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The Public Mission of the Research University

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The university is a venerable and wonderful institution. Although it has ancient roots and played a crucial role in the Middle Ages, it has been distinctively important to the modern era. The production of knowledge and the education of a growing number of professionals are basic to both capitalist and socialist economies, to technologies that expand human capabilities, to the growth of the state and of citizen participation, and to the flourishing of civil society. The university is central to this and also to the personal development of many students and the intellectual freedom and accomplishment of many professors.

Despite its achievements, the university is an institution in upheaval. In the countries where it has been strongest, it now faces financial shortfalls, new pressures for external accountability, and competition from new ways of organizing research and scientific communication. This is partly a product of growth itself. Universities have added new functions and new fields of study and research, but they have dropped few old ones, making their operations harder to explain as well as more expensive.

Clarity of purpose also is at issue where universities are growing at breakneck pace. Should they imitate the world's most prestigious institutions? Should

they narrow their missions to pursuing short-term economic payoff? Are there more appropriate forms for different settings? Is their purpose primarily to provide public goods or to support private aspirations? Easy use of the same word, *university*, to describe a wide range of different kinds of institutions masks the universities' great diversity and allows considerable confusion in both public policies and popular perceptions.

Three widely accepted conventions define what should be called universities. First, universities attempt to integrate the whole universe of knowledge, approaching and ideally connecting all or at least many subjects. That is, they are not narrowly specialized technical institutes. Second, universities combine undergraduate with advanced postgraduate education, offering master's, doctoral, and advanced professional degrees. Third, universities pursue new knowledge through research, maintain and enhance existing knowledge through scholarship, and transmit knowledge through teaching. For better or worse, however, none of these conventions is followed universally.

Even though the ideal of integration is honored by the world's most elite universities, scientific and scholarly specialization has made it hard to achieve. Popular hopes for economic advancement are focused especially on first degrees. But increasingly, only advanced degrees define a professional elite. While governments crave the economic contributions that research can bring, critics complain that much of what academics study is irrelevant. Moreover, the pursuit of new knowledge through research can conflict with both scholarly pursuits and time spent on undergraduate education.

That is not all. The full model of a research university unites freedom of intellectual inquiry (for both students and professors) with the creation of new knowledge through research, the nurturance of a scholarly community integrating disparate fields, open public communication, and the effort to make knowledge widely available as a public good. It is unclear whether those developing new universities today—in China, say, or the Arab world—will invest in this full model. It is unclear whether states and private benefactors who have sustained this model in today's most developed countries will continue to do so and whether it will be made widely available or remain the province of only a small elite.

The private gains offered by higher education are tangible. Students and their families are willing to pay ever higher fees because academic degrees and university-based networks advance careers. Private gains from research drive corporations to invest in new work in science and technology (and least in certain kinds with identifiable markets and profit potential). But the public mission of the university is often left vague.[1]

As the chapters in this book make clear, universities can and do make public contributions distinct from simply the sum of private benefits. They educate for citizenship as well as for business. They educate for public service as well as for private profit. They do research to end diseases even when they cannot make money from selling the cures. Public benefits are also the primary goals of research to strengthen social cohesion, to understand threats to peace and public security, and to help children reach their full potential.

This book focuses on the public mission of universities, what they owe in return for funding at public expense, what they may provide as public goods, how they may work in distinctively public ways, and how they may nurture public discourse. As the preceding sentence suggests, even though it is not entirely obvious how to define "publicness," it is crucial to do so.

PUBLIC MISSION

Public and private purposes are not always divided by a neat line. A better understanding of history, geography, and the world's different cultures can be useful to individuals in their jobs as well as in their roles as citizens or as international peacemakers. Knowing how science works can help venture capitalists make money and help all of us face difficult decisions about possibly catastrophic climate changes.

Just dividing higher education into a "public sector" and a "private sector" is too simple. It is true that institutions owned and governed as private property have grown rapidly. But private universities often pursue public goods, starting with the preservation and sharing of knowledge and continuing through research that addresses public needs and problems. Wealthy donors leave endowments, partly to ensure that the public goods they value are not neglected. Although for-profit universities may be more constrained in their public purposes, like the owners of any other for-profit business, those who run universities may try to combine making a profit with doing good and may resist pressures to drive all operations by short-term results alone. Conversely, state-owned universities receive private money—not least in the form of student fees but also in research contracts—and distribute private benefits like credentials that help students find jobs.

How universities are funded and governed makes a big difference. State funding of higher education grew in part precisely to make sure that they pursued key public missions: opening access; educating civil servants, teachers, and

practitioners of the "helping professions"; and conducting research on problems of national need. If universities have to survive on fees paid by students, will they be tempted to concentrate their course offerings on training for the highest-paid careers? If public subsidies are minimal, will research be skewed toward corporations' short-term interests? What will become of research that provides public goods, goods for which there is typically not a market price because their consumption is shared? What will happen to the idea that the work of the university itself, teaching and research alike, should be conducted in public ways because science and scholarship depend on open communication, the chance to correct errors, and incentives to share what is learned? And what will become of the role of universities in providing knowledge and critical thinking to improve the quality of public discourse?

The growth of universities in the modern era was shaped by many purposes—from ensuring that churches would have clergy, to helping sons (and eventually daughters) of the elite and middle classes find good jobs, to producing research that would benefit states and businesses. The funding to pursue these purposes came from churches, private benefactors, student fees, and, increasingly, the state.

The primary rationale for the increase in state funding was, of course, that universities would benefit the public good. The public good could be either narrowly identified with state interests or understood more expansively. Church-supported and privately financed universities also pursued what they saw as the public good. In many cases, the public mission of these private universities was recognized and supported by tax exemptions or other subsidies from governments. So pursuing the public good was not just an obligation in return for state funding; it was part of most universities' deeper mission.

Public benefits could, of course, be construed in many ways, one of the most important being simply a fairer, more open distribution of private benefits. If a college degree helps someone launch a career, there is a public interest in the allocation of such life chances. State funding for higher education often came with the clear intent of increasing the educational opportunities of individuals. But this didn't preclude limits. In many settings, from Brazil to Turkey, publicly funded universities both expanded too slowly to accommodate demand and controlled admissions through examination systems that favored middle-class and elite students and, indeed, even students who had attended private secondary schools. In fact, publicly funded higher education sometimes became largely a subsidy for the middle and upper classes. In some cases, the recent development of private universities has served the public good of greater access

to higher education (though whether it offers a better way of doing so than expanding the offerings of public universities is another question). This expansion of private universities has been largely underwritten by student fees, and one irony is how much state funding supports the higher education of students from the established middle and upper classes while students from poorer or less established backgrounds must pay for the chance to pursue their aspirations. Of course, in varying degrees, wealthy benefactors have also backed such universities and sometimes offered financial support to poorer students.

