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The Autonomy and Governance of Higher Education Institutions in Portugal:

The US Case and the European Imitation[1]

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Introduction

In the 21st century the EU nations have placed increasing emphasis on improving and strengthening their universities most engaged in doctoral education and research because these institutions are particularly influential in supporting social and economic development as well as producing knowledge-intensive goods and services (Dill and van Vught, 2010). These EU higher education policies have often been guided by the US experience with its research universities. Following World War II American research universities developed what my distinguished American colleague Roger Geiger has described as "the most powerful system for advancing knowledge that the world had ever seen" (Geiger, 2020, 87). Today over one-third of the top 100 universities in the respected Leiden global rankings of scientific impact (CWTS Leiden Ranking, 2021)[2] are US public and private research universities.

Among the US research university practices modelled by EU nations are the granting of private "foundation status" to publicly financed institutions, the establishment of university Councils or Boards of Trustees, the strengthening of the authority of university Rectors and executives, as well as the adoption of some American university organizational structures such as doctoral or graduate schools. However, a significant difference with the American university system are the EU policy reforms specifying the internal organization and governance of research universities, which often limit the collegial authority of academic staff (Amaral, Tavares, and Santos, 2013).

Under the US Constitution education was deemed a principal responsibility of the constituent states. Therefore, in marked contrast to the policies of many EU nations, the

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[2] There are numerous global rankings of universities. But most such rankings are not based on any testable model of university performance and are methodologically questionable. The CWTS Leiden Rankings has adopted an exclusive focus on the scientific performance of universities and is based entirely on reliable and valid bibliographic data from scientific publications. Gadd, Holmes, and Shearer (2021) provide an informative assessment of the utility of global university rankings.

American national government has not established or financed higher education institutions, with the exception of a small number of military academies. Because of this federalist political framework, the US national government has also not developed a national ministry of education, nor has it directly regulated university governance, management, or student admissions. The US national and state governments have traditionally permitted both public and private universities to adapt and improve institutional governance and management over time as needed. As a consequence, US academic research has become a "self-organizing system" (Geiger, 2019) and America's leading research universities have been able to develop distinctive mechanisms of collegial management and governance, which have enabled them to achieve their current high global status.

In this presentation I focus on the collegial mechanisms of university governance most characteristic of the members of the American Association of Universities (AAU). Founded in 1900, the AAU is a selective professional association of America's leading research universities. The AAU, along with its adjunct Association of Graduate Schools, was originally created to establish and uphold among its members uniform academic standards in research and doctoral education (Geiger, 2017). Currently the AAU consists of 65 universities, two of which are Canadian (AAU, 2023). Of the top 100 global universities listed in the Leiden rankings thirty-five -- including the two Canadian universities -- are members of the AAU.[3] Over the last 120 years the AAU has had a dynamic membership, adding and when necessary dropping, members based upon publicly stated criteria Unlike commercial entities, which are often barred from colluding with each other, the AAU's annual meeting brings together the Graduate School Deans and Senior Research Officers of AAU universities providing them a forum for mutually addressing issues related to doctoral education and research improvement. The existence of the AAU therefore not only motivates other US public and private research universities to constantly improve their processes for governance and management in order to gain and sustain membership in the Association, but also has served as an influential means for the transmission of more effective academic structures and administrative mechanisms among the member institutions.

The form and function of the AAU helps explain why research on American higher education (Clark, 1987; Kaplan, 2004) has consistently indicated the governance and management of the leading American public and private research universities are significantly different and more effective than the nation's other academic institutions. The AAU universities possess distinctive "authority environments" (Clark, 1987), characterized by faculty control of major academic decision making, faculty criteria for key administrative appointments such as dean, provost and president, and a process of department-based, bottom-up governance. This American form of collegial governance has been consistently noted as the most significant organizational difference between US research universities and those of the EU countries (Clark, 1983; Meyer, 2016; Paradeise and Thoenig, 2015).

In my following remarks I will first briefly address the related higher education policy issues of university designation and the granting of autonomy to public universities before turning to a more detailed discussion of the distinctive collegial organization of America's leading public and private universities.

[3] Two additional US public universities are listed among the top 100 global universities in the Leiden rankings, but they are not eligible for AAU membership because they are health science institutions rather than comprehensive universities.

University Designation

The quality and impact of academic research is a strong predictor of university reputation, professional success as an academic, and the economic benefits an institution of higher education provides to its region (Dill and van Vught, 2010). Therefore, it is not surprising that academics in all countries including the US campaign for increased institutional and national investment in doctoral education and academic research, and that politicians often lobby for academic institutions in their region to be upgraded to research university status. What criteria should be applied in the policy decision to designate new research universities?

Designation of publicly-funded doctoral-granting research universities in the US is determined by the fifty state governments which follow varying policies. However, unlike many EU countries that rely on university block grants to support academic research, the vast majority of US academic research is provided to individual researchers and institutions through competitive, peer-reviewed processes conducted by the federal and state governments as well as private foundations. Therefore, US external academic research funding is not limited to doctoral-granting research universities. Nevertheless, some 63% of the basic research funded by the US Federal Government, which is the primary source of support for academic research, is conducted at the 63 US public and private universities composing the AAU (AAU, 2021). While the AAU has no policy-making role in university designation, unlike the comparable Russell Group of Universities in the UK, it has explicit, measurable criteria for membership. These criteria include an institution's: federally funded research expenditures; faculty membership in the US National Academy of Sciences; faculty members receiving awards, fellowships, and memberships in the National Research Council (NRC) list of highly prestigious awards; publication citation data; number of research/scholarship doctorates completed; number of postdoctoral appointees; and total number of faculty -- which permits normalization of the previously noted data (AAU, 2023). It is possible that a professional group similar to the AAU could be developed among existing universities in Portugal to help strengthen research universities and help define relevant criteria for the award of university status to existing academic institutions.

