplines…, enhances the development of the new streams of thought among as well as within the existing fields ,f.e. biochemistry, cognitive science, materials science and environmental studies'*.

Another point that might matter is that services such as restaurants or building maintenance are characterized by scale economies. A collection of small departments could, as a university, negotiate better contracts than if they have to negotiate among themselves before contracting out. Similarly, prof-sharing between departments or the shared use of buildings could only be possible or easier if you have a unified university.

***A4) Easy access- scale through scope***

If one assumes that there is a certain minimum size for a university to be viable or that there are important economies of scale at the university-level, then comprehensive universities would be a way to keep departments relatively small while still attaining a large overall size. Comprehensiveness would thus allow to reduce the costs of an 'easy access through regional implementation'-policy. We can illustrate this with the Dutch situation: while the number of new first year law students in 1998 was almost equal to the number of 'applied sciences' students, the latter was only offered at three 'uni-subject'-universities, while the former was offered by 9 'multi-discipline'-universities (Nature 6, Health 8)[9].

[9] Based on CBS-statistics.

***A5) Reputational bundling- comprehensiveness valued per se***

Next we have the bundling of reputations, in marketing circles also known as umbrella branding (Wernerfelt, 1988)[10]. Umbrella branding implies two effects. First, if a new department, that is added to a prestigious university, turns out to be a bad one, the reputation of the university as a whole will be negatively affected, i.e. a black-eye effect (Jensen, 1992). This first effect implies that only good new departments will be branded, which implies that branding can be credible as a signal of quality. This leads to the second effect, the halo-effect: new departments of a prestigious university will inherit some of the universities' prestige[11]. Goldin and Katz (1998) view this brand-name advantage as one of the reasons of the increase in scope of American universities and of the demise of independent professional institutes between 1890 and 1940: '*Certain universities had, as well, the capacity to bestow reputation on new divisions in untried areas, such as business schools, and in areas plagued by claims of quackery, as were medical schools in the wake of the 1910 Flexner report.'*

Finally, the fact of being comprehensive can be valued per se:*' A 'technological university' always seems truncated; oddly assembled 'universities' composed of two or three professional fields such as law, pharmacy and pedagogy are widely seen as not true universities…Comprehensiveness is also an important ingredient in reputation'* (Clark, 1995). The Free University of Brussels even mentions its 'completeness' explicitly in its publicity (Jorens,1990)[12] !

[10] 'some universities now resemble franchising operations in which the central authority imposes a levy on departmental franchisees in return for the provision of central services and an easily recognizable corporate image ' (Williams,1995)

[11] Umbrella branding by universities is not restricted to educational activities: Harvard, for example, attaches its name to all kinds of products, ranging from briefcases and ties to even Cologne. That they are aware of the potential dangers of such a 'commercial' approach is proven by the fact that they do not sell all of these products in the United States! Moreover some products are out-of-question: 'Cornell university politely declined a request to license a line of Big Red Rubber Condoms several years ago.' (WSJ,30/12/97)

[12] Although it is unclear in what sense it uses the word: it can also mean that it organizes both first and second cycles.

B) The Negative Effects

Until now, we mainly highlighted the positive effects of comprehensiveness. However, empirical (Berger and Ofek (1997), Markides (1995)) and theoretical (Rajan et al. (1997), Scharfstein (1997)) results for for-profit firms indicate that owners, at least, in some cases should prefer to split up their multi-department firm into several stand-alone firms.
Similarly, are their circumstances that would lead a country to split up its multi-departmental universities in stand-alone single-department universities[13]?

***B1) Uncertainty and internal capital markets part II: Moral Hazard***

Suppose the university gets money in proportion to the number of students. The incentives for a department to be of high quality (with the assumption that more quality leads to more students) could then be higher in a single department university than in multiple department university because of cross-subsidization and/or redistribution in the latter. At the multiple university, it is the central council that gets the money, which then has to be divided between departments. If the university council chooses to buffer the losses of one department with the gains of another, then there should be detrimental effects on departmental effort because more effort is only partially (or even not) rewarded.