As states expanded during the modern era, especially from the eighteenth century onward, they required more and better educated civil servants. To meet this demand, universities were funded and accorded special privileges like academic freedom. Prussian support for the University of Berlin, an influential pioneer in development of the modern research university, is a good example. Indeed, the professors themselves were civil servants of a sort, and they were expected to use their knowledge in advising the state as well as in teaching and writing.[2] Hegel's *Philosophy of Right* makes clear that great Berlin professors identified with this role, but it is equally clear that Hegel's philosophy was not merely advice to the Prussian government. Universities were also founded in European colonies, as, for example, the Universities of Bombay, Calcutta, and Madras were founded in 1857 to help train an Anglo-Indian elite for government service. They reflected the growing importance of civil administration (including professional fields from medicine to architecture and accounting), complementing military power. But there was no contradiction between liberal arts and professional fields. These three pioneering Indian universities also taught English literature, reflecting but also expanding the role of the English language not just in administration but also in Indian civil and intellectual life.[3]

In the late nineteenth-century United States, the federal government helped states establish or expand public universities by making "land grants" that provided them with free building sites. These universities focused on bringing the benefits of research knowledge to more of the population, by educating large numbers of students who could not be accommodated in the existing elite universities. They developed new areas of study oriented to practical affairs, such as agricultural extension programs that brought advice and assistance from university-based scientists to farmers in sometimes remote rural areas.

Similar purposes animate programs at universities throughout the world today. In varying proportions, they combine the pursuit of economic development on a regional or national scale with the pursuit of more open access to career opportunities based on university training and credentials. Private universities have

sometimes been a goad to public institutions grown complacent or too closely tied to established constituencies.[4] There is no contradiction between providing individual students with learning from which they can benefit personally and providing a broader public with knowledge it can share. Indeed, the ideal of a research university has always included a mixture of private and public benefits.

But knowledge, many have suggested, is advanced distinctively well when recognized as a "public good." Here the technical term from economics refers to goods that are "non-rivalrous."[5] Personally benefiting from them does not require excluding others from similar benefits; indeed, in some cases public goods cannot be consumed effectively without making them widely available. If you want clean air, for example, you will probably find it most efficient to keep the shared public air supply clean rather than trying to carry a private oxygen tank everywhere you go. But it is always possible that people will be persuaded that a private approach is better. In many poor countries, for example, public water supplies are inadequate, so both citizens and tourists who can afford it buy bottled water. More ironically, many residents of rich countries have been convinced that they should pay for privately marketed water rather than using public supplies that are often safer.

Knowledge is not diminished when known by more people (though certain economic benefits may be obtained by those able to keep valuable knowledge from others). There is contest over the extent to which knowledge "needs to be free" (as some open-source advocates have it) or is an essentially public good (as some economists argue). Some see enforcing intellectual property rights as a crucial source of incentives to the producers (or at least distributors) of knowledge. So publishers are jealous of copyrights, and scientists, universities, and corporations all are jealous of patents.[6]

Yet there is also tension here with a fundamental norm of science—that scientists conduct their work in public ways. That is, is there a free and open debate among researchers that can drive forward critical inquiry, correct errors, and ensure that ideas gain support from their intellectual quality—mainly on the bases of logic and evidence—as distinct from their social bases, pedigrees, or institutional and political backing? As Robert K. Merton famously argued, "Property rights in science are whittled down to a bare minimum by the rationale of the scientific ethic."[7]

The public mission of universities is closely linked to the public character of their work. Science, for example, has long been understood to depend on publication—both of results and of the bases for those results. This enables it to work as an effective institution for both error correction and the stimulation

of innovation. We need to ask what is lost if patents and proprietorial interests undermine scientific openness.

At the same time, we must ask how much scholarly communication has depended on institutions, like university presses and scholarly journals, that now face serious problems. Their troubles are mostly economic, related to growing costs and shrinking markets, but they also include issues like the difficulty finding reviewers with no financial interest to bias their judgment—especially in medical research in which pharmaceutical companies have put nearly everyone on their payrolls but also increasingly in other fields in which research can affect markets—so the stakes are high. Then there is the question of how best to organize scientific and scholarly communication on the web. Here, too, a clear mission, especially whether the public interest matters, is vital to shaping the future.

Indeed, some would hold that universities themselves are models for and contributors to public debates on important public issues. It's not just that universities educate citizens, it is that in certain ways science has been one of the great models for the kind of behavior citizens need to practice for democracy or at least republican self-government to work.[8] That universities are home to student (and sometimes faculty) activism is arguably one of their positive public functions, and one to be appreciated independently of one's analysis or prioritization of any particular issue. This includes conservative activism. Perhaps ironically, the best example of the way in which free academic discourse can influence a broader public is the success of followers of Friedrich von Hayek and Milton Friedman in convincing many politicians and the public to abandon public approaches to nearly every possible public issue in favor of private-property approaches.

Open, participatory discussion is vital to the ethos of science and, indeed, of scholarship more generally (medieval universities were not democratic or scientific, but they were marvelously disputatious). From the late nineteenth century on, modern universities became dramatically more productive of new knowledge than earlier ones had been. They achieved this not only by changing their syllabi and embracing technology but also by opening up discussion and debate and reducing the control of a small number of senior faculty and administrators over this intellectual life. New intellectual agendas became easier to advance, and results that conflicted with established views became easier to publish.

As Charles Sanders Peirce wrote at the very time the modern research university was taking shape, this suggested a democratic-pragmatist way of thinking about authoritative knowledge in science: it was precisely the submission

of findings to critical debate that ensured that authority would be based on the pursuit of truth rather than position or custom alone.[9] The French philosopher of science Gaston Bachelard similarly described the development of knowledge as a process of correcting errors rather than accumulating static truths.[10] All research institutions thus depend on making knowledge public in order to improve it.

IMMEDIATE CRISIS AND LARGER TRANSFORMATION

No account of higher education today can ignore the effects of the global financial crisis epitomized by the market meltdown of 2008. Budget crises are inflicting serious damage on some of the world's greatest universities, especially American universities heavily dependent on state funding. Private universities also have been hurt as their endowments have lost value, but in most cases the damage is less drastic. But it is important not to overgeneralize. Current budget cuts only aggravate the long-standing austerity in some countries, while in others, growth, not cuts, is the order of the day.

All over the world, universities are under pressure. In some countries, this is pressure to enroll more students, conduct more research, and orient both teaching and research simultaneously to national development agendas and international rankings competition. China, for example, is investing massively in higher education. One officially stated aspiration is to have one hundred "world-class universities." In fact, the new Center for World-Class Universities at Shanghai Jiao Tong University holds conferences, conducts assessments, and publishes an influential ranking of the world's top universities. Shanghai Jiao Tong itself has the goal of joining the top one hundred by 2020. New universities with similar ambitions for global leadership are also being founded in Arab states on the basis of oil wealth but with the ambition to secure prosperity beyond reliance on oil. Although these universities have been affected by the fluctuation of oil prices, their construction continues.

In China and the Persian Gulf, governments are building new universities (some with European or American partners), both to increase higher education participation rates and to compete for global leadership. In several European countries, the same goals are driving a new differentiation of higher education systems. In both France and Germany, for example, governments have provided major new resources to the top tier of the higher education system, introducing new inequality into what had been relatively egalitarian systems. The sharper

differentiation responds to alarm that French and German universities have not fared well in global rankings and thus has made support for research a primary source of hierarchical distinction. The goal is to compete effectively with the U.S. universities that dominate the global rankings and with Asia's rapid development, as well as to derive economic benefits from research. At the same time, the rates of higher education participation and attainment have been increasing in Europe (and in general in the Organization for Economic Cooperation and Development [OECD] countries).[11] For the most part, the steady rise in the proportion of young adults attending universities has not increased enrollment at the research-intensive elite institutions. Rather, enrollment has increased by raising the student-faculty ratio at less prestigious institutions and absorbing those historically focused on career education into a common university structure (as, for example, Britain's renamed "polytechnics"). Functional differentiation previously gave more clarity about distinctive educational mission; this is lost in a hierarchy based largely on research prestige.