However, insofar as a major public interest in developing new universities is enhancing the economic impact of higher education institutions, developing additional doctoral-granting universities may not be sufficient. A comparative study (Lester 2007) revealed that the knowledge transfer processes currently emphasized in many national university policies -- i.e., patenting, licensing, and new business formation -- were not the most important contributors to local and regional economic development. Although some "world class" universities do produce technology artifacts that are globally transferable, for most universities effective knowledge transfer is a more local process, contingent upon the nature of industrial development in the regional economy. Universities do help create new businesses, but more commonly they help to modernize mature industries, support the expansion of existing businesses into new fields, and assist in the relocation of industries. In these roles the provision of capable science and technology graduates for the regional economy, consulting and contract research on technical problems with local business and industry, as well as traditional publications are much more significant channels for influencing technical innovation than are the newer emphasis on patenting and licensing (Cohen et al. 2002). Academic institutions can also provide a unique "public space" (Lester 2007) for local business practitioners, in which they meet during research conferences and industrial liaison programs to discuss the future direction of technologies, markets and regional industrial development in a non-collusive manner. Potentially all

comprehensive and technical academic institutions, as well as research universities, can make these contributions to regional development. Therefore, in addition to university designation, incentives may be needed to encourage relevant academic institutions to engage in studies and consultations designed to better understand their own research strengths, the development and circumstances of local industry, and the most appropriate channels for aligning an institution's capabilities with the needs of the local economy (Lester 2007). The Finnish National Centers of Expertise Program (OECD 2007) provides one highly regarded model along these lines.

Academic Autonomy

Most US public research universities possess "substantive" academic autonomy understood as the freedom to select students, set curriculum, and appoint professors. But there is much greater variation in the legal status accorded public universities across the states and its implication for regulatory control and academic performance (McGuinness, 2005). For example, many states such as North Carolina historically treated their universities as agencies of state government, subject to similar procedural regulations governing personnel, finance, and facilities as other state-funded agencies. Thus, the University of North Carolina at Chapel Hill does not have the authority to determine its tuition and fees or set faculty and staff salary increases. In contrast some states such as California and Michigan have awarded their public universities corporate autonomy, meaning that under their respective state constitutions the publicly-supported UCB and University of Michigan are treated essentially as private universities, not only accorded substantive autonomy over academic standards, curriculum, and faculty appointments, but granted autonomy as well from state procedural controls over personnel, finance, and facilities.

A respected economic analysis (Aghion et al, 2010) examined the effects of market competition and state regulation on the research performance of US public universities versus EU universities. The study focused on university outputs which contribute to economic development and therefore included research publications as well as a university's impact on the inventive capacity of a state as measured by the number of patents generated. The degree of market competition experienced by US public research universities also varies, influenced by the presence in a state of competing private research universities as well as by the proportion of a university's budget derived from the previously mentioned competitively awarded federal research grants. The study concluded research universities are more productive when they have greater autonomy and face increased competition. "Frontier research" is such a complex product that universities can effectively pursue it only if accorded the discretion to direct resources and researchers towards the most promising academic paths. Therefore, the most efficient system of external regulation would permit research universities to control the use of their budgets, to independently choose the compensation for their faculty, and to hire whichever academic staff they most prefer.

The "foundation" option recently extended to Portuguese universities appears to provide some valued aspects of this procedural autonomy. However, while the regulations regarding the design of university governance in a number of EU nations have awarded more authority to university rectors and their senior management teams, the academic values and collegial authority provided by strong academic senates and councils have often been weakened (Shattock, 2014). This emphasis on more hierarchical, administrative control of university governance is likely less efficient for society than well designed collegial processes of governance and decision making, because long-term academic staff are more likely to

provide truly independent judgments on critical university decisions than are shorter-term administrators who may personally benefit in status and salary from the decisions made (McPherson and Schapiro, 1999).

Furthermore, the national policies in some EU countries requiring academic faculty to share internal university governance with students, staff, and designated external representatives (Amaral, Tavares, and Santos, 2013) are substantially different from the processes of collegial control characteristic of AAU public and private institutions. For example, at UNC-CH some undergraduate and graduate student representatives may be invited to attend department, school and college, as well as university-wide faculty senate meetings. But they are involved without vote and would not participate in academic meetings engaged in faculty personnel decisions. However, no representatives external to the university regularly participate in these internal governance deliberations. Of particular relevance to Portugal, the faculty senates of AAU institutions, which control academic policy, are unifying governance bodies. As such, they are usually composed of faculty members elected proportionally from all departments and schools within a university. Finally, at UNC-CH a separate Employee Forum exists where representatives of the non-academic staff discuss their concerns with the university administration. In some states, which permit unionization of public employees, teaching assistants who consist largely of doctoral students as well as non-academic staff negotiate their labor conditions with the university.

