

Why Is Harvard #1?

Governance and the Dominance of US Universities

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Abstract

This paper examines three related puzzles: 1) Why do US universities dominate the global rankings? 2) Within US universities, why is Harvard University usually ranked at the top? 3) While most universities take centuries to acquire a global reputation how have many US universities leapfrogged to the front ranks of educational institutions in a relatively short period of time?

The perspective that we provide focuses on governance structures of US Universities. Looking at both historical data as well as contemporary data collected for this paper, we provide some new evidence and some new conclusions.

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1. Introduction

If we look at the top global universities, three puzzles present themselves.

First, the US university system as a whole has dominated the global rankings for a very long time. Second, Harvard University has been the top ranked university for an unusually long period of time. Third, while it is commonly acknowledged that it takes a long time to create a world class university, many US universities have achieved front rank in a relatively short period of time.

The question is why has this happened?

In this paper we look at all three questions anew and provide a unified approach to understanding this issue. It is based on the governance structure of US universities for we have gathered some new data. Governance structures of complex entities are important not just because of the incentives that they provide to guide action but they also determine how they related to their multiple stake holders. Indeed precisely on account of the number of stakeholders that they must manage, universities are among the most complex institutional entities in existence. Therefore an understanding of these questions is important not just for universities but also for institutions in general.

We take two related approaches in examining the issues. One is a historical thread that we draw out of the history of the evolution of US universities – with a focus on understanding the evolution of governance. Though it focuses on a few others as well, this thread primarily looks at Harvard University with a view towards providing an understanding of the path dependence in its evolution. Many of the choices made at Harvard were a product of historical accidents. But none the less, through a process of selection and refinement, they exerted an influence far beyond Cambridge, Massachusetts. In order to understand universities currently, it is critical to understand how this thread evolved. The second thread focuses on some characteristics of the top 100 US universities as they exist now.

These two threads will be linked in a classic T – one thread will deep while the other will be broad and will provide complementary approaches for analyzing the puzzles and in drawing them into a unified whole. For the first thread we shall examine historical materials pertaining to the institutional development of universities. Some of this material is scattered and not very widely known; other material, especially archival material pertaining to voting records, has become available relatively recently, and there is some benefit in pulling it together. For the second thread we have collected data specifically for this paper and there is benefit in examining it to see what light they shed on the questions at hand.

The subject itself is of considerable interest, not just on account of the unique institutional arrangements that are on display in universities but also on account of the impact that universities have on their local and national economies. For the US, (Jaeger and Page 1996) chronicles the role of spillovers of US university research and identifies the historical antecedents by which the universities came into that role, through the Morrill (1862), Hatch (1887) and Bayh-Dole (1980) Act. This was confirmed by (Aghion, Dewatripont et al. 2008) who finds strong evidence of spillovers of university research into patents filed within the same geography. And of course, universities have a variety of other benefits for the economy and the society at large. Therefore the issue bears close examination.

2. The Three Puzzles and the Literature Review

We look at each of these puzzles in turn.

The dominance of US universities was noted more than twenty five years ago by Henry Rosovsky, the then Dean of the Faculty of Arts and Sciences of Harvard University, and at one time its acting President. He referred to a 1987 ranking published by Asian scholars in the Asian Wall Street journal that showed six out of the top ten Universities in the world were from the United States (Rosovsky 1987). They included Harvard (ranked #1), Stanford, Berkeley, MIT, Yale, Cornell and Michigan. The non-US universities included Cambridge/Oxford (inexplicably clubbed together), Tokyo and Paris-Sorbonne. In a later book, Rosovsky added that even if the list of top ten were expanded to the top twenty or thirty, two-thirds to four-fifths of the top universities would be US based (Rosovsky 1991). Nor has this situation changed much in recent years. If one looks at the global rankings produced by the Shanghai Jiao-Tong University in 2010 for example, eight of the top ten and fully seventeen of the top twenty universities are from the US, again led by Harvard in the top slot. The non-US universities are Cambridge, Oxford and Tokyo at the fifth, the tenth and the twentieth slots, respectively. Note also the wide gap between the scores of Harvard and its nearest competitor on this scale, Berkeley.

He was led to state (Rosovsky 1991): “What sector of our economy and society can make a similar statement? One can think of baseball, football and basketball teams, but that pretty much exhausts the list. No one has suggested that America is home to two thirds of the best steel mills, automobile factories, chip manufacturers, banks or government agencies.” He adds that: “It has been suggested to me that we are home to a similar proportion of the world’s leading hospitals. Since most of these are part of university medical schools, my point is reinforced.”

Rank	Institution	Country	Score
1	Harvard University	USA	100
2	University of California, Berkeley	USA	72.4

3	Stanford University	USA	72.1
4	Massachusetts Institute of Technology (MIT)	USA	71.4
5	University of Cambridge	UK	69.6
6	California Institute of Technology	USA	64.4
7	Princeton University	USA	60.8
8	Columbia University	USA	60.4
9	University of Chicago	USA	57.3
10	University of Oxford	UK	56.4
11	Yale University	USA	54.6
12	Cornell University	USA	52.6
13	University of California, Los Angeles	USA	52.2
14	University of California, San Diego	USA	50
15	University of Pennsylvania	USA	49
16	University of Washington	USA	48.7
17	University of Wisconsin - Madison	USA	46.4
18	The Johns Hopkins University	USA	46
18	University of California, San Francisco	USA	46
20	The University of Tokyo	Japan	45.9

Table 1: The World University Rankings – Shanghai Jiao-Tong University

Actually, it would be hard to consider baseball, football, and basketball as areas where the US dominance is noteworthy. Baseball is played seriously in only a few countries outside the US. Football, means American style football which is unique to the US (hence its dominance is a given) and basketball hardly arouses the same enthusiasm outside the US as it does within it. Therefore the US *exceptionalism*¹ in its university rankings is all the more notable. (Tocqueville, Reeve et al. 1840) (pg. 36), (Pease 2009), (Hess 2001) (ch. 14)

Note also that the Wall Street Journal rankings of 1987 and the Shanghai Jiao-Tong University Rankings of 2010 both have Harvard on top. So what accounts for this dominance? Rosovsky's answer starts with the fairly obvious factors:

“Our national wealth, large population, government support especially of science have to be significant explanatory factors. The constructive influence of Hitler refugees undoubtedly was important in setting new standards of quality beginning in the 1930s. The American habit of private philanthropy remains crucial.”

¹ The term exceptionalism in the context of the US was first used by Tocqueville (1840) and its most prominent modern proponent is Lipset. See Hess 2001 ch. 14.

In addition he alludes to the fact that there is the fierce competitiveness of American universities for students, for faculty, for athletes, and for funding which forces them to constantly be on their toes. He mentions the American practice of tenure which involves a long period of gestation during which faculty members have to thoroughly prove themselves. And finally he mentions the fact there is unitary governance – that ultimately it is one person who is in charge and that is the president. While educational matters such as curricula, hiring, tenure and admissions are delegated to faculty, the president retains powers over new programs, budgets, endowment and long range planning. The president is only answerable to a Board of Trustees.

He points to two notable features of this governance structure:

“First, chairmen, deans, provosts, and similar levels of senior and middle management are appointed, not elected and they can be dismissed. This is crucial because academic elections tend to result in weak leadership. What professors in their right minds would vote for a dean who advocated cuts in *their* departments? Second, relatively independent trustees serve both public and private schools, giving considerable protection from political interference even to State universities.”

He concludes that the final factor in a large and geographically dispersed nation is regional pride. “Many of our best institutions – public and private – are clear expressions of local patriotism. The University of California, Stanford, Texas and Duke are just a few of the obvious examples.”

Rosovsky has undoubtedly gathered many of the most interesting points about the US environment and institutional governance in one place, and they clearly have a lot to do with the pre-eminent position that US universities occupy in the world today.

Since Rosovsky a significant literature has developed around the performance of universities. An earlier literature was inconclusive about the link between autonomy and performance. (Goldin and Katz 1999) finds “little evidence to support a relationship between freedom from State academic and financial constraints, on the one hand, and faculty and student quality and external funding success, on the other.” The study by (Volkwein and Malik 1997) also “fails to find empirical evidence” of a “connection between autonomy and quality”. However, the sample sizes in the two studies were rather small.

But recent work has been more definitive. For example, (Belman and Heywood 1991) note that a combination of “autonomy and competition” makes universities more productive. They add “neither alone is sufficient. There is some danger in giving universities great autonomy if they are not in an environment disciplined by competition for research funding, faculty, and students. The autonomy might be used to pursue goals other than expanding the university outputs that are valued by society. There is little point in promoting competition among

universities if they do not have sufficient autonomy to respond with more productive, inventive, or efficient programs.”

Universities are more competitive and autonomous if they: to quote (Aghion, Dewatripont et al. 2010) page 20:

1. “do not need to seek government approval of their budget,
2. select their baccalaureate students in a manner independent of the government,
3. pay faculty flexibly rather than based on a centralized seniority/rank-based scale,
4. control their hiring internally,
5. have low endogamy,
6. own their own buildings,
7. set their own curriculum,
8. have a relatively low percentage of their budget from core government funds, and
9. have a relatively high percentage of their budget from competitive research grants.”

For US universities, questions 6 and 7 are not asked because the answer is affirmative in all cases that they look at. (Aghion, Dewatripont et al. 2007) summarize this research by pointing to five conclusions:

- 1) there is a large gap between US and European universities, especially at the top
- 2) the quality variance among European schools is lower so that they do better in the middle
- 3) Public universities perform well in Switzerland and Sweden but private universities do well in Britain and the Netherlands
- 4) Money helps improve universities
- 5) Autonomy promotes research.

(Knott and Payne 2004) find that “for most of the measures, productivity and resources are higher at universities with a Statewide board that is more decentralized and has fewer regulatory powers”. That is those boards are best that govern the least.

There is no question that autonomy, competition, size, historical circumstances, quantum research funding are all extremely significant determinants of university performance.

However, many other nations have tried to copy many elements of this system, with centralized support for research, independent peer review for promotions and tenure, competition for faculty, and singling out elite universities for special treatment (Deem, Mok et al. 2008). Yet no country has come close to denting the nearly complete US monopoly on the *highest* quality higher education. This has been true for a very long time.

It may be surmised that it takes a long time and a lot of resources to create a really great University and that in time others will be prominent too. Philip Altbach tells the story of John D.

Rockefeller asking the legendary President of Harvard University – Charles W. Eliot, what it would take to create another Harvard. Eliot is supposed to have retorted that it would take \$50 Million and 200 years. Yet, with slightly more than \$50 Million that Rockefeller personally endowed, University of Chicago became one of the top Universities in the world in a few short decades after its founding in 1892 (Altbach 2004). Nor was the University of Chicago unique. The same pattern has been observed in the case of other universities which, very quickly after

Rank	University	Trustees	Alumni	% Alumni on Board of Trustees
1	Harvard University	30	30	100%
2	Princeton University	42	38	90%
3	Yale University	17	17	100%
4	Columbia University	23	23	100%
5	Stanford University	31	28	90%
5	University of Pennsylvania	58	53	91%
7	California Institute of Technology	50	20	40%
7	Massachusetts Institute of Technology	73	57	78%
9	Dartmouth College	22	20	91%
9	Duke University	36	31	86%
9	University of Chicago	46	36	78%
12	Northwestern University	81	56	69%
13	Johns Hopkins University	63	42	67%
13	Washington University in St. Louis	53	29	55%
15	Brown University	42	37	88%
15	Cornell University	64	55	86%
17	Rice University	24	14	58%
17	Vanderbilt University	56	45	80%
19	University of Notre Dame	49	39	80%
20	Emory University	41	32	78%

Table 2: The Top Twenty US Universities and their Board of Trustees

their founding achieved international status. Noteworthy examples are Stanford, Johns Hopkins, Carnegie Mellon and Duke. This then is the third puzzle – other great universities, notably those in Europe, took centuries to achieve their prominence, while several US universities have been able to do it much faster.