In addition, while there are new public subsidies for research excellence in several European countries, there are also are new efforts at "cost recovery." Students and their families are asked to bear increasing shares of higher education costs. In varying degrees, this is true around the world, though often without comparable public subsidies for elite research institutions. This has also long been the pattern in the United States, where private universities have been more prominent and historically state-supported universities have been relying more and more on private funds, including student fees. In the United States, government funds for the highest-level public institutions have declined. During the economic crisis, federal higher education funds have gone disproportionately to community colleges to try to increase the extent to which higher education helps the less well-off prepare for jobs. Indeed, even though the United States maintains a high rate of participation in higher education generally, it has lost its leadership in the proportion of young people actually completing college degrees.[12]

The idea of "cost recovery" is not only that governments can reduce expenditures but also that private beneficiaries should share the costs of the benefits they receive. This leaves room for governments to determine that higher education is also a public good. Increasingly, however, student fees are governed by what the market will bear. On the one hand, higher education and research have value as investments in public goods. On the other hand, they have market value and help private beneficiaries (both individual students and investors with property rights in research). When private beneficiaries pay larger shares, the return

on public investment is higher. But it is the private beneficiaries who experience the highest return. So having them pay more is a logical step. The question is how to balance this with public goods like access for less wealthy students or research on issues that do not attract profit-oriented investors.

At the same time, however, reliance on student fees is not all "cost recovery" but is more and more part of a redefinition of higher education as a service industry rather than a public good. Students are not only future citizens; they are current customers. Indeed, some of the most lucrative students are specifically not citizens, and accordingly, in countries from Australia to Britain, higher education has been redefined as an export industry.[13] Differential tuition rates that make the recruitment of foreign students profitable have promoted not only international enrollments but also the creation of new courses—especially master's degrees—designed especially to produce income. In short, public universities are pushed by financial exigencies to behave more like for-profit universities.

Governments, conversely, are torn between investing in higher education to produce foreign exchange and divesting from it because families are willing to pay for it as a private career investment. What is missing from each of these approaches is a strong valuation of higher education as a public good.

Higher education faces stiff competition as well from other demands on public finances. States challenged by the recession also are struggling to fund health care, job creation, and security services, including prisons, the police, and the military.[14] The general discontent with taxation is rising. For more than thirty years, neoliberal ideologists have suggested both that private interests should take precedence over the public good and that public institutions are inherently inefficient.

The high and rising cost of university education is a source of public discontent, behind which lies uncertainty about the proportionate emphases on teaching and research. There is little evidence that private research universities are more efficient than public ones, but for-profit universities that concentrate mainly on teaching and not research are able to teach less expensively. Not least, universities also face politically motivated criticisms, religiously motivated attacks on scientific research, and calls for more accountability (often from legislators and others who are uncertain about how universities work and what they think should be counted).

But if academics in rich countries worry about the loss of support, they might compare their predicament with that of Russian scholars. The collapse of the Soviet Union also brought the collapse of a once-great educational and research system. Today Russian universities are barely mentioned in the top five

hundred of the Shanghai and London rankings. As a result, Russian researchers have become a new diaspora strengthening universities throughout the West, and universities in the Confederation of Independent States have generally fared even worse.

The current financial crisis is an accelerated moment in a process of structural transformation. Although this transformation is partially economic, as the Russian example suggests, it also is political. The structural transformation is shaped not only by shifts in funding but also by new competition. Reorganization of higher education not only as a market but also as an increasingly global market is part of this. Universities also face greater competition from nonacademic research institutes, corporate laboratories, and think tanks. How universities respond to the financial crisis, the changed operating environment, and questions about whether their purposes are mainly public or private will determine what kinds of institutions they become. Focusing merely on shortfalls can obscure the longer-term reorganization of budgets—sources of funding and allocations of expenditure—and, with it, the reshaping of the university.

Private universities have not been immune from financial crisis. Even the richest found themselves caught short when the endowments on which they depend lost a third of their value. Harvard canceled free coffee for faculty meetings and slowed construction. But in fact, the financial crisis that came to a head in 2008 followed decades of massive tax-exempt transfers of wealth into endowments at the world's richest universities. Most of these are in the United States, and the gap between their resources and those of the leading state-funded universities in the United States and elsewhere grew dramatically between the 1970s and the 2008 crisis. Now, although some of these rich private universities face setbacks, none faces the potential deep cuts that some public universities do.

Many faculty members hope for a return to "normal" as the economy recovers. They expect the cuts that their departments endure today will be restored in a year or two. They worry that they may lose momentum in their plans for expansion or improvement, but they expect growth to return. Growth has defined the "normal" for many universities through most of the last six decades. Even if university budgets rise again, however, there is no guarantee that presidents and provosts will simply restore funds previously cut from departmental budgets. On the contrary, they will likely invest funds in more strategic ways. For instance, their investments may be guided by student interests or by the pursuit of new revenue streams. While the universities may strengthen the humanities, they are much more likely to concentrate on strengthening their professional schools and technology-oriented science.

The demand for higher education continues to grow. In most of the world's rich and economically developed countries, the proportion of citizens attending college or university has soared over the last hundred years, from less than 5 percent to more than 50 percent and, in some cases, more than 75 percent. By 2009 the participation rates were 71 percent in North America and western Europe, 26 percent in the East Asia/Pacific region, 23 percent in the Arab States, 11 percent in South and West Asia, and 6 percent in Africa.[15] This demand may be leveling off in Europe and America—though this is not clear—but in much of the developing and middle-income world, it is still growing rapidly. The United Nations Educational, Scientific and Cultural Organization (UNESCO) estimates that the number of postsecondary students increased by 51 million just between 2001 and 2008.[16]

To be sure, these patterns are erratic. Most of Africa was knocked off the growth track in the 1970s, and growth remained uneven during the recent boom. Many Latin American universities faced a crisis during the years of dictatorship, but recent growth has been robust. Growth was slow in China until the 1990s but has become dramatic since. On different timelines, one country after another traced the pattern from higher education as a rarity, confined mainly to a small elite and a few professions, through either gradual or abrupt expansion until it reached majority participation.

Demand is created, of course, not just by individual desire but also by institutional action. Millions of people seek university places for reasons of both careers and personal fulfillment. But effective demand depends on support from governments and on various forms of private financing from families through philanthropic foundations. And it fluctuates. In the wake of the 2008 financial crisis, universities in some wealthy countries reported a greater number of applications, partly reflecting labor market weakness. But at the same time, there have been sharp declines in other segments of higher education. The Indian Institutes of Technology, for example, had established outposts in Dubai but now face an abrupt decline in admissions.

Universities fulfill other functions as well, notably research but also information management through libraries and medical services through hospitals. Universities have assumed these functions because faculty members play multiple roles as scholars, researchers, and practitioners as well as educators. But whether these roles will remain bundled is a major question for the future of higher education. Already the opportunity and obligation to engage in research are unequally distributed among faculty members. Some universities focus more intensively on international rankings based largely on research; others make no

significant investments in research; and in between are many struggling to determine a good balance as parents complain about costs but also try to send their children to the most prestigious schools.