Boards of Trustees

The one critical federal decision shaping American academic governance occurred in 1819, when the US Supreme Court ruled the charter granted to Dartmouth College by the then colony of New Hampshire was a contract. Therefore, Dartmouth was deemed a private institution designed to benefit the public, not a public institution under government control (Rudolph, 1990). This landmark decision encouraged the creation of many new "private" institutions in addition to the "public" colleges and universities then being founded, supported, and regulated by the developing US states. This judgement served as a cornerstone of US corporate law and formalized a basic principle of American academic governance in which the ultimate authority of a public or private higher education institution rests with its appointed board of control.

While the earliest US colleges were strongly influenced by their boards, over the course of the 20th century American universities evolved a distinctive system of internal, "shared" governance at the institutional level (AAUP/ACE/AGB, 1966). This shared governance involves three spheres of decision making. The governing board and administration have primary responsibility for finances, including maintaining the endowment and obtaining needed capital and operating funds. The faculty has primary responsibility for subject matter, curriculum, methods of instruction, research, faculty status, and aspects of student life clearly related to the education process. Shared responsibility among the board, administrators, and faculty exists for strategic matters such as framing long-range plans, budgeting (i.e., the allocation of financial resources), determining both short and long-range priorities, and presidential selection.

The authority granted lay member boards of trustees has been perceived as a unique strength of the US higher education system (Hermalin 2004; Meyer, 2016), helping to buffer institutions from political forces and assuring the pursuit of social outcomes in the public interest among these nonprofit, charitable organizations. While all private institutions of higher education possess these boards, governing boards have also become the primary form of control in the public sector, with boards elected or appointed for a state, a system of academic

institutions within a state, or for individual institutions. Typically, the boards delegate most of their authority to the college or university president and administration, becoming involved only in major policy decisions.

However, recent conflicts between boards of trustees and the faculties of public AAU universities in several states suggests the US system of governing boards in the public sector is now more vulnerable to ideological forces rooted in political patronage and partisanship. One recent prominent example is North Carolina where the Republican Party, which now controls the state legislature, has appointed individuals sympathetic to their political views to all Boards of Trustees of all public universities. As a consequence, the UNC-CH Board for the first time refused to offer academic tenure to a candidate recommended by the University for a Distinguished Professorship in Journalism, who happened to be a minority female.

A survey of public-university board members (Ellis, Stripling, and Bauman, 2020) revealed almost 70 percent assumed their roles through a process controlled by a single political party. Just 22 percent of politically appointed trustees navigated a confirmation process that included a meaningful bipartisan check. As a consequence, the Association of Governing Boards of Universities and Colleges (AGB, 2020) has recommended that a nonpartisan or equally partisan commission screen candidates for the governing boards of a state's public colleges and universities to determine their merit and qualities for service.

Executive Leadership

Given the distinctive evolution of the US national government, both the early private and emerging public universities adopted a corporate form of governance. From the outset the institutional president and boards of control possessed significant influence, because all higher education institutions were highly dependent on their ability to raise funds in order to survive. Even the University of North Carolina, the first state sponsored institution to open in 1795, received no state funding during its first hundred years and was financially dependent upon donations of land from local farmers, lotteries, gifts and benefactions enticed by the University President, as well as student tuition (Powell, 1992).

During the late 19th and throughout the 20th century a number of dynamic and innovative university presidents helped to create and strengthen the US research university (Geiger, 2017). Unlike Europe, where Rectors often played short-term, largely honorific roles, American University Presidents not only wielded substantial influence, but did so over extended periods (Meyer, 2016). As noted recent reforms in EU countries have often tried to emulate the US experience, by awarding greater hierarchical authority over institutional matters to university CEOs. However, following World War II, as US research universities rapidly expanded and grew more complex, the university president's role necessarily focused to a greater degree on external relations, which included private fund-raising, public relations, and in the public sector, political negotiation with state governments (Geiger, 2017). Consequently, during this time many US research universities expanded the authority and the collegial processes associated with the role of the Provost or Vice President of Academic Affairs.

The unique role of the American university Provost is well illustrated by the current position description at the University of Michigan (2021): "The Provost is the chief academic officer of the University and has responsibility for the University's academic and budgetary affairs. The Provost collaborates with the President in setting overall academic priorities for the University and allocates funds to carry these priorities forward." Historically larger US universities had assigned primary responsibility for operational and capital budgeting to a financial administrator. But following World War II many public and private research universities expanded the authority of the Provost, combining university-wide authority over academic programs and faculty appointments with responsibility for planning and resource

allocation. Even Harvard University founded in 1636 and generally regarded as the leading university in the US and world, finally adopted this leadership model by appointing its first Provost in 1993.

The trailblazer for this new form of academic leadership in the US was Frederick Terman a distinguished Dean of Engineering at Stanford (Geiger, 2017). Appointed Provost at Stanford in 1955, Terman became responsible for overseeing hiring and promotion of the entire faculty. During his period as Provost Stanford's academic reputation rose more quickly than any other US public or private research university (Geiger, 2017) until it attained its current global standing. Reflecting Terman's more analytical approach, Stanford eventually adopted a number of practices for systematic academic advancement, including an innovative university-wide planning and budgeting processes. It also became the first university to apply management science models to academic decision making (Hopkins and Massy, 1981). While Terman clearly demonstrated dynamic executive leadership, those who followed him at Stanford understood the complexity of university curricula, personnel decisions, and research require core academic decisions be determined by the professional expertise of the institution's academic staff rather than by an individual administrator. Consequently, Stanford, and subsequently other leading AAU universities such as Duke, Princeton, as well as UCB and Michigan (Dill and Helm, 1988), developed planning, budgeting, and program evaluation procedures utilizing well-designed collegial mechanisms of control.