In fact, US universities achieved their prominence quickly, they did so *en masse* and they did it starting in the middle of the nineteenth century much before several of the factors that Rosovsky and (Aghion, Dewatripont et al. 2007) mention, were even visible. Certainly, the institutional mechanisms for large scale research funding were not in place till World War II. It is interesting that when Rockefeller wanted to create a great modern university, in the latter half

of the nineteenth century, he turned not to Oxford and Cambridge, which were the earlier colonial models for US universities, but to Harvard which was already quite prominent. Further, the reason that scholars fleeing Hitler's Germany chose the great US universities was because they were already very prominent. Princeton did not become great because of Albert Einstein; rather Einstein came to Princeton University (and to the Institute for Advanced Study) because it was great and because he had lectured there and received an honorary doctorate earlier. (Illy 2006) (pg. 161).

So what was the key innovation that so quickly allowed US universities, especially Harvard to take one notable example, to propel themselves into the front rank of institutions, and allowed new entrants among US universities to very quickly achieve prominence equal to, or in some cases greater than, universities that were around much longer than they were?

The key innovation was *alumni control* of the Board of Trustees. This is what made possible several desiderata on the Rosovsky (1991) and (Aghion, Dewatripont et al. 2007) lists in the first place. This is what simultaneously allowed autonomy, continuity of purpose, large endowments and the ability to weather turbulence. The role of alumni trustees has not been fully examined so far. Now, to be sure, Rosovsky does talk about the role of independent trustees. Certainly it is true that in one sense the trustees of US schools are often truly independent in that they provide a buffer against interference from the political and other domains. Further, they are usually able to take a view of the institution independent of the interests of the faculty.

But, in fact, the trustees are *not* independent or uninterested observers at all. This is on account of the fact that the Board of Trustees, at least in the top US schools, consists primarily of alumni, the group which has the highest permanent stake in the reputation of the university. This link is crucial. While this aspect has sometimes been noted in the literature on higher education, its link with educational excellence has not been drawn. This is a gap that this paper seeks to fill.

3. The Top US Universities and Their Governance Structure

Let us first quickly review the facts of the matter. If we look at the top 20 universities in the United States, data on rankings and governance are available for all of them. The rankings are from the US News and World Report for 2010-11. The data on alumni amongst the Board of Trustees has been compiled from University websites, where available, and where not available by contacting the office of the Board of Trustees of the University concerned. We list the number of trustees, and the number of alumni amongst them, and then calculate the percentage. This is shown in Table 2.

With one exception (Cal. Tech.) all are above 50% and three of the top five universities (all of whom are above 90%) register a perfect one hundred per cent. That is, 19 out of the top 20

universities in the US are alumni controlled! They are also non-profit. We argue in this paper that this combination provides a clue to their continuing excellence over long periods of time.

How did this state of affairs come about? This is a very relevant question especially so on account of the fact that this is such an unusual occurrence in the world of higher education. No other nation, not even Canada, has this structure of university control.

To understand this phenomenon we have to turn to the history of the very first university that was founded in the United States, namely Harvard. It is important for us to look at this history in some detail because the seeds of its preeminence, and that of other US universities, lie buried there. It exhibits features of “path dependence” (Arthur 1994) which is instructive to follow, in order to understand not just its own evolution but that of others that followed it in the United States and elsewhere.

4. History of Harvard

Harvard University is a non-profit institution and has always been so. It is also private in the sense that its Board of Trustees is in private hands, which is not controlled by the Government (Federal or State). It may therefore, come as a surprise to note that it was not always so. It was actually founded by the General Court or Legislature of the Colony of Massachusetts.² It was directly controlled by the legislature, which continued to have the right to appoint the Board of Trustees right up to 1865. Therefore, for a period of over two hundred years, Harvard was a public university, or a “State school”. It was originally called “New College” but three years later following a grant of several hundred books and several hundred pounds from the estate of John Harvard, the young English immigrant and clergyman who died the previous year, it was renamed after him.

The Trustees of Harvard were organized in a Board of Overseers that consisted of the Governor of Massachusetts, its Deputy Governor, the President of Harvard, the magistrates, and the Church elders of the six towns surrounding Cambridge. There was another Board, the Harvard Corporation, consisting of fellows of Harvard along with its President and Treasurer that managed the day-to-day affairs (Wasserman 1979) (page 247).³

² The date of founding was 8th of September 1636 according to the Julian calendar then in force (and ten days later if we reckon the founding according to the correction made in the Gregorian calendar).

³ This peculiar structure with two boards, which has remained unique to Harvard, has continued to this day and bears the mark of experimentation that was required to create the very first corporation in the Western Hemisphere, for that is what Harvard Corporation was. It was created in 1650 after the Board of Overseers, to manage an endowment in perpetuity for the stated benefit of providing education to the citizens of Massachusetts and beyond. It was, in other words, what under English law was called an eleemosynary corporation. This two board structure has, quite rightly, not been copied by any subsequent university (except the College of William and

One way or the other, the General Court of Massachusetts was intimately involved in the affairs of Harvard for more than two centuries. It paid the salary of the President every year till 1781 and provided funds for the construction of several major buildings at Harvard including Massachusetts, Hollis and Harvard Halls (Whitehead 1973) (page 12).

After independence from Great Britain, the colonies started planning for Statehood, and along with the US constitution, various State constitutions were drafted. The constitution of the Commonwealth of Massachusetts as it was now called was drafted in 1780. Chapter V of the constitution was devoted exclusively to Harvard. This section noted that “wisdom and knowledge, as well as virtue ... among the body of the people being” are “necessary for the preservation of their rights and liberties”. Since these, “depend on spreading the opportunities and advantages of education”, “it shall be the duty of legislatures and magistrates, in all future periods of this commonwealth, to cherish the interests of literature and the sciences, and all seminaries of them; especially the university at Cambridge”. (Peters 1978).

Interestingly, the President of Harvard, along with the professor and instructors were viewed as civil servants and subject to the same restrictions as other government officials including the sheriffs, clerks of the House of Representatives and others (Chapter VI of the constitution and (Whitehead 1973) page 16). The constitution retained the right to regulate and control Harvard by noting further that “nothing herein shall be construed to prevent the legislature of this commonwealth from making such alterations in the government of the said university as shall be conducive to its advantage”.

Harvard in turn continued to aggressively seek funds from the State and managed to procure among others, a lottery authorization in 1793 and the proceeds of a bank tax levied in 1814. (Whitehead 1973) (pages 18 and 20). The ties between the legislature of Massachusetts and Harvard were very strong. The legislature continued to determine the composition of the Board of Overseers and through this method and others, continued to directly influence Harvard.

Likewise the preeminence of Harvard in the affairs of Massachusetts was indicated by the fact that it occupied a pride of place in its constitution itself. Its alumni overwhelmingly dominated the important learned professions of the day – the clergy, law, medicine, government and education. In fact, Harvard alumni were so prominent in the General Court of the

Mary, the second institution of higher learning in the US) since it needlessly duplicates functions, blurs boundaries and creates ambiguity. It was often a source of confusion and contention during periods of rapid change in the 19th century before the two boards evolved a common understanding of their separate domains. As of this writing, Harvard is the process of finally reforming this structure, after nearly four hundred years, but the wheels of change do sometimes move slowly in universities.

Massachusetts Bay Colony and its successor, the State of Massachusetts that it led to a very interesting historical coincidence that was to play a very important role in the evolution of Harvard and of higher education in the United States.

On account of this prominence, though the legislature could nominate anyone it wanted on the Board of Overseers of Harvard, in practice it tended to largely nominate Harvard alumni. On account of the prominence of elite of Boston who were influential both at Harvard at in the Massachusetts Legislature, for a period of nearly two hundred years *de facto* control lay with the alumni (Wasserman 1979)(page 248). From 1710 onwards the attendance records of some 1800 Overseers are available. It shows near continuous alumni control by Harvard alumni. Wasserman (1979) looked at the newly compiled data on those attending meetings of the Board of Overseers between 1720/21 and 1780/81. They are revealing as the table below indicates:

Years	1720/21	1730/31	1740/41	1750/51	1760/61	1770/71	1780/81
Alumni (%)	64%	71%	76%	88%	82%	75%	53%

Table 3: The Early Alumni Control of Harvard (from Story 1975)

Clearly Harvard Alumni were in control of Harvard. Over time, Harvard started to build a strong support base from alumni. This was most noticeable in the case of funding. Contributions to Harvard were about equally divided by public and private sources in the period 1700 to 1800 started to become totally skewed in favor of the private sector by 1850. Table 4 from (Story 1975) (page 96) is instructive:

Year	Contributions from Public Sector	Contributions from the Private Sector
1700-1800	55%	45%
1801-1825	33%	67%
1826-1850	0%	100%

Table 4: Public and Private Contributions to Harvard (from Story 1975)

In 1851 a report from Harvard stated: “In procuring this large benevolence, while much must be attributed to the generous impulses of the givers, much is also due to the disinterested zeal, the direct solicitations, and personal influence of the President and Fellows, which stimulate and confirmed those generous impulses, and guided them to the end so happily attained”. It added that it indicated a confidence “not only in the men to whom these munificent gifts were immediately entrusted” but also in the stable and organized Harvard Corporation “to whose management the donors believed them to be forever consigned”. (Story 1975)(pp. 99-100).

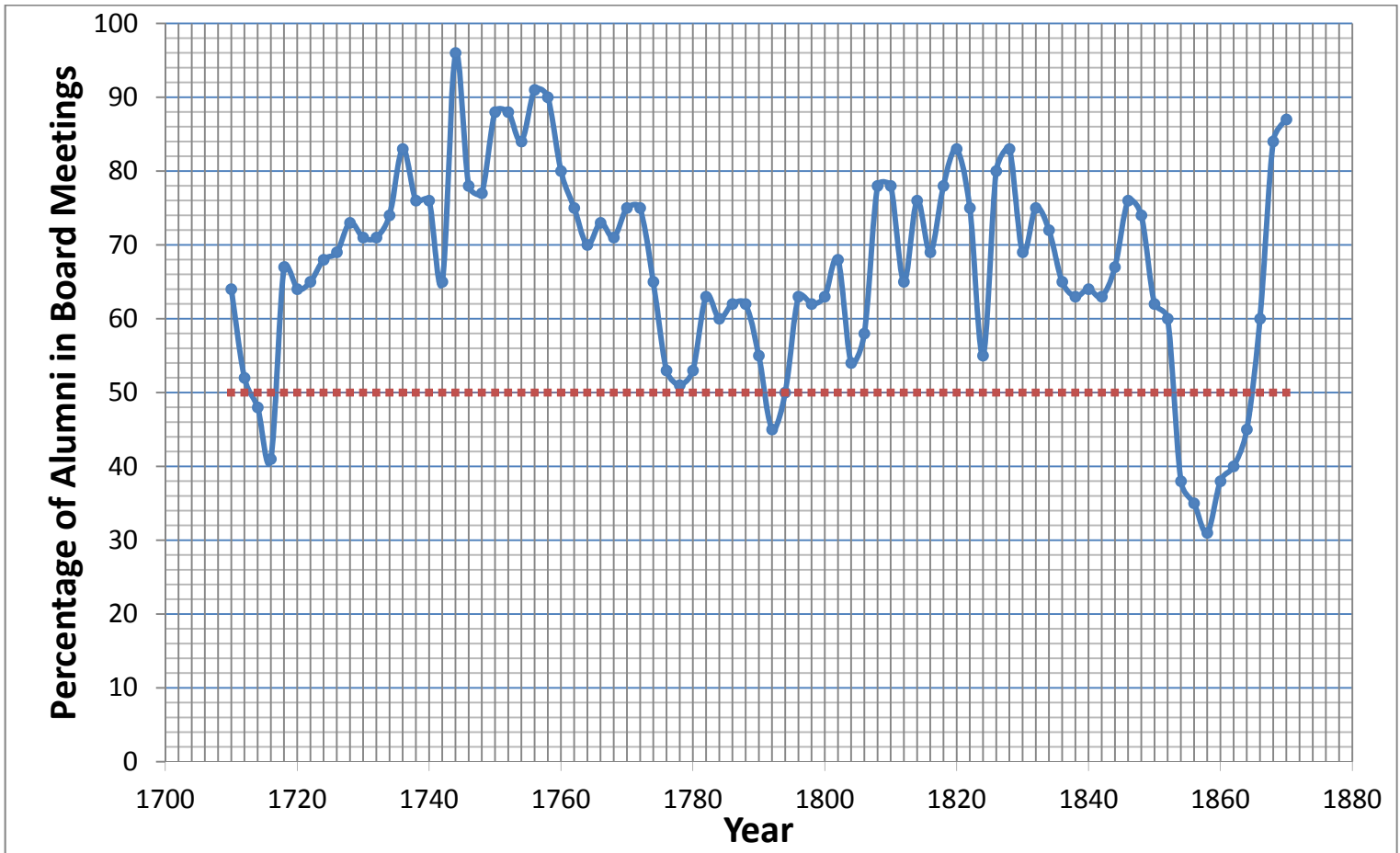


Figure 1: Attendance Register of the Harvard Board of Overseers (from Wasserman – 1979 – Fig. 1)