This reasoning can be extended to costs: if low costs are rewarded by extra government money (or internal money), a single department will reap all the benefits of its effort while a member of a multi-department university will fear that their effort will be undone by the 'white elephants' of other departments or that the extra money will be captured by other departments.

[13] One might say that university disciplines are much more similar than are different branches of a big firm. However, Hanweck and Hogan (1996) find disconomies of scope between different business-lines of the insurance industry and Glass and Mckillop (1992) find that for banks, combining investment and loans increases costs. Silk and Berndt (1995) find that some advertising agencies excessively diversify into different sorts of media. Moreover there are some recent anecdotes, first, Interbrew (beer) sold Chaudfontaine (water) because it wanted to concentrate on its more tasteful core activity. Second, the

Two illustrations of this[14]

- Smith (1992, p. 67-about University of Oklahoma): *"Enrollment in geosciences has decreased by almost 50% since 1982. Primarily as a result of the decrease in enrollment, the per student funding in geosciences from FY 1982 to FY 1990 rose in real terms by 61%."*
- Argyres and Liebeskind (1998*):"innovation in biotechnology however does not naturally improve the study of areas such as humanities, and so, universities had to 'create' positive spill-overs through the sharing of royalty income with other (especially non-science) departments. Matkin (1990) and Williams (1994) report that 84 % and 100% (respectively) of the universities they surveyed reallocated royalty income between departments, with the reallocated shares reaching as high as 85% of the net royalty income"*.

So what we have here is the classical moral hazard (in teams) problem: if you are insured, your gains of being careful are smaller as are the losses of behaving in a risky fashion. Effort will thus be smaller.

***Intermezzo: more about the allocation of resources at the university.***

The way a university organizes its internal finances depends on a lot of things. University-specific factors such as for example, the size (one could expect smaller universities to have more informal mechanisms), the mission (research versus teaching), regulating authority (private or public) and environmental factors such as government regulation all are possible determinants.

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difficulties between Arthur Andersen and Andersen Consulting, that moreover were due to their internal profit-sharing rule!

[14] There are counterexamples too, for example, Koepnick (1995): "the FM-royalties helped the Center for Computer Research in Music and Acoustics grow from a one-room lab into a multi-disciplinary research center (and) have nearly reached the projected endowment level, which means the Center will soon be able to survive indefinitely at its current staff and student level" and Janssens (1996) cites an invention for which 90% of the income was assigned to the research foundation of the inventor, while 10% was assigned to the university.

One of the more important factors is the governmental influence. The internal allocation can be influenced by the way the government funds the individual institutions. F.e. if the government gives more money for law-students than for economics-students (assuming similar costs), the university would be induced to direct prospective students into law.

However, government-officials have been reluctant to be very clear about the rules they use. In the seventies and eighties, the University Grant Committee (United Kingdom) for example, refused to make public how it assessed the components of its block grants to institutions, on the grounds that the information might influence institutions‘ own decision making (Frackmann, 1988). Its successor, the Higher Education Finance Council (HEFCE, internet) recently stated: *’The HEFCE allocates funds to each university or college to support teaching, research and related activities. These funds are provided in the form of a block grant. Institutions are free to distribute this grant internally at their own discretion, as long as the funds are used for the purposes for which they were provided.’* However, at present it is known via the research assessments which departments are responsible for what part of the funds for research and via the price-tags of the different subjects, how much each student is valued, so pressures from the departments that get less money than they earned are to be expected. A study by Jones (1994), studying the allocation mechanism at three British Universities confirmed this:*’ Around 1990 all three universities developed new planning models which reflected the format of information received from the UFC detailing the compilation of the block grant.’*

Something similar happened in Australia. In the eighties, the Commonwealth Tertiary Education Commission did not reveal the formula it used to calculate each university’s operating grant. As a consequence, it were the senior administrators and a budget committee that made the budgetary decisions. In 1991, however, the government introduced a relative funding model where different subject-groups were assigned different amounts of money per full-time equivalent student. At the same time, the government stated explicitly that this system was not meant to govern the internal

allocation but a survey later found that the majority of the universities did use elements of this system in their internal allocation (Watts, 1996).