At Stanford, as at other leading US universities, the Provost is a senior professor, most often with prior experience as a department chair or dean. But to assure financial planning and budgeting decisions truly reflect the university's collective academic values, for over fifty years the Stanford Provost's decisions have been undertaken collegially, in close consultation with a University Budget Committee (Massy, 2016). This committee is responsible for developing and allocating a comprehensive operating budget, including all restricted and unrestricted operating revenue and expense for the next year, as well as the university's capital budget. At Stanford, the Budget Committee is composed of academic administrators, who are also university professors, as well as of experienced senior faculty, including the chair of the Stanford Faculty Senate. Full-time Stanford faculty members represent more than two-thirds of the University Budget Committee members. Finally, all allocations in the approved comprehensive budget, and the academic values informing these choices, are published annually in the Stanford University Budget Plan (Stanford University, 2021). This very informative document effectively illustrates and communicates the university's core values to all members of the university including students.

Another influential management process by which AAU universities sustain their academic excellence is regular external reviews of existing academic departments and research units. At UCB these reviews by distinguished academic peers have been carried out for over fifty years by the Executive Vice Chancellor and Provost in partnership with the Academic Senate under the university's principles of shared governance. The results of these reviews have fed into the university's academic planning process and have been a critical element in initiating major changes. A significant example of this process is the innovative reorganization of the biological sciences at UCB in the 1980s (Koshland, Park, and Taylor, 2003; Trow, 1999). During the 1970s rapid advances in molecular biology and genetics opened new fields of knowledge and provided avenues for radical innovation. At the beginning of this period UCB had preeminent national rankings in the various fields of biology. But the 1981 external review of the University's biology programs, which were located in some 20 different departments across several colleges, revealed UCB was slipping in the rankings. This was due to deteriorating laboratory facilities, a substantial duplication in expertise across the multiple departments, and a consequent failure to develop strong faculty groups in newer subject areas. The normal governance process was for these external reviews to first be submitted to relevant committees of

the Faculty Academic Senate with eventual recommendations by the Senate to the administration. In this particular case a different process was followed, one which further illustrates the role executive leadership and collegial governance play in the achievements of US research universities.

The UCB Provost at the time of the 1981 Biology External Review was an experienced Professor of Botany with a good understanding of the rapid developments then occurring in the biological sciences. The Provost also understood the changes needed would be substantial and strongly resisted by entrenched interests in the related departments, who would likely also be influential on the deliberations of the Academic Senate. Consequently, the Provost chose to appoint a series of ad hoc committees composed of distinguished members of the UCB Biology faculty to assess the programs in the biological sciences in the light of the external review, to reshape and upgrade the programs, and to recommend major new research facilities for the biological sciences at UCB. The university Chancellor eventually agreed to support the recommended new facilities with a private fund-raising campaign, which at the time was the largest such campaign ever undertaken by a US public university.

The implemented program reorganization and the new research facilities arrested and reversed the slide of UCB's rankings in the biological sciences and increased morale among the related faculty. While this case illustrates the effective management strategies taken by UCB's executive leadership, it also underscores the critical importance of collegial mechanisms for successful decision making. These included the problem definition process through external review by respected academic peers, clear and prominent roles for trusted intellectual leadership from the university's relevant disciplines in the several committees developing solutions, and information sharing throughout the entire process between the UCB executive leadership and the Academic Senate as a means of sustaining the support of the overall faculty. Given the uncertainty and complexity of academic decisions in contemporary research universities, effective academic governance requires carefully designed collegial mechanisms employing the most respected and knowledgeable university faculty members.

Academic Departments and Research Units (RUs)

Disciplinary-based academic departments, which developed in the rapidly growing US universities at the beginning of the 20th century, introduced an academic structure which was internationally unique (Abbott, 2002). A reaction in part to the then influential elective system of college studies, the student disciplinary major quickly became the basis for American undergraduate education. Because US research universities have traditionally delegated faculty hiring to departments, the academic disciplines also effectively organized the American labor market for faculty. With their unusual ability to organize in one single structure undergraduate education, faculty hiring, fields of research, as well as individual careers, disciplinary departments became the indispensable and irreplaceable building blocks of American research universities.

For this reason, academic departments in US research universities are a significant source of collegial control (Dill, 2014). In many university systems there is a tension between personal authority, for example the significant influence traditionally granted individual professors in European universities, and collegial or collective academic authority. The US academic department is a powerful mechanism not only for protecting the professional control of academic work, but also for providing a means of constraining excessive personal authority (Clark, 1987). Academic departments in the AAU universities do acknowledge the importance of faculty seniority and experience usually by requiring the chair of a department to be a senior or full professor. They also frequently assign to full professors in a department responsibility for appointments or promotions to that position as well as for the award of academic tenure. But in

most AAU arts and science departments and professional schools the chair is considered a "first among equals" and has a limited, renewable appointment. Over time the chair is rotated out of office and other members of the department collegium "take their turn" in the leadership role. Moreover, on most other departmental matters, such as the design of the curriculum, course assignments, the appointment of junior faculty and staff, as well as the assignment of space, voting is often by "one person, one vote." Because these votes include junior members of the academic staff, the departmental structure in US research universities thereby acts as a collegial brake on the personal authority of senior professors.