In the meantime in the years before the Civil War, the US in general and Massachusetts in particular, experienced very rapid growth. Political turmoil was in the air as the old political order was dissolving and new alignments were taking place. The modern Democratic and Republican parties were created at this time from older Whig, Federalist and other parties. A new middle class came into existence and rapidly made its presence felt in the Massachusetts legislature. New issues and new ideologies came to the fore. Topics of the day that were heavily contested included nativism, slavery and prohibition. Naturally, Harvard University felt the pressure. One observer called Massachusetts in 1850 the “bonfire of burning causes” from (Purdy 1989) as quoted in (Wasserman 1979) (pg. 255). Immigration swelled the population of Massachusetts. From 1820 onwards immigration had started to increase throughout the country. From 1840 onwards immigration increased extremely rapidly in the United States as a whole but especially in the State of Massachusetts. The Irish famine of 1845-49, among other things, led to large numbers of Irish immigrating to the United States. By 1850 the Irish made up more than a quarter of the population of many Eastern States, including Massachusetts.

Consequently between 1840 and 1850 the population of Massachusetts increased by more than a third, the highest rate of population growth in its history.

Date	Resident Population	Growth by Decade
1870	1,457,351	18%
1860	1,231,066	24%
1850	994,514	35%
1840	737,699	21%
1830	610,408	17%
1820	523,287	11%
1810	472,040	12%
1800	422,845	12%
1790	378,787	-

Table 5: Resident Population Growth of Massachusetts from US Census Data⁴

One consequence was that the legislature that was hitherto dominated by Harvard men, was no longer so. The interests of the broader population now came to the fore. In 1851 a legislator, Henry Wilson's thundered against Harvard: "a certain class of individuals, who seem to think that they own the institution, president, corporators, overseers, and all, - a class of individuals who assume it to be their mission to keep Harvard College from the influence of the outside barbarians." ((Nason and Russell 1872) pp. 110-11 – as quoted in (Story 1975) page 109). In this he had broad support from the Democratic, Free Soil and the so called Know Nothing parties. They claimed that Harvard was too exclusive, too religiously liberal and too conservative politically. (Story 1975) (page 109). A tussle ensued for control of Harvard and for a time both the Board of Overseers and the Harvard Corporation fell outside alumni control as Figure 1, taken from Wasserman (1979) shows. The politically active Board of Overseers tried to increase its financial authority and even rejected the appointment of several professors. (Story 1975) (page 109). There were disagreements on "finances, donations, salaries, appointments, and tenure". (Wasserman 1979) (pg. 259).

Since state support of Harvard by this time had dwindled to nothing, Harvard was increasingly reliant on private donors. But the donors started to back away from funding in a situation when politicians interfered with the disbursement of funds. Wasserman (Wasserman 1979) (pg. 258) quoting (Story 1972) says that a bequest of \$50,000 was given to Harvard in 1855 conditional on the Massachusetts Legislature not altering the Harvard Charter. Soon thereafter, two bequests were canceled in protest. Faculty recruitment was also hurt in a situation where the

⁴ Source: Table from US Census Bureau - Resident Population and Apportionment of the U.S. House of Representatives for the State of Massachusetts.

appointment of faculty members and their subsequent performance would be subject to vicissitudes of legislative politics. (Wasserman 1979) (page 258).

Matters apparently came to a head when in 1862, the Harvard Corporation presented their nomination for President of Harvard, Thomas Hill, to the Board of Overseers, who rejected it after a bitter debate. The Overseers persisted and resubmitted the candidature and finally Thomas Hill was elected the 20th President of Harvard. (Wasserman 1979) (page 261) quoting (Land 1933).

Clearly something needed to be done. The Fellows of Harvard argued that the growth of the university since the turn of the century in 1800 was in danger of being lost. Political control would lead to stagnation and there were dark hints that the existing endowments would be returned to the contributors. In 1865, taking advantage of the end of the Civil War where Harvard alumni had served with distinction on the Union side and amassed glory for themselves and their *alma mater*, the Harvard administration led by Thomas Hill proposed a novel solution. In a handwritten note dated the 20th of April 1864, that was discovered relatively recently, he proposed “such legislation as shall give the utmost possible security and stability to the Boards of the Corporation, and the Overseers – placing them out of the reach of ordinary political strife and change – and giving them, if can be effected into the hand of those alumni who have the interests of education most at heart”. (Wasserman 1979) (page 245).

This then was the radical proposal that the University prepared. Showing deft handling, which involved carefully building a support coalition in the legislature and very sober and balanced presentation of his case, Hill steered the bill through the legislature.

It almost did not pass.

When it did, it was a narrow victory – by one vote in the Senate and by two votes in the House. The “Act in Relation to the Board of Overseers of Harvard College” was approved on the 29th of April 1865. (Wasserman 1979) (fn 53 on page 262). Then too the legislature inserted a whole new section at the last minute, that allowed it to repeal the Act if it ever desired to do so. Without the amendment, the bill would probably not have passed (Wasserman 1979) (fn. 54 page 263). It was a monumental piece of political maneuvering and stakeholder management. But from that point onwards Harvard had *de jure* alumni control. Overseers of Harvard would henceforth be filled “by ballot of such persons as have received from the college a degree”.

Thus, by the narrowest of margins, in both houses, was the bill passed. The most fundamental change in the in history of governance of US universities barely scraped through. It can be argued that had it not passed such a specific balance of forces may never have materialized again had the pioneering attempt at alumni control been stillborn. It is a very unusual occurrence for any government to hand over so prominent a public entity as Harvard, over

which they have total control to a private trust. In fact, we should be surprised that it happened at all.

The provision to repeal the Act, however, has never been invoked and the State has never interfered with the governance of Harvard since then. (Very interestingly, this provision to repeal the Act, has acted as a damper to Harvard's efforts to update its governance structure, in particular abolish the anachronistic dual board structure; see, for example, the conversation between Chait and Rosovsky in (Chait, Daniel et al. 2006).)

5. Harvard Flourishes

The *de jure* control of Harvard by alumni quickly allowed Harvard to raise large sums of money. In the nine years between 1869 and 1878 its endowment tripled. It tripled again in the following two decades. (Wasserman 1979) (page 263) quoting (Curti and Nash 1965)(page 138). This allowed Harvard to vigorously compete for faculty and funds with other private but non-profit competitors such as Johns Hopkins and MIT.

Another feature of the 1865 legislative act was a very surprising stipulation - "no officer of government or instruction in said college shall be eligible as an overseer or entitled to vote in the election." As (Whitehead 1973) (page 206) noted "the overseers would be immune from faculty domination". We shall return to this matter very shortly. Initially only Massachusetts residents among alumni could vote but this stipulation was removed in 1880.

Harvard had already emerged as the pre-eminent university in the United States by 1850. Its libraries were twice as large as that of Yale and three times larger than Princeton, Columbia and Pennsylvania combined. (Story 1975) (pg. 96). By then it had had nearly two hundred years of *de facto* alumni control and efforts to create a "close-knit university constituency" had already been initiated. They included the celebration of the beginning of class days and Commencement, the founding of the first alumni association in the 1840s, the creation of the school song and a grand celebration of the first two hundred years of Harvard. (Story 1975) (pg. 110). The *de jure* alumni control only quickened its emergence on the global stage.

6. The Movement Spreads

Almost immediately, thereafter, prominent institutions of higher learning started to copy the move. Surprisingly, the impetus came from multiple directions – from alumni, from the States and in some cases from the administrations themselves. It was as if educational institutions throughout the US let out a collective "why did we not think of this ourselves?". So, for example, in 1866, the alumni of Williams College requested alumni control. Initially they wanted to copy Harvard by even initially creating a two board structure, but it was ultimately deemed unnecessary and a single board controlled by alumni was set forth from 1868 onwards.

At Yale, faculty control was proposed by Yale President Theodore Dwight Woolsey in 1866. It ignited a firestorm of a debate throughout the country even though at this point it was only in relation to whether Yale should imitate Harvard. Hall (Hall 2003) writes: "prominent New York businessmen and lawyers, produced dozens articles in the leading New York newspapers, many of which were reprinted elsewhere; letters for and against the proposed reforms dominated the letters columns in such national periodicals as *The Nation* for months; and "serious" journals like the *New Englander* and the *North American Review* carried essays which argued for one view or the other".

Yale alumni enthusiastically supported this move and proposed the same stipulation as at Harvard, namely that "no officer of instruction in Yale College, or in any similar institution" be eligible to be a board member. Yale, it seems even wanted to go even further than Harvard by banning all professors, not just those teaching at Yale.

Predictably the response from a Yale faculty member, a clergyman and a Professor of Moral Philosophy and Metaphysics, the Reverend Noah Porter, argued against the proposal and in favor of the status quo that heavily resulted in the Yale board being dominated by the clergy. He made the claim in a book published in 1870 that "many college graduates are not aware of the extent of the advantages which they have derived from their education". If they were allowed to control the university, the long view would be replaced by continual bickering. Somewhat self-servingly, Prof. Porter added that the clergy were "only truly cultured class in America". (Porter 1870 and 1878) p. 33. (Also quoted in (Whitehead 1973) page 212.) Passionate support for Woolsey's position came from alumni who had organized themselves in what came to be called the "Young Yale" movement. Porter had the backing of "old Yale". The legislature, backed by the administration and members of Young Yale passed a bill on the 6th of July 1871 giving up $\frac{3}{4}$ of the State representation on the Yale board in favor of Yale alumni. To placate "old Yale" a historic compromise was reached. Woolsey made a statesmanlike sacrifice and stepped down the same day and Noah Porter was elected President. Young Yale got alumni control, old Yale got their man as president and the friction and strife were minimized.

In 1869, Dartmouth alumni gathering for the centennial celebration held out the possibility of raising \$200,000 if trustees would allow alumni election on the board. The board rejected this proposal stating that it would lead to "partisan action, to jealousies and feuds" and ultimately resulting in "damaging alienations". ((Whitehead 1973) pg. 216 citing Dartmouth College Trustees Minutes of 4th July 1870). Passions were now running high and one alumnus wrote: "Some concession must be made to the spirit of liberty. Autocratic colleges built on European models savor of royalty. The American demands a college without an oligarchy, an oligarchy without a despot." ((Whitehead 1973) pg. 216 citing Richardson, History of Dartmouth College 2:581.) Funding to Dartmouth dried up and all efforts by the administration to raise funds came to no avail. The administration eventually caved in and the alumni got limited representation on the board in 1876 and the right to directly elect the board in 1892.