However, while sometimes following the government rules, universities often use their autonomy to create an internal distribution of resources that is more conform to the university-preferences. For example, a study commissioned by the HEFCE in order to look at the consequences of the 1992 Research Assessment Exercise states (Segal et alii, 1996): *'Internal allocations are generally determined within a formula based framework which explicitly recognizes the Quality Rating generated by a department. Central management, however, retains the authority to intervene in the allocation process, for strategic and other reasons, and this is frequently exercised. Some higher education institutions do not consider that HEFCE allocations properly reflect the true relative costs of research between areas. In these circumstances decisions have been taken effectively to cross-subsidize between subject areas'.*
Some Flemish universities[15] behave in a similar way: the weights given to different (subject-) types of students by the government are modified in the models the universities use for their internal resource allocation.

And even the American Research universities, in spite of their 'business-style management '-reputation, seem to go astray here. Cohen and Noll (1998) write: *'central budget decisions of research universities naturally tend to favor academic units that do not have access to other substantial means of support. Typically, units that receive substantial amounts of grants and gifts have larger total expenditures per faculty member in all areas, including clerical staff and graduate students. However, budget support for these departments from the university administration is usually smaller than for disciplines that do not receive grants. As a result, the overall budgetary impact on an academic unit from successfully raising its own funds is to have this revenue partly offset by reductions in its central operating budget. In short, as collective decision-making*

[15] For a more detailed account of the internal allocation mechanism used by some Flemish universities see the appendix.

*institutions, universities are egalitarian, redistributing income from 'rich' to 'poor' disciplines'.*

Moreover, Ehrenberg et alii (1993) finds empirical support for this crowding out effect: *'these estimates suggest that increases in the overall number of (graduate) students supported by external funds in the science and engineering fields are used partially to subsidize graduate students in psychology and mathematical sciences' and 'an increase in the number of non-engineering students supported on external funds is associated, ceteris paribus, with a decrease in the number of engineering students supported on internal funds… This may reflect the politics of the allocation of internal funds within institutions, with fields that are relatively successful in generating external funds (engineering) losing some of their 'internal clout' when other fields' success increases.' (Though the effect of both is relatively small: +2%, –3 à -5%)* [16].

*Why do universities do this?*

Possible explanations for this resource-redistribution could be found in the above "insurance" or "internal capital market"- advantages. However, there might be less positive reasons: political powerplay or influence-activities might make an efficient allocation impossible.

Indeed, though the size of the department and its performance in attracting external funds seem to be a determinant of departmental power, networking could be as important. Winans (87) for example found for the University of California that though undergraduate enrolment was important in attracting resources to the university, it did not appear to be a major factor influencing departmental budget allocations. The factors that were important were a 'reputational dimension'[17] and an 'interpersonal dimension'[18]. Hardy (1988), Pfeffer and Moore(1980) and Hills and Mahoney (1978) further point out

[16] At the university-level, this study shows that an increase in externally supported students goes together with fewer institutional supported students. Connoly (1997), however, finds that extra external money for research increases the internal money for research. McPherson and Shapiro (1991-1993) find that increases in federal student aid lead to an increase of tuition at public universities (but not at private ones) and that more federal research grants lead to more instructional expenditures, more institutional support and lower tuition. Finally, Goolsbee(1998) finds that increases in federal R&D spending raise the wages of the scientists.

[17] This is the quality of the department as perceived by the other departments.

the importance of lobbying, committee-membership and other power/political-instruments on the allocation-process.

Universities further tend to sustain marginal departments (hysteresis)[19]. These departments will, of course, drain resources away from departments with better prospects. The reason for this reluctance to close down departments might be the influence activities of the staff of these 'no future'- departments (as in Meyer et alii (1992)). Indeed, the latter do not only have more interest in trying to influence the decisions but also more time to do so (fewer students means fewer lectures, less tutoring and hence more time for research but also for lobbying and even to take up administrative functions). In a university context, the existence of tenure even institutionalizes sustaining marginal departments and thus, the existence of financial cross-subsidization: if you have to keep the department open, you can as well give it funds.