The procedure for faculty hiring, promoting, and awarding of tenure characteristic of AAU research universities provides a further example of collegial control by academic peers. These personnel evaluations do not favor control by any one person – department chair, dean, or provost – or any one level – department, school, or university. For example, at the University of North Carolina - Chapel Hill (UNC-CH) faculty hiring, promotion and tenure recommendations approved by an academic department must be carefully reviewed and approved by a faculty advisory committee to the dean of the relevant school, as well as faculty advisory committee to the University Chancellor (Dill, 2014). This latter committee is composed of the most respected professors drawn from across the university, who thereby help assure a more common standard of faculty quality across all departments. Also, at UNC-CH the decision to appoint a faculty member as department chair is made by the relevant academic dean only after personally and privately consulting with each tenure-line faculty member in the pertinent department regarding her/his views on possible candidates. As Clark (1987: 155) noted: "National systems that do not have [academic departments] seem to evolve toward [them] to tame the narrower inclinations of individual specialists and to bring collegial principles to the fore."

An additional means of collegial control in the leading US research universities is the required external peer review of the research published by university faculty candidates for promotion and tenure. These reviews are sometimes described by foreign observers of US universities as "letters of recommendation" (Thoenig and Paradeise, 2014), but this interpretation underestimates both their nature and function. At UNC-CH the chair of an academic department contacts distinguished faculty members at peer universities in the candidate's field and sends them a selection of the relevant candidate's research. These external reviewers are asked to assess the strengths and weaknesses of the research, its significance for the relevant field, and usually whether the specific candidate would be considered for promotion and/or tenure at the reviewer's university. In this sense these external peer reviews of candidates for promotion and/or tenure are more similar to peer reviews of academic research proposals than to traditional letters of recommendation. These external assessments are taken seriously by the department faculty members responsible for making promotion and/or tenure recommendations at the requesting university and these external reviews are also forwarded along with all other relevant materials to the described school and university-wide faculty committees responsible for reviewing the quality of faculty personnel decisions. This reliance at AAU research universities on substantive, qualitative, reviews of a candidates' published research is in marked contrast to the increasing adoption of journal citation and impact scores as a primary means for evaluating the research quality of academic staff in some EU nations (Thoenig and Paradeise, 2014).

Another distinctive collegial mechanism, indispensable to the development of American research universities, are research units (RUs) (Geiger, 2017). During World War II large research institutes funded by the federal government for war-related research were established within universities such as Harvard, UCB, and MIT. Some of these institutes continued to be administered by universities following the war as independent federal contract institutes. But these autonomous institutes, along with the postwar rapid expansion of federal support for academic research in engineering, science and medicine, aroused concerns in AAU universities about how best to design, organize, and perform externally funded research as well as assure an

appropriate balance between research and teaching. Following the lead of MIT and UCB many of the AAU universities implemented postwar policies requiring a distinctive structure for new research units, regardless of their source of funding, which accommodated both the university's educational and research missions. The postwar addition of these new units encouraged the rapid US development of innovative interdisciplinary fields in the sciences and humanities as well as the creation of social science knowledge to address pressing societal issues.[4]

These new university policies on the structure of RUs effectively linked them to existing academic norms and collegial forms of governance. For example, the decision to create a new RU became a collective action by the relevant university faculty and/or school. Within AAU universities the RU director and key researchers usually had joint appointments as teaching faculty within existing disciplinary departments and many of the appointed research assistants were already enrolled as research doctoral students in related fields.[5] The internal governance of RUs paralleled the collegial processes previously described in AAU academic departments and these research units were also subject to university academic oversight as exemplified by the program review process at UCB. The management and governance of AAU RUs were thus substantially different from the experiences of many northern European Universities (Meyer, 2016). There laboratories and institutes reflected the scholarly interests of a particular chaired professor, and assistants, resources, as well as equipment were brought together under the personal authority of the professor who served as head. In this semi-oligarchical system of governance there is a danger of more autocratic or even exploitive behavior toward junior researchers.

The structure of RUs in the AAU universities has played a major role in reorienting US academic research toward potentially applicable knowledge as well as helping to raise their institutional reputations globally (Geiger, 2019).

Graduate School

Another distinctive structure of collegial control in leading US research universities is the graduate school, a second level of faculty organization and governance designed to assure the quality and rigor of research doctoral education. Because of the acknowledged weaknesses early in the twentieth century of US secondary education as well as the perceived negative effects of the elective system implemented in baccalaureate education, the leading universities supported the development of a vertical structural addition – a separate graduate school – to better link graduate education and research for the Ph. D degree (Clark, 1995). This globally unique form of graduate education required doctoral students to: train as a cohort in each field, reside full-time at the university for a stated minimum period of time, finish a specified sequence of courses, complete stepwise student testing and certification to advance to the degree, and receive careful preparation for as well as complete a research-based dissertation (Meyer, 2016).

Today most research doctoral programs in a US university, including those offered by professional schools such as business and the health sciences, involve an elaborate micro-structure of course work and other requirements specified and monitored by academic departments in accordance with policies developed by the faculty of a university-wide graduate school (Clark, 1995). The graduate school faculty is usually composed of full-time, tenure-line faculty members appointed to an academic department, who at minimum have completed a Ph.D.