Some U.S. universities are rich enough to be Fortune 500 corporations (like Harvard, Stanford, Yale, MIT, Duke, and Michigan).[17] Their wealth is based overwhelmingly on private endowments, even at Michigan, which was once more substantially supported by the state. For a second tier of elite universities, tuition fees are more central to budgets, which include some universities owned but not fully funded by state governments. Some universities are almost entirely dependent on state funding; other universities concentrate on the "liberal arts"; and still other universities teach them little or not at all. Some universities award doctorates, and other universities teach only undergraduates (though for many, having graduate programs defines them as "real" universities). Some universities have enormous scientific research establishments and aspirations to lead the world in scientific breakthroughs, Nobel Prizes, and citation counts; but other universities invest almost nothing in research. Indeed, some for-profit universities specialize mainly in career education.

Around the world, government funding supports most higher education, but in few other societies do private endowments play the role they do in the United States. Nonetheless, the number of private universities is growing. In Turkey, for example, several families associated with major commercial or industrial businesses created foundations to operate private universities that have become important at the elite as well as the mass levels. Bilkent, Bilgi, Koç, and Sabanci are among the most prominent. Some for-profit institutions are serving less selective student bodies with career-oriented courses. Sometimes, as in Brazil's Candido Mendes University, the two dimensions are joined as different divisions of a single enterprise. Growth is coming from both state investments, as in China, and from expansion of private universities.

This growth accelerated with the postwar dream of widespread social mobility, prosperity for all, economic development led by science and technology, and the democratic participation of an educated citizenry that would recognize its stake in the existing order and resist the extremism of left or right. New universities were built and old ones expanded. This increased the availability of opportunities, in some cases dramatically. But there was a countervailing factor. As the higher education field expanded in western Europe and the United States, its internal hierarchy became more pronounced. Just attending university ceased to mark entry into elite status; instead, this was conferred by the hierarchical position of the university attended. Admission to elite universities

was both directly shaped by family background through preferential admissions and indirectly through the social and cultural capital that parents were able to spend on their offspring.[18]

The balance of openness and status reproduction varied, linked by the expansion of the higher education system and of its internal hierarchy (although the 1960s were relatively egalitarian compared with the obsession with rankings and differential resources that followed). Even where degree titles and academic departments look the same, universities are shaped by their positions in a pattern of differentiation and hierarchy.[19]

The field of higher education is fed today—as it was throughout the post–World War II baby boom—with individual and family aspirations, government plans and business interests, faculty desires for recognition, and administrative desires for order. Some hopes can be fulfilled only by open access, and some status interests can be protected only by exclusivity.

During this postwar boom, visions of an ever larger middle class and growth driven by science and technology reconciled public and private interests in higher education. In China, India, Turkey, and some other countries where higher education is growing rapidly today, we see a somewhat similar reconciliation. But higher education is now a more fraught terrain. Earlier, a broad notion of modernization guided the expansion of higher education and expectations for how it would link to economic development, improvements in government, and the expansion of activity in civil society. Something of the same idea is at work in many developing societies today, but chastened and complicated by both the experience of global power structures and a neoliberal ideology that emphasizes competition, economic ends by themselves, and private rather than public approaches.

The 1970s marked a turning point, as it followed a period in which independence encouraged high aspirations in formerly colonized countries. A peace movement challenged a neoimperialist war and dovetailed with a more general set of countercultural and political movements challenging the institutional arrangements that had reconciled capitalism, democracy, and the cold war in wealthy Western countries. At the same time, the growing middle class in Europe and America sought to extend its consumption. These issues shaped both discontent and idealism on university campuses and put the university at the center of social upheaval.

The 1973–1975 recession triggered by the production controls of the Organization of the Petroleum Exporting Countries (OPEC) and spiking oil prices was dramatic, but the crisis was broader than popular discussion typically rec-

ognized.[20] The combination of demands—for growth in less developed countries, consumption in rich countries, and more or less egalitarian social transformation—was hard to reconcile. To a large extent, the leaders of the capitalist world refused to face the crisis because it involved a widespread challenge to their authority and demands from many quarters for greater shares of wealth. They decided instead to finance continued growth with credit, driving up budget deficits and sovereign debt (and creating sovereign wealth in some other hands), and extracting profits through financial instruments and speculation rather than material production. The crisis of 2008 was in some ways a consequence of the unresolved crisis of the 1970s (which, in fact, was called "the great recession" until replaced by the still greater recession of 2008).

There is a direct connection between the larger societal crises and that in higher education. Universities were central to the projects of both the "welfare state" and the "developmental state" during the decades after World War II and became focal points for discontent when those projects failed to deliver all they had promised. Critique of the state—and of the university—came from both left and right. Indeed, it is important to remember how strong many of the left-wing attacks on universities were in the 1960s. Although these attacks usually focused on complicity with the military or capitalist exploitation, they also revealed a broadly antiauthoritarian orientation that sometimes dovetailed with right-wing libertarianism. Over the last thirty years, the right-wing "neoliberal" attack has become more prominent. This was, in fact, a radical position, different from the statist conservatism of the postwar period.

Neoliberal ideology expressed the dominance of private interests and intensified, naturalized inequality. In many different dimensions of social life, hierarchies were stretched, often with a new distance between what was accessible to the most elite and to the middle class. Income inequality quickly widened from the 1970s to the current decade, precisely the same period when university fees grew quickly as well.

A few successes rising from the bottom rungs to the top—what the French call *miraculés*—legitimated the hierarchy. For example, in the United States, public universities—including the most elite—had been the pioneers of greater inclusion of minorities in higher education. During recent decades, however, opponents of affirmative action tried to block their efforts while at the same time, middle-class, mostly white families pushed for more places for their children. At the same time, wealthy private universities began to admit, and offer more scholarships to, top minority candidates. Minority enrollment in the relatively small private elite rose, becoming part of the way to maintain distinction as an

elite. Growth in minority enrollments in the much larger sector of prestigious public universities, however, stalled or even retreated. Higher education overall became more unequal as participation rates went up.

Often the competitions that emerged over the last thirty years were not merely intense but nearly "winner-take-all" in their form.[21] This was true not only where the stakes were absolute matters of wealth accumulation—like the fantastic salaries and stock options granted to CEOs and investment bankers—but also where competition focused on "positional goods." Higher education figured as both a path to material success and a positional good, one that derived its value from its place in a hierarchy. Rankings were increasingly important as a gauge of quality as well as an end in themselves; a degree from a higher-ranked school had higher value.[22] Star faculty members helped secure rankings successes (and star benefits helped channel faculty effort into reproducing the system). Enormous extra benefits accrued to the top tier; for example, the richest universities found it easiest to raise additional endowments. Because this extra money freed them from dependence on student fees, they were able to recruit those students who demonstrated the most ability (however much measures of this might be contested). These in turn were most likely to be wealthy donors or prestige-generating successes in the future, and universities multiplied these odds by consecrating those they admitted with elite degrees and enrolling them not just in classes but also in elite social networks. Conversely, throughout the vast middle of the higher education system, more and more costs were passed on to students and their families (earlier and more dramatically in the United States, but in varying degree around the world). And for most, degrees were minimal conditions of remaining middle class, not tickets into an elite.