By then, fortified by alumni donations, and under a dynamic president, Charles W. Eliot, Harvard raced ahead. By 1898 its endowment was nearly \$12 Million and its annual income was nearly \$1.4 Million. With nearly four thousand students and nearly five hundred faculty, Harvard was the pre-eminent university in the United States. (Whitehead 1973) (pg. 236.)

In a speech to the National Education Association in 1873, Eliot was to summarize “the genuine American method” which was based on the old Massachusetts method. For higher education this involved “permanent endowments administered by incorporated boards of trustees. This is the American voluntary system, in sharp contrast with the military, despotic organization of public instruction which prevails in Prussia and most other States of continental Europe.” (Eliot 1873) quoted in ((Whitehead 1973)– pg. 232).

In less than twenty years, the American system of University Governance was defined, defended, perfected and disseminated.

7. Organizational Forms

So what exactly makes “alumni control” so powerful? To answer this question it would be useful here to consider possible organizational forms and the impact that they have on the institution and the educational ecosystem as a whole.

There are several ways to organize a University that are in evidence across the world. The forms include for profit and non-profit and public and private. Within the public sphere it is possible to have State control or delegated control by alumni. Within the private non-profit sphere it is possible to have alumni control, control by faculty or by a self-perpetuating trust. These are indicated in the diagram below:

	Private	Public
For Profit	<ul style="list-style-type: none">• Control by Shareholders in Universities such as Apollo, Devry and U. Phoenix in the US and elsewhere (e.g. the Philippines).• Against the law in the many countries.	<ul style="list-style-type: none">• Not Observed in Practice
Non Profit	<ul style="list-style-type: none">• Control by Alumni• Control by a self-perpetuating Trust• Control by Faculty	<ul style="list-style-type: none">• Control by the State• Mixed control by Faculty, Alumni and State• Delegated Control by Alumni

Table 6: Organizational Forms for a University

We consider these in turn.

7.1. Private For-Profit Universities vs. Non-Profit Universities

It is a remarkable fact that in their long 2500 year history, starting with Takshashila and Nalanda in India, all great universities throughout the world have been non-profit organizations (Mehta 2011). Education is clearly different from other goods and services that one may choose to acquire. The arguments for why this must be so have long been known. Socrates makes part of the argument in Plato's Dialogues:

“When you buy food and drink from the merchant you can take each item back home from the store in its own container and before you ingest it into your body you can lay it all out and call in an expert for consultation as to what should be eaten or drunk and what not, and how much and when. So there's not much risk in your purchase. But you cannot carry teachings away in a separate container. You put down your money and take the teaching away in your soul by having learned it, and off you go, either helped or injured.” (sections 313d-314b in (Plato 1999 and 350 BCE)).

Clearly, one aspect of education is the fact that its full effects are not visible until a long time has passed and so in practice it may be difficult for students in particular, to have full information on quality.

But there are several other important considerations. Education is rarely a solitary undertaking. Done properly, it requires an environment that must be carefully constructed and nurtured. Students have a double role. They are outputs of the process, but at the same time are also inputs into the process (Winston 1999). A highly talented and highly motivated individual will benefit from being around a diverse group of other highly talented and motivated individuals. A for-profit university that admitted rich but not-talented students with a high ability to pay, would make itself less attractive to everyone, including the rich students themselves. By contrast, exclusivity in terms of academic standards and other dimensions, increases demand for places at the university in question and makes it even more exclusive. Not for profit universities would have the incentive to admit poor but deserving students in order to provide a better environment for everyone. For profit universities by contrast would have an incentive on the margin to take undeserving students with significant ability to contribute directly to the university.

Hansmann writes: “A nonprofit firm.., offers consumers the advantage that, owing to the non-distribution constraint, those who control the organisations are constrained in their ability to benefit personally from providing low quality services and thus have less incentive to take advantage of their customers than do the managers of for-profit firms.” (Hansmann 1987) (pg. 29) in (Powell 1987).

It is noteworthy, that in even the earliest records of the very first university, Takshashila in India, that had an unbroken run for nearly 1500 years, there is evidence that bright but poor students were admitted alongside those who were able to pay their own way ((Mehta 2011)).

Part of the charm and value of a truly great center of learning is the “atmosphere of learning” which is what students provide for one another. This effect is also amplified by making the top universities residential, and by choosing students who are compatible in terms age to enhance peer-effects.

This is a well-known example of “winner-take-all” markets” as documented in (Frank and Cook 1995). Actually, so strong is this effect that higher ranked schools will often substitute higher peer quality and peer learning for individualized instruction common in the smaller liberal arts colleges. For example the average class size at Harvard for social science classes has been nearly 250 students (Clotfelter 1996).

On account of this complementarity in education, where quality students and quality faculty attract each other to create a very high quality learning environment, it is has been impossible historically to replicate anything close to a cutting edge learning environment in a for-profit university.

But this is not all. When they do exist, for-profit institutions of higher learning operate with a very specific set of characteristics. The figure below is taken from (Winston 1999):

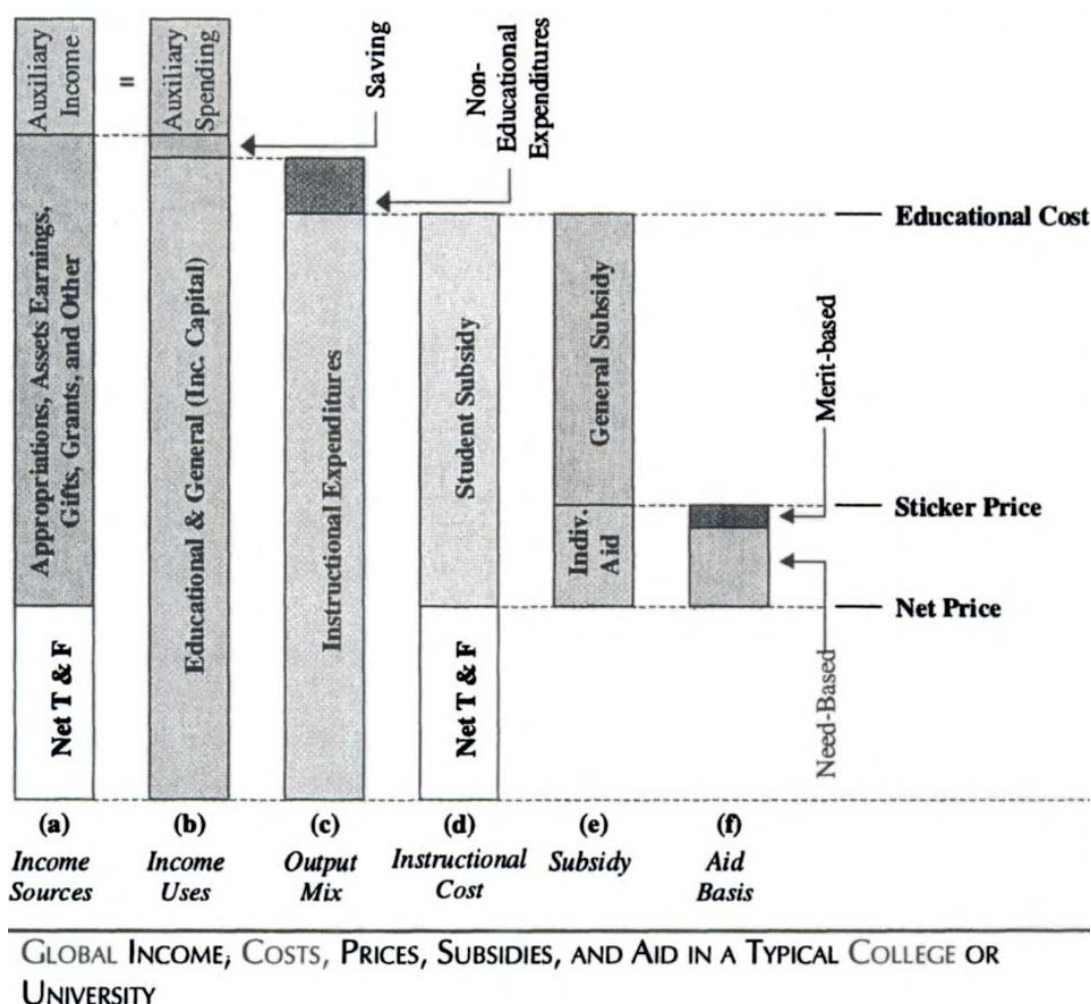


Table 7: The Subsidy Structure of Universities – (from Whinston 1999)

In (Whinston 1999) US universities are ranked by deciles in terms of total educational subsidy received in relation to the full cost of education. They compute this by adding the educational, general and the capital costs (of plant, equipment and buildings) attributable to teaching in universities. They have data on 1420 public and 1319 private institutions.

The numbers are fascinating. Taken together, these institutions heavily subsidize students, who pay only 31.5% of the full cost of educating them. For the top decile of institutions that includes “Cal Tech, Johns Hopkins, Harvard, Princeton, Stanford, Yale, Amherst, MIT, Williams, Swarthmore, Berkeley, UCLA, Penn, Carleton, Colgate, the Universities of Washington and Minnesota, SUNY Buffalo, and Chapel Hill, and more” the students pay 20.1% of the full cost (\$5,700 out of \$28,500 in 1995 dollars). At public institutions this number is still lower, at 12.4%. This share rises the lower down the deciles one goes. In the bottom decile, the overall share borne by the students is 77.4%. In the US this decile includes non-profits such as the Cincinnati Mortuary College and the Machzikei Hadath Rabbinical College, but also the for-

profit schools such as the University of Phoenix and DeVry, where by definition the number is greater than 100% to allow for a profit margin.

Interestingly enough, as one would expect, the higher the decile the higher the student quality as measured by the data on SAT scores, percent accepted, national merit semifinalists and percent in the top decile of their high school graduating class.

This holds, *a fortiori*, for the production of knowledge. Research, especially basic research, has usually is the domain of non-profit universities and institutes. For profit universities have rarely been observed to do research.

This pattern holds worldwide. (Cowen and Papenfuss 2010)(pg. 181-2) indicate that in the Philippines for example, the for-profits: “tend to charge lower fees, specialize in education of lower academic reputation, spend less on capital equipment, and serve students who plan on pursuing vocational careers or taking a standardized vocational test upon graduation” and they also do not have entrance exams and accept all individuals who satisfy two simple criteria – 1) a high school certificate and 2) the ability to pay.

Another interesting point is that within a competitive category the schools do not differentiate on the basis of price at all. (Rothschild and White 1993) (page 29.) present data on the top 25 medical, law and business schools. For example, Harvard is ranked number one and Purdue is ranked number twenty but their out of State tuitions are roughly the same while the Harvard graduate’s starting salary is roughly 50% higher. To be sure, given that presumably, Harvard admits abler students, who would even in the absence of an MBA degree command higher salaries, the comparison should be in terms of value added. But it is unlikely to change the broader picture. Clearly, these schools do not compete on the basis of price and the rents accrue to the students. (Rothschild and White 1993) do not provide any explanation for the phenomenon, but it seems to be consistent with the highest quality institutions maintaining the highest levels of exclusivity through the highest levels of excess demand, which in turn is the result of the result of the highest gap or surplus between added value and tuition. One could conjecture that some of this surplus is captured at a later stage through higher donations by their alumni who are no doubt wealthier than the others on account of both their higher quality and higher surplus.

There is also the certification argument. Universities not only educate individuals – they also grade and certify them. A profit making body that collects money from individuals, that itself certifies them also, will have an enormous conflict of interest. It has been argued that reputational considerations will counteract this tendency, in that if universities wrongly certify bad students as good, then their own standing will fall. However, as the example of credit ratings agencies during the recent downturn demonstrates, reputational considerations are easily set aside when the lure of money becomes too great. And in any case while Collateralized

Debt Obligations are complex, education is more complex still. Such for-profit certification will only work for simple, well defined skills as distinct from education. And this is exactly what the data show. A large number of for profit entities prepare students for jobs or skill sets that may be assessed by an independently certification body (Cowen and Papenfuss 2010). That is, properly speaking, they are in the business of training rather than education.