[4] Significant examples of university RUs related to societal issues included The Bureau of Applied Social Research at Columbia, The Institute of Social Research at Michigan, and the National Opinion Research Center at Chicago (Geiger, 2017).

[5] Unlike research institutes in many EU universities American RUs lack authority to award research doctoral degrees. In the US this authority is limited to academic departments under graduate school guidelines.

degree. Unlike university undergraduate admissions, which are usually controlled by an administrative office, research doctoral admissions are controlled by each academic department following graduate school guidelines which include Graduate Record Examination Scores for both domestic and foreign applicants. Other graduate school policy requirements include completing up to two years of mandatory and optional coursework, and passing a written and often oral comprehensive examination prepared by the departmental faculty, which attests to student mastery of knowledge covered in the coursework. During this preliminary period Ph.D. students are guided by a faculty advisor and often serve as research assistants in a faculty laboratory or related RU[6]. Only after successful completion of the departmental comprehensive exam is the student deemed a candidate for the Ph.D. degree by the graduate school and able to begin a dissertation that reflects original research. The development of a dissertation proposal is guided by a committee of 3-5 members of the departmental graduate faculty approved by the Graduate School. This committee oversees and approves the student's choice of a dissertation topic as well as the adequacy of the proposed research, advises the student in its completion, and approves the written dissertation following an oral defense. US doctoral training in the sciences, engineering, and health sciences is further strengthened by a 1-3-year postdoctoral research experience supported by the federal government. As with US academic research, post-doctoral training is highly concentrated. Of the 66,247 individuals who received postdoctoral appointments in 2019, almost 70% were at the 63 public and private US universities which are members of the AAU (NCSES, 2021).

While the chair of the dissertation committee serves as the primary research advisor in the US, collective action and agreement by the committee members is required at every stage of the process. In sharp contrast to the described collegial processes governing graduate school, departmental, and dissertation committee behavior in the US, many universities in northern Europe traditionally followed a "master-apprentice'' model of research doctoral education, awarding substantial autonomy to chaired professors, who individually admit, advise, and supervise the thesis of each student. In the US the more flexible and expandable academic department replaces the hegemony of the single professor with the collegial controls of a disciplinary group.

Given the growing global competition in research doctoral education many EU universities are now voluntarily taking collective actions to improve their doctoral programs "with defined processes that enhance quality and aim at coordinating individual efforts" (Byrne, Jørgensen, and Loukkola, 2013). These collegial structures and processes include the establishment of university-wide doctoral schools, similar to US graduate schools. In a number of EU universities, the collective academic faculty have implemented university-wide collegial rules and guidelines including: the adoption of doctoral committees to augment the expertise of the traditional thesis supervisor; the creation of university-level admissions committees for research doctoral education; and the creation of informal peer-learning groups and training opportunities for the exchange of experience and good practice among thesis supervisors. These voluntary efforts are altering the traditional hierarchical form of academic authority within some EU universities to a collegial form more reflective of America's leading research universities.

Conclusion

In the contemporary world strong research universities play a significant role in social and economic development and this has motivated many EU countries to attempt to emulate relevant American policies on higher education. However, in a misperception of US practices on

[6] In addition to experience in research, many US research doctoral students will also receive experience as a teaching assistant in an undergraduate course taught by a faculty member in the related department.

university management and governance, several nations have adopted policies encouraging a more hierarchical, top-down, "managerial" approach to university governance which frequently lessens effective collegial governance.[7] While US national and state polices certainly have fostered stronger, more active university leadership than has been true in countries with influential national ministries of education, my preceding analysis of the US AAU institutions reveals faculty self-governance and collegial controls have played an especially critical role in the success of America's research universities.

One reason for these misperceptions among EU nations is the lack of a coherent testable model of collegial governance. Our previous conceptions of the collegial governance model in the university sector were largely derived from descriptive analyses of institutions in northern Europe, England and the US, which revealed strikingly different understandings of effective university governance (Clark, 1983). This understanding of collegial governance has been recently clarified by significant theoretical developments.

A potentially more valuable framework for understanding effective collegial governance in universities is the "commons" model developed by the Nobel laureate in Economics Elinor Ostrom (2005). In her Nobel Prize lecture Ostrom (2010) argued that neither market forces nor the rules of the state are the most effective institutional arrangements for governing, managing, and providing complex public goods. Instead, she has attempted to identify universal design principles that permit individuals in self-governing organizations to effectively address collective action dilemmas.

More to the point Ostrom argued a commons perspective is most applicable in circumstances where more effective cooperation and integration among independent individuals is critical to performance, clearly and increasingly the case in contemporary university instruction, research, and service. Her commons perspective is also most appropriate when the organization's members share common values, when the organization is a self-organizing community, when the organization possesses a "nested" structure with multiple levels of rule-making (e.g., the "federal" model of academic governance), and when the organization is of a size to facilitate the active participation and interaction of its members. All of these characteristics apply to most established universities around the world. Indeed, in one of her last studies Ostrom (Ostrom and Hess, 2007) applied her commons framework to universities and argued they are best understood as humanly constructed, self-organizing, "knowledge commons."

From research utilizing her model Ostrom (2005) developed several principles of "commons design." The first principle has significant implications for the development of EU policies on university governance and management. This requires that there be public confirmation of the professional autonomy and responsibility of commons members to govern their own institutions. Implementing this design principle is essential to strengthening the commons members' motivation and commitment to invest the necessary time and effort in collective actions required to address contemporary challenges to assuring effective performance. In the broadest sense this clear public commitment to professional autonomy and the responsibility of faculty members to govern their own institutions is the most distinctive difference between the American system of governance in its leading research universities and the current reform proposals in many EU nations.