The patterns varied, of course. Private research universities remained rare in western Europe, even though private higher education expanded at the low-selectivity end of the system and in certain niche-markets like the powerful and lucrative one for business schools. Some state-funded universities, like Oxford and Cambridge, launched major "American-style" development campaigns. Others, like the LSE (London School of Economics) and Paris's Sciences Po, combined seeking private capital with developing new programs that could generate revenue from student fees (especially from international students).

In eastern Europe, reduced state funding and market-oriented transitions away from communism provided the context for new private universities. The Central European University was, however, unusual among the new private universities in attaining recognition among research universities for a range of different programs. Private universities were already more prominent in some

parts of Asia (like Korea, Japan, and the Philippines), and many new private universities were founded. In most of Asia, however, the leading universities remained mainly public, even though they were integrated into national plans for economic success in a knowledge society (see chapter 6). But private money became increasingly important to some public institutions (like the Indian Institutes of Technology, which benefited from wealthy alumni abroad). In a few settings, like China, the latter part of the period saw massive new state funding for research universities.

Latin America, too, had a history of private (including church-run) universities. Their numbers expanded considerably, although public universities generally have lower costs and remain the primary source of the middle and working classes' access to higher education. Public universities are also the primary research institutions (see chapter 5). New private universities have been important to Turkey and have a smaller but strategically significant role in Russia (on Russia, see chapter 4). For the most part, these universities have focused on students from the growing middle classes and, in some cases, have considerably expanded their access. While they include schools with narrow job-training missions, some also offer broader courses and aspirations and even research centers. This was less often true in Africa, but private universities there did expand notably from the late 1990s, and in a few cases, private universities did support research centers. At the same time, as elsewhere, some public universities—like Makerere in Uganda—were able to attract new private funding to partially compensate for low state support.[23]

Two different stories were central to the growing prominence of private money in higher education. The first was an increase in the extent to which students and their families had to bear the costs of higher education. Many public universities raised the fees they charged, but seldom to levels as high as private institutions. This increase obviously was hardest for poor and working-class students seeking upward mobility. But it also affected the middle classes, whose children increasingly could stay in the middle classes only if they had a university degree. This was a global trend and involved both public universities supplementing their state funding and private universities, a growing percentage of which were for-profit.

The second story was a massive transfer of wealth, often aided by tax exemption. Private philanthropy had long played a big role in higher education, not least through the long-standing support of religiously affiliated universities. Many of Europe's public universities are, in fact, transformed versions of these. More recently, and disproportionately in the United States, private endowments

funded the foundation of universities like Chicago, Stanford, Duke, and Johns Hopkins,[24] all founded as research universities. Older private universities like Harvard and Yale were remade to fit the new model and received new benefactions to maintain leadership. During the 1950s and 1960s, public universities moved into positions of increasing leadership in the United States. Although the University of California at Berkeley, the University of Michigan, the University of Wisconsin, and the University of North Carolina at Chapel Hill all were older, this was the period when they (and several other "flagship" state universities) became national leaders. From the late 1970s through 2008/2009, the balance at the elite end of the hierarchy shifted back toward the private universities. Donors gave hundreds of billions of dollars (on which they did not have to pay taxes), and university endowments also earned massive tax-free revenues (although as 2008 and 2009 proved, there was no guarantee that they could only go up).

Private funding became more important from the 1970s forward, partly because the state funding of universities slowed or was reversed. States faced new economic and fiscal pressures, including difficulty applying some traditional Keynesian macroeconomic policies. British Prime Minister Margaret Thatcher and U.S. President Ronald Reagan helped symbolize a rebellion against pubic expenditure. In much of the developing world, structural adjustment programs imposed austerity. In eastern Europe and especially the former Soviet Union, the postcommunist transition destroyed a good deal of public wealth even while it opened the doors to private accumulation and markets. In general, public support for higher education stagnated in most rich countries, although the increased reliance on private money partially compensated even the public universities. In a few cases, significant new public expenditure was linked to the agendas of market-led economic development or to international competition. An example is the new investments by the German federal state that sought to elevate a tier of universities above the more or less level playing field provided by funding from the *Lander* (state governments).[25]

In the United States, as in a number of other rich countries, the defunding of public universities started well before the 2008/2009 recession. Universities sought private funds (and federal government research funds) to compensate for this loss, some with a good deal of success. In the process, they became committed to delivering private goods, became internally differentiated by sources of funding, and lost some of their ability for autonomous and integrated planning as they began to treat units as profit centers.

The University of California, perhaps the world's greatest public university, is a case in point. During the last twenty years, state funding for the University of

California fell by 40 percent, adjusted for inflation.[26] Cuts continue. During this long decline in state support, however, the university actually expanded. It did this by increasing student-faculty ratios, by competing for large federal grants in "big science," and especially by courting private funds. For this reason, growth was most pronounced in professional schools and technology-oriented science. Undergraduate education, especially in the liberal arts, remained more dependent on state funds. Throughout the university, nonetheless, departments were urged to compete for standing on the basis of research excellence, and most were and are very highly ranked. When the state's budget crisis became severe, research excellence was not a protection in itself. Cuts were made mainly in those fields with the least access to private funds. The social sciences and humanities were hit especially hard.

The University of California was originally defined as a research university with a public mission under California's unusually explicit master plan for higher education.[27] The university proceeded with a firm commitment to serve the public in three ways: by providing education across a wide range of subjects to all students who met its stringent admissions criteria, by providing professional training that would equip the state with the experts it needed in specific fields, and by conducting research that would advance knowledge in general and also the state's economy and would address public needs. The cost was initially borne overwhelmingly by the state. Low tuition costs reflected a commitment to equality of opportunity and to the ideal of a university of elite quality open at low cost to all who were qualified (in pointed distinction to private universities available only to those able to pay). But gradually during the last thirty years and abruptly in the current crisis, the university's mission has been implicitly redefined by its shifting funding sources.

Most publicly funded systems of higher education were never thought out with the clarity of California's master plan. Most never excelled as the University of California did in meeting its range of public service missions. But to a considerable degree, all those that flourished during the postwar boom years embodied something of the same "ideal type" of a single learning community that would combine education throughout the arts and sciences, professional training, and advanced research. The integration of these missions was part of the ideal of the research university, as was a clear notion of public service that explained why each of these was worthy of state subsidy.[28]

Over the last three decades, the public research university ideal has been challenged, not just in California but also around the world.[29] State support has been less forthcoming, in some settings more because of crises in national economies,

in others because of competition from other state projects, and across most settings because of the success of neoliberal ideological efforts to reduce state spending in favor of distribution of opportunities on the basis of private wealth. At the same time, the costs of research universities have grown exponentially. The costs of Big Science account for much of this. But research universities also try to create conditions for highly productive research in relatively low-cost fields. University investments are guided by competition for relative status rather than educational success, as well as by efforts to channel knowledge production into work that may yield commercial profits. Not least, the ideal is challenged by difficulties integrating the different fields and schools and missions bundled into that research university ideal. These difficulties are exacerbated by imbalanced growth and increased inequalities within the common university enterprise. A shared engagement with research-based knowledge was supposed to hold the modern university together. Now, ironically, the universities' own strategies for coping with declining state funds have increased the differentiation among their parts, creating fault lines for future tensions, reducing the commonalities among faculty members, and making the universities themselves less integrated.