Interestingly enough, a hundred years ago many US medical schools were profit-making entities. The standard model was that of a “proprietary school” - the old name by which for-profit entities were then known. A small group of ten or fewer faculty owned the school and taught all the classes. There were no entrance requirements and the courses were superficially taught. The entire curriculum comprised two sets of 16 week lectures, the second term identical in every respect to the first! The teaching was almost entirely theoretical. (Ludmerer 2010).

This then was the system that came in for sharp criticism from the Flexnor report commissioned in 1910 by the newly formed Carnegie Foundation. So deep was the impact of this report, that of the 168 medical schools in the US and Canada (all of which were visited by Abraham Flexnor) 42% had closed and every one of the US medical schools had become non-profit and university affiliated and it has remained so until now. One small change has recently been observed with the very first for-profit medical school in the US (it is a School of Osteopathy to be precise) opening its doors in 2007 in Florida.

It is undoubtedly on account of these considerations that private for-profit universities are against the law in many countries such as India. For example, it was reported (Mukul 2011) that attempts to change this have been blocked.⁵

7.2.Public For-Profit Universities

While governments often run wholly or majority owned corporations for profit, a public for-profit university has never been observed and seems almost a contradiction in terms.

7.3.State Support of Public Universities

State support for higher education has been a notable feature of universities right from their inception. The earliest universities in the world, Takshashila and especially Nalanda in India, demonstrated strong elements of State support (Mehta 2011). The reason for this is not hard to seek. Education is a classic and textbook example of externalities. The public benefits far outweigh the private benefits and so without a measure of public support the provision of

⁵ Link at: http://articles.timesofindia.indiatimes.com/2011-07-03/india/29732932_1_higher-education-education-policy-hrd-ministry

educational institutions and services is likely to be substantially lower than what is desirable. One form of public support is through State funding of universities.

As has already been shown, Harvard was a public university and right from its inception was supported by the State. The cases of the lottery tax and the bank tax have already been mentioned above. Encouraged by the State, the early settlers regularly sent supplies of “college corn” to support the poor students at Harvard. (Morison 1935) (pg. 314). In 1640 the State of Massachusetts granted Harvard the revenues of the ferry connecting Boston to Cambridge, Charlestown, Watertown and Medford. This was a valuable concession since at that time there was no bridge across the river Charles. Harvard leased out the concession to ferrymen and collected the rent. When a bridge was finally built in 1662 to connect Cambridge and Brighton, a toll was imposed (ostensibly for repairs) that allowed the ferry to continue to be profitable. A century later, in 1747 to be precise, the rent was “a considerable part of the support of the college”. (Morison 1935) (page 302). The right finally came to an end in 1785 when Charles River Bridge was built but not before the bridge corporation was required to pay an annuity to Harvard. This was faithfully done until a free rival bridge was built by the State of Massachusetts in 1828 at which point the bridge corporation went bankrupt. But even then in 1846, the State provided a lump-sum-compensation, in return. In other words, Harvard continued to benefit from this concession for over two hundred years.

However, apart from the ferry rent, State support was capricious. Hedge (Hedge 1866) catalogues a series of capricious moves and broken promises on the part of the State. He writes that when the General Court of Massachusetts Bay Colony decided to establish the Harvard in 1636 they promised to give 400 pounds, a promise that was never kept. The actual funds were supplied by the estate of a young immigrant, John Harvard, as we had seen above. After his early and tragic death just a year after his landing, half his estate (a larger sum than was promised by the State) was given to found the new institution which was promptly renamed in his honor. The legislators, “the fathers of the Province” (as Hedge called them) turned out the first President of the College in disgrace over a minor theological difference of opinion. The second President was, for eighteen years, paid a salary so low that he had to sell his property to survive. It did not help matters that it was entirely paid in kind, in “Indian corn”. The third president too was turned out in disgrace when the State sided with students against him.

The College by then had fallen into “such decay that extinction was inevitable”, when again, providentially, the town of Portsmouth, New Hampshire intervened, for the purpose, as they put it, of “diverting of the omen of calamity which its destruction would be to New England” and pledged an annual sum of sixty pounds a year for seven years.

In fact, in some cases, rather than supporting Harvard, it seems that it was often supported by it. President Quincy was to write that donations given to the State for Harvard were not turned over for years together. In one egregious case that he refers to, a donation received in 1647

was not released till 1713. He goes on to report that whatever support the State provided in the early years was overshadowed by the money Harvard collected in Massachusetts, in other colonies and abroad. Harvard's President Quincy (Quincy 1840)(pg. 42-43) was to write: "The State has, during the last ten years, expended two millions of dollars in a vain attempt to bore a hole through one of her hills: in the whole two hundred and thirty years of our academic history she has not expended a quarter of that sum in filling up this hole in her educational system."

And of course, State support completely dried up in 1850 as we have noted above. Therefore it became imperative to seek alternative sources of support, namely through alumni.

And there are the great State universities in the US. If we exclude the early history of Harvard and a few others which subsequently became private entities, State support of US universities dates from the founding of the University of Georgia in 1785 as a result of a petition by a Yale alumnus Abraham Baldwin which resulted in the grant of 40,000 acres by Georgia. The governance structure was interesting. It was controlled by a self-perpetuating trust overseen by a board of trustees appointed by the State. By 1820 a total of eight universities had been founded, five of which were in States without any university. (Whitehead 1973) (pg. 47).

The movement towards the establishment of State schools received a massive push through the establishment of the Land-grant Universities so called because under the Morrill Acts of 1862 and 1890, Federal land was given to States to sell or develop in order to establish universities promoting practical disciplines such as agriculture, engineering and science.

Today, the "State school" is alive and well and active in all fifty States of the US. Different proportions of their budget are funded by the government and many of them are world class universities. However, while in principle the State retains ultimate control through the power to appoint members of the Board of Trustees, or Regents or Visitors, in practice the governance is often devolved to alumni as we shall see.

7.4. Religious or other Private Self-Perpetuating Trusts

Sometimes a university is controlled by trust that itself is responsive to the section of society that it serves. Examples are religious trusts that control several prominent US universities, for example, Notre Dame, Southern Methodist University and Brigham Young University. In such cases at least, self-interested behavior by the trustees can be curbed if the religious tradition provides a strong basis for ethical conduct.

The case of Notre Dame is instructive. The real power lies with the Fellows of Notre Dame who are a "self-perpetuating body, consisting of six members who at all times must be members of the Priests Society of the Congregation of Holy Cross, Indiana Province, and six of whom shall be lay persons". The fellows, among other things "determine powers to be delegated to the Board of Trustees, elect the Trustees of the University in accordance with the bylaws; adopt

and amend the bylaws of the University; approve the sale or transfer of substantial parts of the University's physical property; ensure that the University maintains its essential character as a Catholic institution of higher learning; ensure that the University's operations make full use of the skills and dedication of the members of the Priests of Holy Cross, Indiana Province, Inc. and ensure that the University "continues its long-standing policy of admitting students of any race, color, national and ethnic origin".⁶

Since 1967 the Fellows have delegated powers of governance to a Board of Trustees. So here too, the movement is towards control by a Board of Trustees, who are mostly Notre Dame alumni.⁷ What is interesting is that the wording indicates while the Fellows have voluntarily relinquished control, they may at any stage take it back.

The issue then becomes, as Juvenal wrote in his Satires (Satire VI, lines 347-348 – (Braund 1996)), *quis custodiet ipsos custodies*? What happens if there is a dissonance between the interests of the self-perpetuating board and that of the university? Given the power structure the former may often prevail, unless in the larger interest of the university, the board ties its own hands to allow the latter to flourish.

For example Dartmouth went through an extremely turbulent period when it was still under the control of a self-perpetuating trust. The State tried to intervene and take control but the case went all the way up to the US Supreme Court and was decided against the State. It was only later that, following the example of Harvard, Dartmouth alumni campaigned for and won control of the board from the self-perpetuating trustees, in part by threatening to withhold contributions to the endowment as mentioned above.

7.5. Faculty control

The classical English model of academic Governance is control by faculty who are traditionally called "fellows". A particular college is controlled by the fellows of that college while the collective body of fellows of its constituent colleges controls the university of which they are a part. For good measure some administrative staff may be added to the mix.

This form never really took off in the US. In fact, as we saw above right from the early days, the State appointed the Harvard board. The rights of the State were reaffirmed in the post-colonial Massachusetts constitution in 1780 which went so far as to classify the faculty as civil servants and expressly forbade them from serving on Harvard's board.

⁶ From <http://nd.edu/leadership/fellows/>

⁷ From <http://nd.edu/leadership/board-of-trustees/>

None the less, the faculty did try. This was called the “attempted revolution of 1825 (Whitehead 1973) (pg. 94). The resident instructors at Harvard tried to take control of Harvard Corporation by asserting that the term “fellows” as defined in the 1650 charter of Harvard, was identical to that of English colleges where it meant resident tutors whose salaries were paid by the college. Harvard Corporation rejected the argument stating “The laws of Massachusetts abound in names of officers borrowed from those of England, while at the same time only a general resemblance and sometimes a very remote one is found in their qualification and duties”. (Minutes of the Harvard Corporation of 11 January 1825 as quoted in (Whitehead 1973) pg. 94.) Thus ended the first and only attempt by the faculty of Harvard to control of one of its boards.

The case of Columbia University is also interesting. In 1854 its alumni had petitioned the New York State legislature to allow them to elect trustees of Columbia. (Whitehead pg. 161-2). It would take more than half a century for Columbia to get alumni control. The reason, oddly enough, was that at that time Columbia was the richest institution in the United States. In 1871 its endowment stood at \$4.7 Million as compared to the next richest institution, Harvard, whose endowment stood at \$3.4 Million. Harvard’s wealth came from many bequests large and small, Columbia did not depend on its alumni at all. It had been given rich land grants in New York in colonial times and these increased in value and generated large annual rents. By the mid-1870s Columbia was generating annual surpluses of nearly \$100,000 (Whitehead page 219). By 1876 the accumulated surplus alone was in excess of \$400,000.

What did Columbia do with this money? The self-perpetuating board, now even insulated from financial pressures, allied with the “insiders” namely the faculty. Columbia in 1865 was already paying its professors the highest salaries in the United States. A Harvard professor received \$2,400 annually while a Columbia professor received \$4,500. In 1867 Columbia raised it to \$7,500, a princely sum in those days, and more than three times the salary of a Harvard professor. (Whitehead 1973) (page 221).

This was shocking to everyone outside of Columbia. Alumni tried numerous times in the next decade to get representation through election on the Columbia board but without success. Columbia did not get direct voting by alumni for board seats till 1908 but by then, Harvard had already surged ahead in wealth, influence and size.

Other universities also became challengers. An example is provided by the University of Chicago. We noted earlier how the University of Chicago very quickly entered the front rank of Universities on account of the large bequest by Rockefeller. By the late 1920s the University of Chicago became a top-flight research oriented university, by one account next only to Harvard in its reputation. It seems that alumni relations with the Board of Trustees were excellent, so much so that in May 1928 its Chairman wrote to 15,000 alumni seeking their nominations when the position of President fell vacant. (Dzuback 1991)(pg. 209).

Buoyed by the large endowment which by now had become the largest in the country, the president of the University of Chicago from 1929 to 1951, Robert Maynard Hutchins managed to free himself from financial pressures. He then moved in such a way that it was “fundamentally oriented towards faculty preferences” (Glaeser 2002) and (Glaeser 2003). He focused his attentions on creating a program centered around “Great Books”. But, before a major fundraising drive, in a move that riled alumni, he disbanded the very successful football team – Monsters of the Midway - since he perceived it to be a distraction from academics. (Dzuback 1991) (pg. 209). He also disbanded fraternities and class-year organizations (McArthur 1990). His point was that the “whole apparatus of football, fraternities, and fun is a means by which education is made palatable to those who have no business in it”. Apparently he did not realize that organized sports was a way of binding alumni to their *alma mater*. He further added that the “best practical education is the most theoretical one” (Mayer and Hicks 1993)(pg. 292). The price that he paid for creating “a true professor’s paradise” (the term used by Glaeser above) was a loss of alumni donations and a rapid slide in its relative financial standing. Chicago was never to regain the financial lead which it had earlier.