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[7] Ironically an effective example of a national regulatory policy, which actually increased and strengthened faculty collegial control in research universities, is the US experience with human-subjects research (Dill, 2020). This federal policy requires each research university to develop a university-wide committee to review and approve all proposed research studies involving human subjects, specifies the types of faculty expertise necessary for these committees, requires the university educate all relevant researchers on the norms and ethical obligations essential for such research, and explicitly prohibits a university administrator from over-ruling the judgments of this committee.

More recently the French sociologist Emmanuel Lazega (2005) has developed and empirically tested across countries a model of the mechanisms essential to effective professional behavior in self-governing, knowledge-intensive, collegial organizations. Lazega's model provides a useful means of summarizing the noted collegial advantages of US research universities. A first concept for effective collective action in collegial organizations are shared norms defining who in an institution is awarded the "authority to know." In the case of executive leaders in the US AAU universities, presidents and provosts are invariably selected from those with distinguished academic careers as well as prior relevant leadership experience in research universities. This assures their leadership reflects critical academic values including a commitment to academic excellence and faculty self-governance. The tradition in AAU faculty personnel processes of granting authority only to professors to recommend and approve candidates for academic tenure and full professorships represents another example of this reliance on demonstrated academic expertise. Similarly, because academic personnel judgments involve highly specialized knowledge, the solicitation from distinguished peers at other respected research universities of letters evaluating the significance of a candidate's research is a valued part of the promotion and tenure process in AAU institutions.

This attention to faculty expertise is especially vital in research universities, where decisions about research programs and graduate education involve high-stakes evaluations and lengthy time horizons. The case of the significant structural reforms in the biological sciences at UCB further illustrates the role of the "authority to know." First the original identification of the problem was made by an external review committee composed of distinguished biological scientists following evaluation procedures developed collectively by the UCB Faculty Senate. Second, while the process to solve this significant problem was carefully guided by the President and Provost, and altered the traditional role of the Faculty Senate in external reviews, those awarded the authority to design and implement the appropriate solutions were proven intellectual leaders in the UCB biological sciences faculty with expertise in modern research methods. The Chancellor and Provost demonstrated their commitment to self-governance by early and continual consultation with the Faculty Senate throughout this change process. In the final analysis this engagement with the Faculty Senate provided a degree of trust among the overall faculty regarding the validity of the planned changes in the biological sciences as well as facilitated their eventual implementation.

A second valuable concept in Lazega's model is "lateral control mechanisms," social structures which permit independent professionals to exchange information, cooperate, monitor each other, and take the collective actions necessary to achieve high quality, knowledge-intensive work. The early development in the AAU universities of structural mechanisms such as disciplinary departments, RUs, graduate schools, as well as the multi-level peer review of academic personnel decisions, provided particularly influential mechanisms for faculty collective actions which strengthened the quality of education and research. These structures fostered needed integration among independent academic professionals and decentralized academic units as well as provided an effective means for the exchange of information about means of improving core professional tasks. Historically these types of "lateral control mechanisms" were missing in northern Europe where significant personal authority was accorded individual chairs or professors within each university (Meyer, 2016) and even in England where academic autonomy was accorded to the faculty of each residential college such as at Oxford and Cambridge (Tapper and Palfreyman, 2010).

The distinctive linkage between executive leadership and collegial or peer control in US AAU institutions which I have tried to describe for you was insightfully summarized by Thoenig and Paradeise (2014, p. 409) in their systematic study of organizational governance at MIT and UCB:

> "Whether institutionalized by mandatory procedures or achieved informally by opportunistic encounters and micro-processes, links are established between the organization and faculty which can be called fully shared governance …. More than a right enjoyed by the faculty or a duty to be enforced by the administration, organizational cross-regulation plays this effective role of integrating two worlds, two logics of action, and two cultures that are different but also interdependent. Thus, the hierarchical authority is not questioned as to its legitimacy, because it acts under latent or explicit surveillance by the faculty. Cross-regulation reinforces identity feelings and behaviors inside the academic professional world itself. One statement is often expressed, ''We are in charge,'' where ''we'' refers to the profession acting as a community within the organization. Academics consider that they as a community are recognized as the key stakeholders inside the institution, at least on an equal footing with top officers such as deans, provosts, presidents or chancellors and board members. They guard and expand a common wealth."

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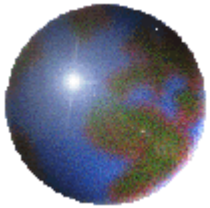

The US Case and the European Imitation

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Autonomy and Governance in Portuguese Higher Education
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Introductory Points:

- American research universities developed "most powerful system for advancing knowledge the world had ever seen"
- Leiden global rankings: US has 35 of top 100 research universities
- US federal system: state control of education
  - Neither Federal nor State governments regulate university internal governance
  - US academic research a "self-organizing system"

American Association of Universities (AAU)

- **Selective** membership of 63 US public/private research universities (63 US; 2 Canada)
- 35 of top 100 universities in Leiden rankings
- AAU selection/continued membership based on published criteria
- AAU universities possess distinctive "authority environments":
  - faculty control of major academic decisions
  - faculty criteria for key administrative appointments
  - department-based/bottom-up governance