THE RESEARCH UNIVERSITY SYSTEM

The term *research university* implies a distinction from nonresearch universities. To many people, this makes little sense, as they see the production of new knowledge through research as built into the very idea of a university. But in fact, this is a relatively new and unequally distributed academic mission dating mainly from the nineteenth century. That it was not how Oxford and Cambridge conceived of their core mission is part of what led to the founding of universities in London and Manchester. Scottish and German universities brought research to the forefront sooner, but in their cases, too, this was a reform of universities that predated the modern idea of an institution shaped centrally by the production of new knowledge.

Consider the definition of a university with which Cardinal Newman opens his legendary discourses on *The Idea of the University*: "It is a place of *teaching* universal *knowledge*" (italics in the original). Newman defines each term. The university is for knowledge of all sorts; it is not confined to religious training but teaches science and literature.[30] But the purpose he stresses is "the diffusion and extension of knowledge rather than the advancement. If its object were scientific and philosophical discovery, I do not see why a University should have students."[31]

The creation of a kind of institution contrary to what Newman envisaged was under way even as he wrote. From the last third of the nineteenth century on, research grew steadily more important to the dominant conception of the university, especially but not only in the German and Anglo-Saxon parts of the world. The model of public research universities flourished remarkably in the nineteenth century in Germany, Britain, Canada, the United States and in varying degrees around the world. It was the most influential model for the development of universities (albeit always with local specifics) in China, India, Uganda, Kenya, South Africa, Mexico, and Chile. This model was central to an enormous expansion of access to high-quality higher education, to amazing advances in research, and to a transformation in the relationship between universities and public constituencies ranging from schools to hospitals to social welfare institutions and agricultural extension. The integration of research and education in a single institution helped make this new sort of university more open to both talent and innovation.

But the model of public research universities is in trouble. Even where individual institutions thrive, the model has lost focus. Balance among its component missions has proved hard to maintain amid shifts in funding (an incentive system largely disconnected from teaching) and intensified competition tied to costly research.

Similar issues inform debates over the future of higher education in post-apartheid South Africa; over the reorganization and funding of the Universidad nacional autónoma de México (UNAM); over the role that universities should play and how they should be funded in Britain, France, and throughout the European Union (EU); and over the rise of private universities in Turkey and elsewhere. The stakes of the discussion include the question of whether and how public research universities and intellectual life will thrive in developing countries. Will narrow job-training and economic development agendas dominate? Will poor or marginalized people have access to the universities (and if so, will this be confined to the bottom rung)? And will the university's education and research dimensions remain integrated with each other?

That the issues are global should help us realize that the causes are not just unfortunate decisions by individual university leaders or the specific crises of certain state economies. Instead, they are situated in and perhaps exacerbated by neoliberalism (which often appears to the rest of the world as the extension of an "American model").[32] But that is not the whole story. Indeed, academics sharply critical of neoliberalism—and often of the leadership of their local universities—are also complicit in the problems: misrecognizing situations of

privilege for simple reflections of merit and questioning aspects of the issue but not analyzing the whole because it would require examining situations in which they are relatively comfortable.

The relative weight given to teaching and research has been contested since the days of Cardinal Newman, but now it is a defining element in an academic hierarchy. Some universities offer doctorates and others do not. Some universities have massive scientific laboratories and others do not. Some universities have "research libraries" and others do not. Some universities limit faculty teaching loads to make time for research, and others do not. And if this is a distinction among the universities in rich countries, it is just as much a distinction among the leading universities of different countries, as brought home by the international rankings that have become popular in recent years, from the *Times Higher Education Supplement* in London and Shanghai Jiao Tong University. Both rank universities on research, but they have no meaningful way of comparing their teaching or the public service their faculties render. They also compare the prestige of research (with some bias in favor of the sciences and the English language).

Of course, universities are not the only way to organize research. Universities were marginal to the Renaissance and the early years of scientific revolution when extra-academic institutions like Britain's Royal Society brought researchers together. Isaac Newton may have done much of his most important work at Cambridge, but like many others he regarded the old university as a bastion of conservative and too often mediocre thinking. Science came on the heels of religious dissent to start a long process of renewal, often against notable resistance. Universities were more significant to the eighteenth-century Enlightenment, particularly in Scotland, but this was still largely a project of individual writers with the benefit of aristocratic patronage and profits from new print publications. Since the nineteenth century, universities have been increasingly central to intellectual production and circulation. Nonetheless, more amateur science and intellectual life could be revitalized (aided by the Internet, especially in fields that are not hugely capital intensive or whose data are routinely made public). Corporations could internalize more of the technoscience now based at universities (and are more likely to do so if subsidies are reduced). Governments could decide to support independent laboratories and split research from teaching.

Indeed, some countries have long invested more than others in specialized research institutions outside universities (like the Centrale national de la recherche scientifique [CNRS] in France or the Academy of Sciences in Russia). Even though Britain's Royal Society never became a primary source of employment for many researchers, its counterparts became more or less autonomous

research organizations. They have always been staffed by university graduates and thus have been part of a more or less integrated system. But they imply a greater separation of research from teaching. To a considerable extent, the Russian Academy separated postgraduate research training from undergraduate education. In France, the *grandes écoles*, with their more professional mission and expectations of direct service to the state, are also distinct from the universities, though still part of a larger academic system. Indeed, these differences in structure contribute to the differences in patterns of change today. In France, the CNRS staff are pressured to assume more teaching duties, and an institution like Sciences Po can pursue profit in trying to integrate teaching and research more like a research university. But the future is unclear.

The ideal-typical research university combines research and teaching in the same institution with the expectation that they will reinforce each other. This is an innovation associated especially with nineteenth-century German universities, notably Halle and Berlin. Scottish universities had begun to move in the same direction from the late eighteenth century, and the new universities in Britain—notably the Victorian universities in provincial cities like Manchester but also the colleges that joined to form the University of London—also combined the pursuit of new knowledge with the education of undergraduates. Oxford and Cambridge were slow to change but eventually were won over. The apotheosis of the research university model, however, came with the adaptation of the German (and, to some extent, Scottish) model to the United States.

New universities like Johns Hopkins, Cornell, and Chicago led the way in integrating the creation of new knowledge through research into a new kind of academic structure and a reformed curriculum. Faculty members were increasingly expected to hold PhD degrees, which were certifications of research competence as well as mastery of subject matter. Training new PhD students, as well as conducting and publishing research, became an important part of the work of leading universities. These research universities enjoyed influence and prestige, and so the older universities adopted many of the new structures. Undergraduate curricula were restructured with a combination of "free electives" and "majors" aligned with the research disciplines recognized in PhD programs. Departments were organized along the same lines. The last years of the nineteenth century and the first years of the twentieth produced most of the disciplines—and disciplinary departments—that remain prominent today. Even older branches of learning were reorganized in line with this approach. For example, teaching poetry and rhetoric gave way to concentrating on literature in departments that, among other things, emphasized the analysis of texts over oral performance.

The heart of the new model was the combination of research and teaching, and the university was defined as the locus of production of new knowledge. There also was an expectation of service, as the knowledge producers were expected to be advisers to the government (especially in the German version, in which professors were civil servants) and informers to the public. But the key was redefining the university through research. This meant adding a function and reshaping the organization of the faculties, the subjects taught, the curricula, and the degrees offered. The growing importance of natural and physical science was pivotal. Technical and professional courses figured prominently from early on, although until the nineteenth century, much professional education was conducted outside universities. Usually a claim to distinctive forms of research-based knowledge brought professional schools into the university. Medicine thus increasingly claimed authority from scientific research, for example, on infectious diseases, and purely practical training was complemented by experiment and theory.