Clearly the incentives for faculty are not always aligned with that of the university of which they are a part. In systems where faculty do have formal control over the institutions where they teach, e.g. as in the United Kingdom, faculty salaries are externally regulated, e.g. by the government through collective bargaining agreements which prevent them from being out of line. However in the English collegiate system at least, that still allows faculty to commandeer subsidized meals, housing and other such perquisites, which they would no doubt wish to convert into salary but cannot.

Thus, in terms of the balance between teaching and research, the value of extracurricular activities and compensation, the interests of the institution and that of the faculty are often at variance. This variance may become a damper holding back the growth of the institution – as in the case of Columbia and Chicago among others. Faculty, however, may end up doing a better job guarding the interests of the institution as compared to the State and this may be one reason for the findings of Aghion et.al. (Aghion, Dewatripont et al. 2008; Aghion, Dewatripont et al. 2010) who indicate that British Universities (which tend to be faculty controlled – but with crucial salaries determined by the State) have maintained a lead over their continental European counterparts.

7.6.Alumni Control

Finally we come to alumni control.

Why is it such a powerful mode of governance? The reason is the institution is transferred to those who have its interests most at heart. This is on account of the fact that the alumni are the products of the institution – its output if you will. The colleges that they graduate from and the universities that they attend, significantly influence their choice of mates, their career

prospects and their social circles. The standing of these institutions bestows quality on the alumni. Increasingly, in a globalized world the alumni networks of top universities have become a new *caste*, just as traditional markers of class in particular, have lost a lot of their significance.

As long as the institution does well it continues to provide a steady stream of benefits to all its graduates. Clearly *almae matres* figure very prominently in the lives of their alumni as long as they live. Conversely, as its alumni do well, they bestow honor upon the institution. The institution in turn will often confer a degree *honoris causa* and ask the alumnus or alumna to take a seat on the Board of Trustees, help with fundraising, access and stakeholder management. It is a symbiotic relationship. Yale President Theodore Woolsey was to summarize this nicely in an article praising alumni control at Harvard:

“There will be no more political nor bitter religious animosity represented in the board of Overseers. The members will, as a body, be animated by a loyal spirit of affection towards their Alma Mater. Inasmuch as persons of high standing will be elected, the University will look to them with confidence for all assistance in those schemes of enlargement which shall command the approval of the great body of graduates.” (Woolsey 1866) (pg. 699).⁸

In fact alumni control is the key mechanism by which universities are prodded to compete for faculty, for students, in sporting events and in league tables or rankings. This provides a way to understand the puzzle that Rosovsky’s analysis above could not solve – namely why is it that US universities alone compete so vigorously in this way. Surely, the German, the British, the Canadian, the Swiss, the Japanese, Chinese and the Indian economies are all embedded in market economies that are free. If they can compete in the market for goods and services of other kinds, why can they not compete for university faculty, students and sports coaches? The answer lies in governance structures. For free market economies to function, free markets must be complemented by governance structures within firms that provide for the optimal use of resources. This comes through profit maximizing firms. In the domain of universities, alumni control serves as a device to maximize reputation.

Alumni control can be of two types. The first is alumni control by statute or *de jure* control – where under law the alumni alone are allowed to be members of the Board of Trustees. The second is devolved alumni control or control *de facto*. This happens in public universities, in private universities controlled by self-perpetuating trusts and in private universities controlled by religious or other organizations.

⁸ Interestingly enough in the same address, Woolsey criticizes the dual board structure of Harvard as “what we regard as the radical vices of the Harvard charter, two boards, a small Corporation and a large board of Overseers”. It is only in December 2010, did Harvard finally move to address the first of these shortcomings. As we noted above the dual board structure, however will not be changed since doing could invite intervention by the State.

In either case the result is the same – the control of the organization is transferred to those who care most for its welfare. It has long been known that education has a value far beyond just the years of learning accumulated. In the labor economics literature this is known as the “sheepskin effect” (Belman and Heywood 1991; Jaeger and Page 1996; Card 1999). Transferring control to alumni maximizes the value of the “sheepskin” or the dress that traditionally graduates wore on graduation day.

And this is the system that American Universities have adopted with great gusto.

Aghion et. al. (Aghion, Dewatripont et al. 2008; Aghion, Dewatripont et al. 2010) note that US universities have outperformed their European counterparts, who were their former role models. Alumni control is undoubtedly a large part of that story. Alumni control also coincides with the extraordinary expansion of scale and scope of American Higher Education, including the rapid establishment of learned societies as noted by (Goldin and Katz 1999).

8. The Data

To document the widespread adoption of alumni control by universities, we turn to the most prominent ranking of research universities in the United States – the one compiled by US News & World Report. We look at the rankings of the category of research universities – since these are the ones who have a global reputation. We thereby ignore the separate rankings of liberal arts colleges, local institutions and the like, which are both more numerous and more varied. We look at the rankings published for the academic year 2010-2011 and consider the top 100 such institutions. On account of ties for the 99th spot there are 103 such institutions. This dataset included data on rank, endowment size, selectivity, school type and religious affiliation.

We use three separate measures of university prominence all taken from US News and World Report List of National Universities – 1) Rank, 2) Selectivity and 3) Endowment.

Rank is calculated on the basis of Faculty Resources, Graduation Rate Performance, Peer Reputation, Reputation among High School Counselors, Graduation and Freshman Retention, Student Selectivity, Financial Resources and Alumni Giving. The weights attached to the various factors are as follows⁹:

Factor	Weight
Graduation Rate Performance	7.5
Peer Reputation	15
Reputation among High School Counselors	7.5
Graduation and Freshman Retention	20

⁹ Taken from “How U.S. News Calculates the College Rankings” available on the US New and World Report website: <http://www.usnews.com/education/articles/2010/08/17/how-us-news-calculates-the-college-rankings?PageNr=3>

Faculty Resources	20
Student Selectivity	15
Financial Resources	10
Alumni Giving	5
Total	100

Student selectivity is measured as the percentage of applicants who are accepted by the school and endowment is the dollar value of the financial corpus of the University in 2009. All three of these measures are reported by US News and World Report and are taken from the 2010-11 listings.

Each of these measures has individual strengths and weaknesses and hence all of them together must be examined before we arrive at a comprehensive picture. The Rank measure for example is comprehensive but, it is an ordinal measure, and at the same time depends significantly on Peer Reputation and Reputation among High School Counselors which may or may not be correlated with true quality. An institution can become famous for being famous. Similarly while selectivity is a hard measure of excess demand (and thus quality), it can be a problematic measure for publicly funded State institutions that are required to accept all in-State students who meet a particular graduation standard. Consequently such institutions will be under-ranked by this measure alone as compared to a true indicator of quality. Similarly while endowment can be a hard measure of quality in that it makes possible a much higher quality learning environment and provides a cushion for the institutions in hard economic times, it is a function of age and would undervalue younger institutions. Therefore, it is important to consider all of these measures together to arrive at a comprehensive picture.

To measure alumni control, we separately collected data on university governance for each of these institutions. We looked for two numbers – the total number of trustees (or regents, overseers or governors as they are variously called) on the board of each institution and the number of alumni amongst the trustees and then simply took the ratio of the two numbers to arrive at the degree of alumni control. For several of the universities, especially the public ones, this information is on the Board of Trustees page on the website. Many of the universities list the trustees by name, list their degrees or otherwise have brief biographies on them from which this information can be deduced. For several others, either the names of the trustees are not publicly listed or if listed their biographies or graduation details are not available. In all such cases an attempt was made to obtain this information by email or by phone from the universities concerned.

A complicating factor was that some public universities have boards that by statute, control several State universities at a time and as such the notion of alumni control gets weakened as the possible representation of any one institution tends to get diluted. For example, the

University of California system has just one board that controls all 10 of the universities of the UC system. This is mandated by California law. Similarly, three universities from the SUNY system are also on this list and they too share a common board or regents with 64 institutions in all, and there are many other examples. In all such cases, we simply looked at the number of alumni from each of the separate institutions on our list. Thus for example, there are eight universities from the UC system in the top 100 list for each of which we looked at the number of alumni from that school on the Board of Regents. University of California, Berkeley, had 9 alumni out of 31 regents and UCLA had 3 out of the same board of 31. Several others had none. We took the separate ratios for each of these schools (for e.g. 9/31 for Berkeley and 3/31 for UCLA and zero for some others). A Regent could be an alumnus or alumna from more than one school. However, many public institutions, for example the College of William and Mary and the University of Michigan have boards that control only one institution and so are not subject to this issue.

We have data for nearly all of the top 103 institutions, in fact for all except one (for a total of 102 data points) which refused to share this information on grounds of privacy. The included institutions are listed in the appendix.

We have already seen alumni control of the top 20 research institutions in the United States. The other 80 are also by and large alumni controlled. For the universities in our sample the average proportion of alumni on the board is 63%. What is interesting is that the higher ranked institutions generally have a higher degree of alumni control as measured by the fraction of alumni on the board. We have already seen this in the way the top 5 are different from the others in the top 20, but this pattern persists all the way down.

We now document this relationship.

Note that endowments for State schools are separately shown for each campus. Thus while UC system has combined board of regents the endowments are separate. The religious classification is taken from US News and World Report and reflects the current situation on the ground. Thus Yeshiva is taken to be non-religious. The Universities of Delaware and Pittsburg, though publicly founded, and still partially publicly funded are taken to be private since their boards are now privately controlled. Separate endowment data was not available for five universities in the US News and World Report.

We also need to control for age of universities. For this purpose the group was divided into 50 year periods 1601-1650, 1651-1700, 1701-1750, 1751-1800, 1801-1850, 1850-1900, 1901-1950 and 1951-2000. Understandably, there were no universities in the top 100 that were founded after the year 2000. It turns out that there is precisely one university in the first group (Harvard) and one in the second group (College of William and Mary) leading to over-determination in the model. Therefore, the first two categories were combined. The dummies are called 1600 (base),

1700 (first half of the 1700s), 1750 (second half of 1700s), 1800 (first half of the 1800s), 1850 (second half of 1800s), 1900 (first half of the 1900s), 1950 (second half of 1900s) respectively.

8.1. Rank As a Measure of Quality

The first measure of quality that we wish to use is the rank of the school on the US News and World Report ranking for 2010-211. (It should be noted that the ranking for 2011-12 is now available but is not substantially different from the 2010-11 ranking. In fact the top four spots are identical.) This immediately creates a problem – the dependent variable is really an ordinal variable but we cannot use rank directly in an ordered logit model at least not when there are as many values of the dependent variable as there are observations. The obvious solution is to divide up the dependent variable into groups. We do it in two ways – groups of 10 and groups of 5. The explanatory variables are percentage of alumni on the board, religious affiliation (yes or no), total number of trustees and school type (i.e. public or private).

8.1.1. Rank Ordered Logistic Regression Model – Groups of 10

When we run the regression with groups of 10 schools (i.e. the top 10 followed by the next ten and so on down the line), we find that the coefficient of alumni control is negative as we would expect it to be. That is to say, the higher the degree of the alumni control the lower the cardinality of the rank (i.e. a rank of 1 is higher than a rank of 20 for example). The coefficient is significant at the 5% level with a t value of -2.29. The coefficient of the number of trustees are also significant at the 5% level. Surprisingly, the larger board size is associated with a better school.