University Designation

- AAU Admission/Continuation Criteria:
  - federally funded research expenditures
  - faculty in US National Academy of Sciences
  - faculty awards, fellowships, memberships in National Research Council highly prestigious awards
  - publication citation data
  - number of research/scholarship doctorates
  - number of postdoctoral appointees
  - total number of faculty -- permits normalization of above data

Institutional Impact on Regional Development

- Patenting/licensing lesser contributors to local and regional economic development
- Universities have impact:
  - when help modernize mature industries
  - support expansion of existing businesses into new fields
  - assist the relocation of industries.
- Universities most influential through:
  - provision of capable science/technology graduates
  - consulting/contract research on technical problems with local businesses
  - traditional publications
- Provide vital ”public space” for industrial interactions
- Relevant policy: Finnish National Centers of Expertise Program

Academic Autonomy

- Freedom to select students, set curriculum, and appoint professors universal across US states
- Greater variance in "corporate autonomy"
- Economic study:
  - research universities more productive with greater autonomy and increased competition
  - Efficient external regulation provides: discretion to control budgets, decide faculty compensation, hire academic staff they prefer
- Regulations weakening faculty collegial authority can lessen efficiency - long-term academic staff provide more independent judgments on university decisions than administrators
- EU policies on university internal governance – role of faculty/ students/staff/"externals" - substantially different from US AAU universities

Boards of Trustees

- 1819 Supreme Court New Hampshire v. Dartmouth College: authority of public/private institution rests with board of control
- Over 20th century US universities evolved "shared governance"
  - governing board/administration primary responsibility for finances: maintaining endowment, obtaining capital and operating funds
  - faculty primary responsibility for subject matter, curriculum, methods of instruction, research, faculty status, and student education life
  - Shared responsibility for strategic matters: long-range plans, budgeting priorities, and presidential selection
- Historically authority granted lay boards of trustees a unique strength of US, buffering institutions from politics and assuring social outcomes in public interest
- Currently US public sector boards more partisan (cf. UNC)
- US call for merit selection of public sector trustees

Executive Leadership I

- From the beginning US college/university presidents possessed substantial influence
- In late 19th and 20th century dynamic presidents helped create/strengthen research university
- After WWII many universities implemented role of Provost. Univ. of Michigan:
  - "The Provost is the chief academic officer of the University and has responsibility for the University's academic and budgetary affairs. The Provost collaborates with the President in setting overall academic priorities for the University and allocates funds to carry thes e priorities forward."

Executive Leadership II

- Frederick Terman and Stanford University
- Stanford, and other leading AAU universities developed planning, budgeting, and program evaluation procedures utilizing well-designed collegial mechanisms of control
- Stanford Collegial Budgeting Process
- University Budget Committee: composed of academic administrators, who are also Stanford professors, experienced senior faculty, including chair Faculty Senate. Full-time faculty members more than two-thirds of committee
- Stanford University Budget Plan: All allocations in comprehensive budget, and academic values informing choices, published annually and made available to all faculty/students

Executive Leadership III

- UCB Process for external reviews of existing academic departments and research units.
- Carried out for over fifty years by Provost in partnership with Academic Senate
- Reorganization of biological sciences in 1980s
- Traditional process: external review, Academic Senate consideration, proposals to Provost
- This process: Review considered by committees of distinguished UCB faculty - Provost appointed
- Led to significant department reorganization/ largest ever public university capital campaign
- Executive leadership, but reliance throughout on UCB faculty expertise, collegial mechanisms of consultation, and ongoing liaison with Senate

Academic Departments

- US disciplinary-based depts
- Academic departments a primary source of collegial control
- Dept governance, while recognizing seniority, acts collectively, thereby helping constrain excessive personal authority
- Collegial controls over university faculty personnel decisions
- External reviews of research for university faculty promotion/tenure decisions – not recommendations

Academic Research Units (RUs)

- Postwar development of interdisciplinary academic RUs linked universities to societal needs
- Creation of new RUs is a collective faculty decision by the related departments/school/college
- RU director and primary research staff are existing faculty members/doctoral students
- RUs subject to university academic oversight, e.g., program review process at UCB
- US RU collegial controls contrast with personal research authority of professors in northern Europe

Graduate School I

- Weaknesses of US school/college education led to creation of separate graduate school to better link education/research for PhD
- Requires: student cohort training, full-time residency for designated time, specified course sequence, completion of stepwise testing/ certification for advancement, preparation/ completion of research-based dissertation
- Graduate school, composed of full-time tenure-line faculty, sets policies for all PhD programs at a US university

Graduate School II

- Departments control PhD admissions under Graduate School guidelines
- Dissertations guided by committee chaired by primary student advisor, committee approval of thesis proposal required
- Post-doctoral research training in sciences/ engineering/health sciences now common
- Given success of US model many EU universities voluntarily abandoning master/apprentice tradition of research doctoral training, adopting collegial doctoral schools “with defined processes that enhance quality and aim at coordinating individual efforts”

Conclusion

- Lack of coherent theoretical model of collegial governance contributes to EU misperceptions of American university practices
- Nobel Laureate Elinor Ostrom: "Commons are most effective institutional arrangements for governing, managing, and providing complex public goods"
- Ostrom: "universities best understood as humanly constructed, self-organizing, knowledge commons"
- Ostrom's first principle of commons design: public confirmation of the professional autonomy and responsibility of commons members to govern their own institutions