Finally, disconnecting performance and rewards might be necessary to make cooperation between disciplines possible. Indeed, different departments are linked not only through financial links but also through real links: the economics department is giving lectures to students from the law department, hence this makes them dependent too: if the law department does a bad job it influences the economics department (two effects play here: on one hand, fewer law students to teach by the economics department but on the other hand some of these would-be law students could choose economics). Moreover, these departments fish in the same pool: they are competitors for the same students so the law department would even have reasons to let their representatives in the economics department teach bad lessons in order to decrease the quality of the economics department! So in order to let them work together, one needs to reduce the internal competition for students and hence make the internal allocation of money less dependent of the number of students attracted. A nice example of this is what happened at Indiana

[18] This is the personal contacts with those responsible for the budget.

[19] An example (Clotfelter,1996): 'With much fanfare, university committees deliberated over the possible elimination of five academic units. In the end only two of the five were dropped-the nursing school and the education department…Nevertheless, no tenured faculty member had to be let go as result of these changes, and, within a decade, the university was offering graduate degrees in both nursing and education.

University (Marcus, 1999). Between 1990 and 1997, the enrollment of the college of arts and sciences declined by about 40%. But *" since the university's budget is divided among its various schools, based on the number of credit-hours they teach, the college of arts and sciences has run a deficit of between $1 million and $1.5 million dollar in each of the past three years, and has had to borrow to make ends meet."* So the college reacted: *"the college tried luring incoming students away from the university's popular pre-professional programs with colorful advertisements on campus shuttle buses, in newspapers and on posters*[20]*"*.

Given all these different influences, the conclusions of Nevin (1985) that in the United Kingdom '… there are probably as many different systems … as there are universities' and that 'it may be so that all this results in rational and equitable distribution of resources, but if so it can only be by a most remarkable coincidence' is not surprising.

*Devolution = solution?*

One might say that decentralization or devolution of budgets (as is fashionable now at British universities and apparently also at Flemish universities) can soften[21] the above problem. Still, as a department can always threaten to damage the reputational capital and because the holding company remains liable for its parts, such a policy lacks credibility. An example of this is what happened at the University of Bath. After having implemented a 'cost center'-system, some centers could not balance their budget. Then *'in the process it was not always possible to avoid capping the income due to more successful groups in order to create such transitional funds'* (Bourn, (1994)).

The same can be seen at some Flemish universities where the recently implemented redistribution-systems are said to be applied not too stringently because of historical patterns.

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Similarly in Flanders, excluding students of small departments from state funding did not provoke the shutting down of those departments because 'the staff remained at the institution' (Dillemans (1997)).

[20] Another example that could be interpreted as a sign of internal competition is that the differences in grading policies of departments at an American university influenced the distribution of enrollments over departments (Sabot and Wakeman-linn, 1991,JEP).

[21] Only soften because in general taxation by the central level remains, which can be used to cross-subsidize.

***B2) Integration of knowledge part II***

Whether belonging to one institution facilitates interfaculty cooperation is questionable. Indeed, the fact that a big part of the multi-authored economics papers are written by authors from different universities goes somewhat against this idea[22]: it indicates that belonging to different universities, even if they are located far from each other, is not detrimental to cooperation, at least, for research within a discipline.

What is more, until now we have supposed that giving philosophy-courses to engineers was in the interest of the students, who would thus be "forced" to become more open-minded. However, bundling courses in this way could be a manner to maximize the income of a monopolist-university (Spiegel and Templeman (1996)). Indeed, if a university has (or wants) to use a uniform tuition for all students, bundling can maximize its income. Assume that person 1 values philosophy at 5 and engineering at 2, while person 2 values philosophy at 3 and engineering at 4. If the university now offers the bundle at 7, it obtains 14. If she would offer the two courses separately, she would get the maximum of (5,3*3) for the first course and the maximum of (4,2*2) for the second, in total 10.

***B3) Complementarities***

Indivisibilities could be solved by using part-timers. And this is what is happening too: the use of part-time staff is becoming more and more popular (f.e. website of Carnegie claims that 43% of staff is part-time). Still, it's not uncommon that the wage-cost of a part-timer is relatively higher than that of a full-timer. In addition, it might be difficult to motivate part-timers. Nevertheless, a bigger departmental scale would solve both indivisibilities and 'students per class'-related problems: a big economics faculty can afford its own law professor.