Observations	Max Deriv	Model L.R.	d.f.	P	C	Dxy	Gamma	Tau-a	R2	Brier
102	3e-09	39.55	10	0.0000	0.712	0.425	0.426	0.386	0.325	0.071

group 10	Coef.	Std. Err.	z	P> z	95% Conf. Interval	
alumnipcentage	-2.2724	0.9904	-2.2900	0.0220	-4.2135	-0.3313
schooltype	-0.1647	0.6347	-0.2600	0.7950	-1.4086	1.0792
#oftrustees	-0.0340	0.0147	-2.3100	0.0210	-0.0628	-0.0052
religious	1.0970	0.5923	1.8500	0.0640	-0.0640	2.2580
agedummy1700	-0.3475	1.7694	-0.2000	0.8440	-3.8155	3.1204
agedummy1750	1.3518	1.4146	0.9600	0.3390	-1.4207	4.1243
agedummy 1800	2.3371	1.3209	1.7700	0.0770	-0.2518	4.9260
agedummy1850	2.2659	1.2881	1.7600	0.0790	-0.2587	4.7905
agedummy1900	1.2601	1.4605	0.8600	0.3880	-1.6024	4.1226
agedummy1950	1.9864	1.6938	1.1700	0.2410	-1.3334	5.3063
/cut1	-3.1504	1.5158			-6.1214	-0.1794

/cut2	-2.2245	1.5038			-5.1719	0.7229
/cut3	-1.5391	1.4922			-4.4638	1.3856
/cut4	-0.9813	1.4883			-3.8984	1.9357
/cut5	-0.4753	1.4885			-3.3928	2.4421
/cut6	0.0647	1.4879			-2.8515	2.9809
/cut7	0.5503	1.4863			-2.3628	3.4633
/cut8	1.3612	1.4865			-1.5522	4.2747
/cut9	2.0618	1.4930			-0.8644	4.9881

8.1.2. Rank Ordered Logistic Regression Model – Groups of 5

We find the same result in groups of 5, with the coefficient of alumni control again significant at the 5% level and the number of trustees significant at the 5% level. Again, larger board size is associated with a better school.

Observations	Max Deriv	Model L.R.	d.f.	P	C	Dxy	Gamma	Tau-a	R2	Brier
102	1.00E-06	43.74	10	0.000	0.703	0.407	0.408	0.388	0.35	0.028

group 5	Coef.	Std. Err.	z	P> z	95% Conf.	Interval
alumnipercentage	-2.3477	0.9989	-2.3500	0.0190	-4.3056	-0.3898
schooltype	-0.2360	0.6365	-0.3700	0.7110	-1.4835	1.0114
#oftrustees	-0.0329	0.0147	-2.2400	0.0250	-0.0617	-0.0041
religious	1.1225	0.5900	1.9000	0.0570	-0.0338	2.2788
agedummy1700	-0.7948	1.8245	-0.4400	0.6630	-4.3708	2.7812
agedummy1750	1.7743	1.4626	1.2100	0.2250	-1.0923	4.6409
agedummy1800	2.7798	1.3798	2.0100	0.0440	0.0755	5.4840
agedummy1850	2.7027	1.3486	2.0000	0.0450	0.0595	5.3459
agedummy1900	1.6905	1.5123	1.1200	0.2640	-1.2736	4.6546
agedummy1950	2.2583	1.7476	1.2900	0.1960	-1.1670	5.6835
/cut1	-3.7481	1.5801			-6.8450	-0.6511
/cut2	-2.7827	1.5697			-5.8593	0.2939
/cut3	-2.1990	1.5634			-5.2631	0.8652
/cut4	-1.8334	1.5581			-4.8872	1.2203
/cut5	-1.3376	1.5507			-4.3770	1.7018
/cut6	-1.1568	1.5480			-4.1910	1.8773
/cut7	-0.8199	1.5458			-3.8496	2.2098
/cut8	-0.6046	1.5458			-3.6343	2.4251
/cut9	-0.2997	1.5453			-3.3285	2.7290

/cut10	-0.1058	1.5451			-3.1342	2.9225
/cut11	0.1421	1.5445			-2.8852	3.1693
/cut12	0.4451	1.5434			-2.5798	3.4700
/cut13	0.7641	1.5421			-2.2583	3.7866
/cut14	0.9360	1.5413			-2.0850	3.9570
/cut15	1.3488	1.5418			-1.6731	4.3707
/cut16	1.7339	1.5441			-1.2925	4.7603
/cut17	1.8049	1.5445			-1.2222	4.8320
/cut18	2.4346	1.5496			-0.6025	5.4717
/cut19	3.3643	1.5761			0.2752	6.4534

8.1.3. Rank Regression

While it is not wholly accurate to treat the raw rank numbers as the dependent variable in a linear regression because the assumptions of OLS are violated, for completeness we report this regression as well. The conclusions neatly mimic that of the ordered logistic regression in that the coefficient of alumni control is negative and significant at the 1% level and the coefficient of the number of trustees is significant at the 5% level. Again the larger board size is associated with a better school.

Source	SS	df	MS	Number of obs	=	102
				F(10, 91)	=	4.54
Model	28867.24	10	2886.72	Prob > F	=	0.0000
Residual	57875.52	91	635.99	R-squared	=	0.2595
				Adj R-squared	=	0.239
Total	86742.75	101	858.8392	Root MSE	=	25.565

rank	Coef.	Std. Err.	t	P> t	95% Conf.	Interval
alumnippercentage	-32.009	13.500	-2.370	0.020	-58.826	-5.192
schooltype	-2.216	8.412	-0.260	0.793	-18.925	14.494
#oftrustees	-0.534	0.185	-2.880	0.005	-0.901	-0.166
religious	15.954	8.040	1.980	0.050	-0.017	31.924
agedummy1700	12.700	22.087	0.580	0.567	-31.173	56.573
agedummy1750	23.778	19.812	1.200	0.233	-15.576	63.132
agedummy 1800	32.861	18.831	1.750	0.084	-4.544	70.266
agedummy1850	34.662	18.402	1.880	0.063	-1.891	71.214
agedummy1900	19.587	20.922	0.940	0.352	-21.973	61.146
agedummy1950	26.798	23.601	1.140	0.259	-20.083	73.679

intercept	56.951	21.026	2.710	0.008	15.186	98.716
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8.2.Exclusivity

8.2.1. Full Regression

The next measure of quality that we wish to use is the exclusivity of the school. Exclusivity here is defined as: $\log((1 - \text{acceptance rate}) / \text{acceptance rate})$. The explanatory variables again are percentage of alumni on the board, religious affiliation (yes or no), total number of trustees and school type (i.e. public or private). When we run the regression we find that while the coefficient is positive as we would expect it to be (higher degree of alumni control is associated with higher exclusivity), but it is not significant. This may come as a surprise, but it is not surprising when examined further. The reason is that the public universities, many of whom are excellent and highly ranked, invariably have explicit or implicit enrollment requirements in that they are required to admit all students from the State in question who meet a particular standard. As such, they lose control of their exclusivity – in fact, in many ways public schools embody the anti-thesis of exclusivity.

Source	SS	df	MS	Number of obs	=	102
				F(10, 91)	=	6.36
Model	41.329	10	4.133	Prob > F	=	0.000
Residual	59.172	91	0.650	R-squared	=	0.411
				Adj R-squared	=	0.347
Total	100.502	101	0.995	Root MSE	=	0.806

log exclusivity	Coef.	Std. Err.	t	P> t 	95% Conf.	Interval
alumnipcentage	0.638	0.432	1.480	0.143	-0.219	1.496
schooltype	0.737	0.269	2.740	0.007	0.203	1.272
#oftrustees	0.008	0.006	1.340	0.185	-0.004	0.020
religious	-0.371	0.257	-1.440	0.152	-0.882	0.140
agedummy1700	-0.614	0.706	-0.870	0.387	-2.017	0.789
agedummy1750	-0.918	0.633	-1.450	0.151	-2.176	0.341
agedummy 1800	-1.695	0.602	-2.820	0.006	-2.891	-0.499
agedummy1850	-1.522	0.588	-2.590	0.011	-2.690	-0.353
agedummy1900	-0.791	0.669	-1.180	0.240	-2.120	0.537
agedummy1950	-0.901	0.755	-1.190	0.236	-2.400	0.598
intercept	0.526	0.672	0.780	0.436	-0.809	1.861

To clear up the mystery we run separate regressions for public and private schools.

8.2.2. Exclusivity as a Measure of Quality of Private Schools

When we run the regression for private schools, the coefficient of alumni control is once again positive (the higher the degree of alumni control the higher the exclusivity) and significant at the 1% level. No other variables are significant. Note that no private school on our list was founded after 1950 hence that dummy is omitted.

Source	SS	df	MS	Number of obs	=	58
				F(3, 54)	=	4.42
Model	22.28	8	2.786	Prob > F	=	0.0004
Residual	30.90	49	0.631	R-squared	=	0.419
				Adj R-squared	=	0.324
Total	53.19	57	0.933	Root MSE	=	0.794

log exclusivity	Coef.	Std. Err.	t	P> t	[95% Conf.	Interval]
alumnipcentage	2.025	0.646	3.140	0.003	0.728	3.323
schooltype	omitted					
#oftrustees	0.010	0.007	1.480	0.146	-0.004	0.023
religious	-0.139	0.267	-0.520	0.605	-0.676	0.398
agedummy1700	-0.829	0.896	-0.930	0.359	-2.630	0.971
agedummy1750	-0.780	0.878	-0.890	0.379	-2.545	0.985
agedummy 1800	-1.925	0.845	-2.280	0.027	-3.623	-0.226
agedummy1850	-1.644	0.832	-1.980	0.054	-3.317	0.029
agedummy1900	-1.211	0.924	-1.310	0.196	-3.066	0.645
agedummy1950	omitted					
intercept	0.263	1.058	0.250	0.804	-1.863	2.389

8.2.3. Exclusivity as a Measure of Quality of Public Schools

Not surprisingly, when we run the regression just for public schools, none of the coefficients is significant and further, the coefficient of alumni control has the wrong sign but it is very small indeed. Note that the religious affiliation variable is omitted since all the public schools are non-religious. Further, no public school was founded before 1750 so the relevant dummies are omitted as well.

Source	SS	df	MS	Number of obs	=	44
				F(7, 36)	=	1.750
Model	6.670	7	0.953	Prob > F	=	0.128

Residual	19.570	36	0.544	R-squared	=	0.254
				Adj R-squared	=	0.109
Total	26.240	43.000	0.610	Root MSE	=	0.737

log exclusivity	Coef.	Std. Err.	t	P> t	95% Conf.	Interval
alumnipcentage	-0.021	0.571	-0.040	0.971	-1.179	1.138
schooltype	omitted					
#oftrustees	0.013	0.014	0.970	0.340	-0.014	0.041
religious	omitted					
agedummy1700	omitted					
agedummy1750	-1.019	0.842	-1.210	0.234	-2.727	0.689
agedummy 1800	-1.266	0.785	-1.610	0.116	-2.858	0.327
agedummy1850	-1.129	0.758	-1.490	0.145	-2.666	0.408
agedummy1900	-0.280	0.885	-0.320	0.753	-2.074	1.514
agedummy1950	-0.963	0.897	-1.070	0.290	-2.783	0.856
intercept	0.454	0.893	0.510	0.614	-1.357	2.265

8.3.Fractional Regression

Another methodology developed specifically for proportion data dependent variables, that is those dependent variables that fall in the closed interval [0,1] was devised by (Papke 1996; Papke and Wooldridge 2008). We run their procedure which is available in the *Stata* statistical package. Since we can directly work with the acceptance rate we do so, using it as the dependent variable. Again we run the regressions separately for private and public schools.

8.3.1. Private Schools

The results for private schools are strongly supportive of the hypothesis and higher alumni control is associated with lower acceptance rates (i.e. greater exclusivity). It is significant at the 1% level. The other variables are not significant. No private school on our list was founded after 1950.