The research university did not stand alone but was at the center of a larger academic system that included a variety of other components. Colleges and other institutions of higher education with less investment in research were part of this, and they were reshaped by the reorganization of knowledge that research universities pioneered and eventually by new expectations for professorial expertise. Learned societies were founded to correspond to the new academic disciplines. Thus the American Social Science Association, an organization of amateurs and professionals in fields from law to divinity as well as academics, gave way to disciplinary associations in economics, sociology, political science, history, and other fields.[33] Both university presses and other academic publishers catered to the new knowledge producers and those who would read their work. Government ministries and private foundations could also be added to the mixture in varying degrees in different countries. Despite the variations, the academic system that had the research university at its center became an impressively global model.[34]

By the early to mid-twentieth century, this academic system dominated in the production of new knowledge, the circulation of knowledge by means from publications to conferences, and the training of knowledge workers (including those organized in professions). Universities became much larger, and more of them were created (by both states and private actors). In most of the OECD countries, the majority of the population received higher education, and a rapidly growing percentage studied for postgraduate degrees. This expansion of higher education and research institutions was central to economic expansion,

through both the invention of new products and processes and the training of workers. It was central to the growth and reproduction of the middle classes, and the promise of entry into the middle classes fueled the popular pursuit of higher education. Higher education helped anchor the public sphere of civil society in its debates about key social issues, and it was a source of government workers and one of the key steering mechanisms available to states to shape directions of development—whether by spending massively on research for military purposes or for medicine.

Several sectors of modern economies are largely products of academic research and remain closely tied to it. These include not only plastics and computers but also the financial technologies that have, for better or worse, increasingly driven capitalist investment and accumulation in recent decades. Despite a prestige system honoring "pure science," academic research has always been shaped by funding from rich individuals, private businesses, and government agencies trying to address specific problems, not merely to produce knowledge for its own sake.[35]

The public evidently wants research from universities. Indeed, the public generally, and those making decisions on behalf of public funders, want life-saving medical discoveries and new technologies that stimulate economic growth. They also may want research on medical ethics and the social effects of new technologies, although the latter is less sure. Literature, patent law, and the economics of the environment receive state funding as well, albeit in very unequal amounts, and are tied to very different ideas of how the public might benefit. Forced to prioritize, university leaders do make decisions, but they are seldom able to explain why a particular use of resources is in fact the best for the public. This lack of clarity is partly because most state funding comes in relatively inflexible forms, such as buildings and salaries and capitation payments for each enrolled student tied to the provision of more or less specific courses of study. Administrators are often drawn to prioritize additional income, especially funds linked not to sustaining the status quo but to new projects. The new projects, in turn, often rest on the basis provided by the more stable state funding.[36]

Many universities have, in effect, become conglomerate corporations. Like the industrial conglomerates, such as Gulf & Western and Ling-Temco-Vought (LTV), that went through a shakeout starting in the 1970s, these universities may face a shakeout today. LTV ran an airline and rented cars, made stereo equipment and golf clubs, rolled steel, and packed meat. But investors deserted it when they found that the conglomerate holding company added little to the value or profit of the firms it bought up, sometimes added costs, and often made

mistakes because the central managers did not understand all the different businesses they controlled. The analogy is not far-fetched when universities offer general education (and sometimes remedial education) to eighteen-year-olds of widely different abilities, specialized education to professional students in a range of technical fields, and research training to PhD candidates even while managing giant laboratories seeking to innovate in dozens of different fields; running hospitals, radio and TV stations, housing facilities, publishing companies, and semiprofessional sports teams; providing professors a base from which to run consulting businesses; providing extension services to agricultural producers; storing books in libraries; and expanding electronic access to information. None of these is necessarily a bad thing for a university to do, nor is there is any reason not to do several. But such a proliferation of purposes challenges universities to achieve organizational structures in which the connections among these components become real advantages, not just sources of confusion or complexity. Faced with complexity, many universities adopt centralized management approaches at odds with traditions of faculty self-governance (although the tension is not always openly acknowledged). Taking on so many different tasks strains universities' capacity to provide a clear account of their purposes for themselves as well as for others.

With the proliferation of roles and functions came a proliferation of funding sources, many of which effectively operated as clients. Big Science involving massive capital investments was undertaken at the behest of governments, overwhelmingly in the United States and Europe,[37] and technoscience attracted a growing number of private investors. Professional schools were closely integrated with the professions for which they trained practitioners and often consulted or developed products. All of these grew at rates that far outstripped the humanities and social sciences (and indeed, the science fields, since they were organized for undergraduate teaching). Big Science and technoscience came to command the majority of the budgets of most of the world's leading universities. Even in the humanities and social sciences, published research became the primary criterion of evaluation, even though this was much less consistently tied to major external funding. Time spent teaching was limited in proportion to the institution's research ambitions.

To be sure, the number of students was not equally limited. On the contrary, major research universities, especially state-funded public universities, admitted many more students, with the result that class sizes expanded. Advising functions were shifted from professors to student services professionals. Throughout much of the postwar era, an implicit bargain guided university expansion. More

places would be available for students seeking upward mobility (or at least to stay in the middle class). Professional schools would expand not just to provide additional training but also to help police the boundaries of professions and ensure their status and economic position. And faculty would pursue research that brought the university prestige and external funding. Producing this research determined individual professors' labor market positions, bringing them offers from other universities, salary increases, honorary chairs, and other benefits in a way that teaching and, indeed, "service" did not. This was a system that encouraged the production of new knowledge, although it may have exaggerated the importance of what was ostensibly new over the effective synthesis and mastery of what was already known. It was a system that allowed faculty members considerable autonomy, subject mainly to the scrutiny of their research fields, which acted as the primary evaluators of what was legitimate or significant work. This was, in fact, central to the notion of academic freedom as it was institutionalized in the nineteenth century: competent experts inside each field, not administrators, politicians, or economic benefactors, should pass judgment.[38]

Expansion encouraged both differentiation and new hierarchies. Universities became less integrated. Gaps among fields in salaries and resources grew more pronounced, as did the inequality among members of individual fields. A new class of casual academic laborers was created, sometimes mobilizing graduate students as teaching assistants but often extending into a longer-term status as adjunct faculty.[39] These trends were muted in most places until the 1970s but intensified thereafter. Those who produced prestige or generated new revenue streams were advantaged over others. Big Science and professional schools were relatively privileged, but support for humanities and the "human sciences" was shakier. With less external funding for research and professional services, these fields were dependent on funding for undergraduate teaching. When financial crises hit—as at the University of California in 2008/2009—they were more vulnerable. One of the lessons of the crisis was that simply being able to claim intellectual distinction within a research field was not an adequate defense against defunding if the research field commanded inadequate external resources.

Ironically, for generations the faculty members at elite institutions had been encouraged to claim distinction by research accomplishments rather than teaching. Their investments were greatest in the competition for rankings, which was vulnerable in fields without funds. Suddenly the question of how to make a virtue of relying on instructional revenues acquired new significance. It is now a challenge for the humanities and social sciences to rethink their role and claims on resources in a new era. Funding sources have shifted, and a major curricular

change is under way with the disciplinary liberal arts majors in decline, along with the demand for liberal arts teaching in both issue-oriented interdisciplinary programs (like environmental studies and international studies) and professional education.