[22] This conclusion is based on following little experiment: I took randomly three issues of the Economic journal: out of 47 papers, 23 were single authored, 6 coauthored by economists from the same university , 17 coauthored by economists from different universities and 2 coauthored by a combination of common and different universities. One could say that this is normal because it is unlikely for a university to for example need two specialists in labor economics. Thus these people are obliged to work together with a specialist from another university. However, this implies that the abyss between different economics subjects is more important than the (presumed) difference in transaction costs because the labor economist can as well choose to do applied labor economics, working together with the local econometrician.

Many universities solve the indivisibilities-problem by letting professors teach students of different disciplines. But this too has some side-effects : indeed, the pay off for the law professor that teaches economics students could be lower than for the law professor who teaches law students: if he is doing a good job, it will be less clear to his colleagues that decide about promotions (they have less contact with economics students and being good at teaching economics students does not necessarily imply that he will also be good at teaching law students). So the quality of a law teacher that is part of the economics department could be better than the quality of a law professor that is part of the law department but teaches in the economics department. On the other hand, one can question the ability of economics professors to judge about the promotion of the law professors of their department because they have difficulties in evaluating his research-performance. Conclusion: one could have a trade-off between teaching quality and research quality!

***B4) Reputational Bundling***

This temporary lending of prestige might be beneficial on the institutional level because it allows institutions to attract students at a lower cost (because it is costly to build up a reputation if one has to begin from scratch).

One might then conclude that this is beneficial for the government too, because it can transfer fewer resources to such a university. However, this conclusion is only valid if this reputational spillover is justified f.e. a better management system that can be applied to the new faculty. If this is not the case (hence getting a better reputation just because of being part of a prestigious university, i.e. only a small or no black eye effect), then reputational cross-subsidization allows a university to sell a lesser real-quality product as first-rate[23].

[23] To give an example of this possibility: suppose that one has a one faculty university with real quality X' while one has a two faculty university with as the faculties' real quality, X and Y. Moreover, suppose that the **expected** quality of a new faculty that both universities want to found is the average of the existing ones, resp. X' and (X+Y)/2. If now, (X+Y)/2 > X' while the new faculty of the X' university is of higher **real** quality, one has a problem. The graduates of the X'-university will get a better education (real quality) though firms would base their decisions on expected quality.

***B5) Trade-diversion***

Amalgamations can also lead to a 'trade – diversion'-like phenomenon: if the economics department of university A wants to develop a joint law-economics degree it is likely to be forced to work with the law department of university A even if the law department of university B is better. As a consequence one will have a 'lower than optimal quality'-program and also a duplication because the law department of university B might want to install a similar (and competitive!) program. So internal diversification could lead to (excessive) duplication of programs!

***B6) Some extra motives for the managers: complexity and size***

Even if the university council has better information (as the internal 'capital-argument'-supposes and as many governments seem to believe), this does not necessarily mean it will use this information in a way that the government likes. Moreover, comprehensiveness can be favored by the university as a way of making monitoring more difficult f.e. James (86) notes *'external actors such as state legislators and private donors, have only limited influence over the behavior of (American) universities because of the substantial opportunities to cross-subsidize by internal actors in these educational institutions'*. Or Clark (1995a) *'and since the modern comprehensive university of substantial scale is too large, too deep and too complex for anyone from the outside to grasp in detail, its breadth offers defense in depth against close top-down scrutiny, by government or other patrons of the operating units in which research, teaching and study are enacted'!*

Besides, remember that the university council consists mainly of academics, which makes it more a representative of the employees than a representative of the employer. Moreover, the fact that the market for university administrators is virtually nonexistent in Europe (while in the United States mobility is more common) makes that incentives to do a good job are rather low. However, the advantages of mobility in our context will be low: an administrator that successfully refocused by closing down some departments is likely to be vetoed, if he applies for a job at another university, by those departments that fear to be victimized.