Generalized linear	models	No. of obs	=	58
Optimization :	ML	Residual df	=	50
		Scale parameter	=	1
Deviance	6.156	(1/df) Deviance	=	0.123
Pearson	6.133	(1/df) Pearson	=	0.123
Variance function:	$V(u) = u*(1-u/1)$	[Binomial]		

Link function :	$g(u) = \ln(u/(1-u))$	[Logit]		
		AIC	=	1.157
Log pseudolikelihood	-25.547	BIC	=	-196.866

fall2009acceptancerate	Coef.	robust Std. Err.	z	P> z	[95% Conf.	Interval]
alumnipcentage	-1.821	0.631	-2.880	0.004	-3.058	-0.583
schooltype	omitted					
#oftrustees	-0.011	0.005	-1.970	0.049	-0.021	0.000
religious	0.114	0.206	0.550	0.579	-0.290	0.518
agedummy1700	1.101	0.383	2.880	0.004	0.351	1.851
agedummy1750	1.017	0.476	2.140	0.033	0.084	1.951
agedummy 1800	2.011	0.215	9.330	0.000	1.588	2.433
agedummy1850	1.792	0.239	7.490	0.000	1.323	2.261
agedummy1900	1.339	0.391	3.420	0.001	0.572	2.106
agedummy1950	omitted					
intercept	-0.444	0.663	-0.670	0.503	-1.744	0.855

8.3.2. Public Schools

As expected, the results for public schools are not significant, as before. Note that the religious affiliation variable is omitted since all the public schools are non-religious. No public school was founded before 1750.

Generalized linear	models	No. of obs	=	44
Optimization :	ML	Residual df	=	37
		Scale parameter	=	1
Deviance =	4.157	(1/df) Deviance	=	0.112
Pearson =	4.033	(1/df) Pearson	=	0.109
Variance function:	$V(u) = u*(1-u/1)$	[Binomial]		
Link function :	$g(u) = \ln(u/(1-u))$	[Logit]		
		AIC	=	1.236
Log pseudolikelihood	-20.185	BIC	=	-135.86

fall2009acceptancerate	Coef.	Robust Std. Err.	z	P> z	95% Conf.	Interval
alumnipcentage	0.054	0.468	0.120	0.908	-0.864	0.972

schooltype	omitted					
#oftrustees	-0.010	0.013	-0.810	0.419	-0.036	0.015
religious	omitted					
agedummy1700	omitted					
agedummy1750	0.979	0.420	2.330	0.020	0.156	1.801
agedummy 1800	1.203	0.271	4.440	0.000	0.672	1.735
agedummy1850	1.096	0.136	8.040	0.000	0.829	1.363
agedummy1900	0.306	0.376	0.810	0.415	-0.430	1.043
agedummy1950	0.928	0.464	2.000	0.046	0.018	1.837
intercept	-0.524	0.386	-1.360	0.175	-1.281	0.233

8.4.Endowment

Finally, we use the log of the size of the endowment as a measure of quality. Again, the results for alumni control are positive and significant (at the 5% level) as expected.

Source	SS	df	MS	Number of obs	=	97
				F(4, 92)	=	4.95
Model	60.663	10	6.066	Prob > F	=	0.0000
Residual	105.452	86	1.226	R-squared	=	0.3652
				Adj R-squared	=	0.2914
Total	166.115	96	1.730	Root MSE	=	1.1073

logendowment	Coef.	Std. Err.	t	P> t 	95% Conf.	Interval
alumnipcentage	1.501	0.616	2.440	0.017	0.277	2.725
schooltype	0.178	0.383	0.470	0.643	-0.583	0.940
#oftrustees	0.014	0.008	1.730	0.088	-0.002	0.031
religious	-0.216	0.368	-0.590	0.559	-0.947	0.516
agedummy1700	0.619	1.019	0.610	0.545	-1.406	2.645
agedummy1750	-1.343	0.879	-1.530	0.130	-3.091	0.405
agedummy 1800	-1.068	0.827	-1.290	0.200	-2.713	0.577
agedummy1850	-1.322	0.809	-1.630	0.106	-2.930	0.286
agedummy1900	-1.536	0.922	-1.670	0.099	-3.368	0.297
agedummy1950	-1.349	1.075	-1.260	0.213	-3.485	0.787
intercept	20.295	0.932	21.770	0.000	18.442	22.147

9. Discussion

Therefore, whichever measure of school quality that we use – rank, school selectivity or endowment, we find that same result – the greater the degree of alumni control, the higher the quality of the school. As we have noted above, the only exception is the ranking of the subset of public schools when we use the selectivity measure. This fails for public schools on account of the implicit and sometimes explicit inclusive admissions policies that are often imposed on public schools by State legislatures.

While our results are strong, they should be interpreted with some caution. While alumni control has a lot of attractive features in that it aligns incentives, provides continuity, builds involvement and helps endowments, its results are only evident over a long period of time – cumulatively over decades, if not centuries. This then brings up a significant limitation of the present study – that we look at contemporary performance and contemporary board governance. Ideally, one should look at the entire time path of governance over time and link it up to the performance at present time. To be sure, we have this data for Harvard and for a few other universities whose histories of evolution we have cited, but these are but a handful. Ideally, a broader study should look at the time path of the strength of alumni governance across all the top 100 US universities since their inception. The insights gleaned thereby would be deeper and more complete.

Further, while the association between alumni control and performance is strong we do not know the precise mechanism by which it acts. Is it simply on account of (as we have documented) a larger endowment that alumni control makes possible? No doubt that is a significant part of the story but there must be other avenues as well. Could it be on account of the greater personal involvement of the trustees? Could it also be on account of better, faster and more local decision making? All this needs to be understood not only to make sense of the functioning of the institutions of higher learning but of other institutions as well.

Finally, while we have used several measures of university quality – rank, endowment and selectivity, we have overlooked several other possible measures that speak to other dimensions of quality – for example, research productivity, thought leadership appropriately defined and alumni prominence.

All of this must be left for future research.

10. Conclusion

To conclude what is the resolution of the three puzzles that we listed in the beginning? Let us take them one at a time.

First, so why is Harvard #1? This question, then becomes easy to answer. Except for a few brief years in its early days and a decade in the middle, for almost its entire existence, a period of

nearly 400 years, Harvard has been controlled by its alumni. Prior to 1865 when Harvard was still a public university, this was a consequence of the convenient overlap between the legislative and clerical elite on one hand and Harvard alumni on the other. So, State control meant *de facto* Harvard alumni control because the legislature of Massachusetts was controlled by Harvard alumni. When the political tide started to shift in the middle of the 19th century on account of political strife and immigration, Harvard had the prescience to request and the political skills to obtain *de jure* alumni control of its board from the State Legislature in 1865; and so it has remained since then. Harvard has had alumni control for two hundred years longer than any other university. It was also the first university in the world to have formal alumni control. This has contributed to its broad based excellence.

Secondly, why do US universities dominate the global rankings to the extent that that 17 of the top 20 universities in the Shanghai Jiao-Tong University ranking are US based? The answer again lies in alumni control. This innovation was rapidly copied by others after Harvard obtained it in 1865. It spread like wildfire, copied first by the College of William and Mary, then Yale, and then the others. Soon, even the newly formed State universities, started used the template of alumni control. Today, whether public or private, of the top 100 research universities in the United States are all non-profit, and the overwhelming majority is alumni controlled.

Finally, how did several newly formed US universities rapidly acquire front rank status in the standing of universities worldwide? How have they managed to retain their edge and standing year after year for over a century? Again the answer no doubt partly lies in alumni control (along with strong first presidents and supportive founder/benefactors) which allowed the newly formed universities of Johns Hopkins, Michigan, Stanford, Duke, Carnegie Mellon and Chicago to very quickly become famous. This process was achieved in some cases in just a few short decades (e.g. as in the case of the University of Chicago) which given the longevity of universities, is very quickly indeed.

Interestingly, the US borrowed a non-profit governance form and found a way to infuse a competitive ethos into it. All this is made possible by a model that transfers control to those who value it most, that is the alumni, who then drive competition for students, faculty, facilities, research, programs, global ties, sports coaches and rankings. Conversely, they also provide funds and guidance to maintain uniform excellence in all these pursuits. This maximizes the value of the degree or the “sheepskin” that the alumni are figuratively cloaked in for the rest of their lives.

This ability by the US to borrow European models of governance, to significantly modify or rapidly change them and to quickly diffuse them was and remains part of the American genius. Goethe was to write from his German vantage point (Barnett):

“America, you have it better

Than our old continent.
You have no tumbledown castles
And no basalt deposits.
Your present is not disturbed deep down by
Useless remembrance and vain strife.”¹⁰

Clearly, this ability of the United States to be an innovator unburdened by “tumbledown castles” is very much in evidence in its history of university governance. Alumni control is at the heart of what makes Harvard and the others that followed it, dynamic, influential and wealthy. It also gives them a bed rock of support to navigate the turbulence that hits all institutions from time to time. It allows them to respond to challenges quickly and expeditiously without being disturbed by “useless remembrance and vain strife”. Whitehead (Whitehead 1973) calls the rapid innovation in University governance, “the revolution of 1865” and the “shot heard around the world” (page 207). As we have shown, it certainly was heard all throughout the US and thoroughly imitated there though not in the rest of the world. Perhaps, it deserves to be.

¹⁰ The English version of Goethe’s *Amerika* above, is by Marilyn Barnett. The original, which whose clever rhyming structure is impossible to capture well in a translation, is:

*Amerika, du hast es besser
Als unser Kontinent, der alte,
Hast keine verfallenen Schlösser
Und keine Basalte.
Dich stört nicht im Innern,
Zu lebendiger Zeit,
Unnützes Erinnern
Und vergeblicher Streit.*

It has recently been set to music by Gary Bachlund.

11. List of Universities

Private	Public
Boston University	Auburn University
Brandeis University	Binghamton University--SUNY
Brown University	Clemson University
Cal Tech	College of William and Mary
Carnegie Mellon University	Colorado School of Mines
Case Western Reserve University	Georgia Institute of Technology
Clark University	Indiana University--Bloomington
Columbia University	Iowa State University
Cornell University	Miami University--Oxford
Dartmouth College	Michigan State University
Drexel University	Ohio State University--Columbus
George Washington University	Pennsylvania State University--University Park
Harvard University	Purdue University--West Lafayette
Johns Hopkins University	Rutgers, the State University of New Jersey--New Brunswick
Lehigh University	Stony Brook--SUNY
MIT	SUNY College of Environmental Science and Forestry
New York University	Texas A&M University--College Station
Northeastern University	University of Alabama
Northwestern University	University of California--Berkeley
Princeton University	University of California--Davis
Rensselaer Polytechnic Institute	University of California--Irvine
Rice University	University of California--Los Angeles
Stanford University	University of California--Riverside
Stevens Institute of Technology	University of California--San Diego
Syracuse University	University of California--Santa Barbara
Tufts University	University of California--Santa Cruz
Tulane University	University of Colorado--Boulder
University of Chicago	University of Connecticut
University of Delaware	University of Florida
University of Denver	University of Georgia
University of Miami	University of Illinois--Urbana-Champaign
University of Pennsylvania	University of Iowa
University of Pittsburgh	University of Maryland--College Park
University of Rochester	University of Massachusetts--Amherst
University of Southern California	University of Michigan--Ann Arbor
University of the Pacific	University of Minnesota--Twin Cities
Vanderbilt University	University of Missouri - Columbia
Wake Forest University	University of North Carolina--Chapel Hill
Washington University in St. Louis	University of Texas--Austin
Worcester Polytechnic Institute	University of Vermont
Yale University	University of Virginia
Yeshiva University	University of Washington
	University of Wisconsin--Madison
	Virginia Tech

Private and Religious
American University
Baylor University
Boston College
Brigham Young University--Provo
Duke University
Emory University
Fordham University
Georgetown University
Marquette University
Pepperdine University
Southern Methodist University
St. Louis University
Texas Christian University
University of Dayton
University of Notre Dame
University of San Diego
University of Tulsa

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