This complexity can also trouble potential sponsors: if they have to give the money to the university instead of the department, they do not know if the money they will give will be used for the goals it was intended to. Two effects may play here: the sponsor gives more than initially planned in order to give the department the amount he wants (kind of an income effect) or he will use (some of) his money on something else (substitution effect) (see Fisher, (1977)). From the viewpoint of the government, this bundling can be good as well as bad: if a private sponsor is forced to give more, the government might spend less though on the other hand, if it wants to support one subject, it will be confronted with the same problem as the private sponsor above.

Finally, in the university-setting, Jensen's free cash flow theory (1986) becomes Bowen's law: universities spend everything they get and always ask for more[24]. So instead of refunding money if they have some leftovers, the administrators will prefer to spend it if they themselves gain from it. That this could be the case is exemplified by the fact that, as is valid for firms, bigger universities pay their administrators more: in 1973-1974, the median salary of presidents of American universities of fewer than 5000 students was more than 25% lower than the median salary of presidents of American universities of more than 10000 students (Garvin, 1980,p25). So if the size of the university could be increased by enlarging the number of subjects offered, university CEO's will favor to spend money on diversification plans.

**Conclusions: A Link to the firm-literature**

In this paper, we have identified several factors that should be taken into account when comparing focused universities with diversified universities. Remains the question whether one of the two forms is better than the other.

In Europe, comprehensive universities live side by side with focused ones and for the United States, the Carnegie-Classification (1994) labels 720 (20%) American universities

[24] That universities are always looking for money is nicely illustrated by Jonathan Swift(1726/1992, part three,ch5 and 6). When visiting the academy of Lagado, Gulliver meets a researcher (p191): "I made him a small present, for my lord had furnished me with money on purpose; because he knew their practice of begging from all who go to see them".

as being 'specialized' (where specialized is defined as conferring at least 50% of its degrees in one discipline). This indicates that neither comprehensiveness nor focusedness is a 'conditio sine qua non' for viability.

The articles concerning firms we cited found that for the owners of some firms it would be better to break-up their 'comprehensive' firms. In these articles, the main reason for this malfunctioning is said to be the tendencies to invest in all divisions ("egalitarian" policies) instead of investing only in the most promising divisions. This allows these authors to cast doubt on the internal capital market and thus to prefer external financing by stand-alone divisions: due to increased availability of information, the external capital market now allocates better than the internal one.

We observed that it is not unrealistic to describe the allocation policy of universities as functioning as an internal capital market but also that, like the 'bad' firms, universities have such an egalitarian bias. The obvious question is thus whether a similar conclusion (pro brake-up) is valid in the university-setting. But what is then the external capital market for universities ? With the exception of some for-profit universities, these institutions are not quoted on the stock market. And their relations with banks are fairly limited. What is left is the government (or the trustees). Should it prefer stand-alone disciplines? Is it capable of deciding where to invest most? Different governments seem to have different ideas about this: in the United Kingdom the government decides the part of the 'research assessment exercise'-money that is available for each discipline, while f.e. the Flemish government gives a part of the research money as a lump sum to the universities. The fact that both governments allow universities to redistribute does hint, however, that government finds that the university is more competent to make such decisions. Whether they are as 'blind' as some owners of the diversified firms are, seems difficult to determine…[25]

[25] Still, while it is difficult to judge the transferability of the informational explanation of the firm-findings, the motivational effects described above remain. These motivational aspects are likely to be more important for universities because professors likely are more sensitive to the non-monetary advantages that are implied in the departmental budget, than are business-line managers whose salaries are linked much more to their business-lines' results (even if studies about the salaries of academics do show links between for example research-performance and wage-for example Hansen et al(1978) or Siow(1991). In addition, even for firms this motivational aspect might play: Fauver, Houston and Naranjo (1998-cited in Bolton and Scharfstein) find that in countries with poorly developed capital markets, the conglomerate discount is not

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very large. Poorly developed external capital markets imply that investment decisions made through the external capital market should not be better than through the internal capital markets. The fact that they nevertheless still find a negative premium could be explained by the reduced link between non-monetary rewards and effort !

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