This is an issue for individual universities with their many roles and functions, and at least as much an issue for the higher education sector as a whole. This sector has come to be enormously differentiated and hierarchically organized, making it harder to develop a common articulation of a public mission. Indeed, during recent decades, public support for higher education has lagged, and universities have been regarded more and more often as providers of private goods. They offer individuals career credentials and donors, prestige connections. They offer industry-trained employees and marketable new technologies.

Knowledge is the business of the research university: creating knowledge through research, preserving and renewing knowledge through scholarship, transmitting knowledge through teaching and learning, and distributing and applying knowledge in public service. The widespread consensus is that knowledge matters and, indeed, matters more all the time to the future of contemporary societies. There is much less agreement on whether research universities have a distinctively public mission, and perhaps still less agreement on the best ways for universities to be "public."

This book is about that question of purpose. Higher education has changed dramatically over the last fifty years and still is changing today. Questions about the mission of universities must be addressed, and not just in the abstract. We thus must look, as the contributors to this book do, at how universities have been molded—and buffeted—by shifts in their national, regional, and global contexts; by shifting finances and economic agendas; by nationalist projects and internationalist projects; by dreams of social mobility and business demands for expertise; and by pressures to educate more students and to deliver research for economic purposes or prestige or both.

Universities flourished on the basis of a sometimes explicit and more often tacit expectation that they would serve public purposes. This was especially true during the postwar economic expansion when universities grew dramatically both in the world's richest countries and, at least for a time, throughout the world.

Expectations were high and certainly not all were achieved. But technological innovation, expanding trade, and growing citizen participation led to a boom to which higher education was central. They helped drive the shift from

elite to mass higher education and integral connections of the university to other institutions in the "knowledge society." Academic institutions became pivotal to the development of new technologies and the training of professionals for a variety of industries. Within each university, the range of teaching programs grew wider and the economic importance of nonteaching activities, principally research, loomed larger.

Some universities have a relatively clear idea about what they do and why, and some—not always the same ones—are relatively secure in their financing. But many more have added activities and component units and costs without developing the strong institutional mechanisms for clarifying their common purpose or managing complexity effectively.

Determining how universities can and should respond to their current predicaments demands a firmer sense of mission. Simply trying to defend the status quo ante is hardly a strategy likely to strengthen universities. Such a defense will not work, and the status quo often deserves critique. The existing system is rife with unjustified inequalities, blockages to interdisciplinary collaboration and innovation, and misplaced incentives. At the same time, universities contribute enormously—if unevenly and not always efficiently—to their students and those who pursue profits based on their innovations, as well as local, national, and international publics. Whether they will continue to do so is the basic question about the public mission of research universities.

NOTES

1. In *Remaking the American University: Market-Smart and Mission-Centered* (New Brunswick, N.J.: Rutgers University Press, 2005), 4 and 6, Robert Zemsky, Gregory R. Wegner, and William F. Massy write of "the drift toward private purposes" even "to the point where many of the nation's best-known public institutions have become like private ones." See also Craig Calhoun, "The University and the Public Good," *Thesis Eleven* 84 (2005): 7–43.
2. Charles M. McClelland, *State, Society, and University in Germany, 1700–1914* (Cambridge: Cambridge University Press, 1980).
3. The first vice-chancellor of Calcutta University spoke of the role of the English language in what he understood as both a civilizing process and the formation of a foreign-oriented elite:

   We all know, that those who first undertook the task of transferring the treasures of Western learning, and Western science into the Oriental mind . . . had to

choose between conveying instruction through the medium of English language, or through the medium of the Vernaculars. The first is a key which unlocks the whole treasure-house; but it is one, which only the few can acquire, and it leaves a foreign mark upon all to which it opens the door. (Sir James William Colville, quoted in Subash Battacharya, "The Domain of the Dreamers," University of Calcutta, Department of English, available at http://www.uvm.edu/~sgutman/Calcutta_University.html)

4. See chapter 4. Private universities also sometimes provided relative protection for researchers when public universities became inhospitable, notably under Latin American dictatorships.
5. The classic statement is by Paul A. Samuelson, "The Pure Theory of Public Expenditure," *The Review of Economics and Statistics* 36, no. 4 (November 1954): 387–89. See also Joseph Stiglitz, "Knowledge as a Global Public Good," in *Global Public Goods*, ed. I. Kaul, I. Grundeberg, and M. Stern (New York: Oxford University Press, 1999). For further discussion, see chapters 9, 10, and 12.
6. See chapters 9 and 10.
7. Robert K. Merton, "The Normative Structure of Science," in *The Sociology of Science*, ed. N. W. Storer (Chicago: University of Chicago Press, 1973), 267–78.
8. Michael Polanyi, "The Republic of Science: Its Political and Economic Theory," *Minerva* 1 (1962): 54–74. If Polanyi saw science as an ideal model for democracy, Yaron Ezrahi saw them as coproduced since the seventeenth century; see his *Descent of Icarus: Science and the Transformation of Contemporary Democracy* (Cambridge, Mass.: Harvard University Press, 1990).
9. "Truth is that concordance of an abstract statement with the ideal limit towards which endless investigation would tend to bring scientific belief, which concordance the abstract statement may possess by virtue of the confession of its inaccuracy and one-sidedness, and this confession is an essential ingredient of truth." See "Truth and Falsity and Error," in *Collected Papers of Charles Sanders Peirce* (Cambridge, Mass.: Harvard University Press, 1931–5), 5:565–73.
10. "Scientific thinking is essentially a rectification of knowledge." See Gaston Bachelard, *The New Scientific Spirit* (Boston: Beacon Press, 1985, orig. 1934), 173.
11. See *Education at a Glance 2009: OECD Indicators* (Paris: OECD, 2009).
12. It has fallen from second to fourteenth in OECD data. *Education at a Glance 2009*, table A.3.2.
13. See, for example, Gordon Brown's speech of January 14, 2010, "Education as a Global Growth Industry," in which the British prime minister called for Britain to "double the value of our higher education exports," available at http://www.number10.gov.uk/Page22137. As a blogger noted, the expectation of commercial growth was actu-

ally coupled not with increased investment but an austerity budget from the government, available at http://globalhighered.wordpress.com; January 15, 2010.

14. In the United States, most public universities are funded mainly by states, not the federal government. The fifty states face a fiscal squeeze without the federal government's capacity to run a deficit. Because their tax revenues are closely related to real estate values and consumer spending, they dropped quickly in the recession. The U.S. states also committed themselves to the world's highest level of spending on prisons, deciding even in an era of falling crime rates that imprisonment was as important a public purpose as higher education. State spending on prisons is about the same as state spending on universities. See Bruce Western, *Punishment and Inequality in America* (New York: Russell Sage Foundation, 2006).
15. UNESCO, "The State of Higher Education in the World Today," June 24, 2009, available at http://portal.unesco.org/es/ev.php-URL_ID=45964&URL_DO=DO_TOPIC&URL_SECTION=201.html.
16. Nicholas Burnett, assistant director-general for education, quoted in "A Global Agenda," *Inside Higher Education*, July 2, 2009.
17. Steven Brint, "Can Public Research Universities Compete?" in *Future of the American Public Research University*, ed. R. L. Geiger, C. L. Colbeck, R. L. Williams, and C. K. Anderson (Rotterdam: Sense Publishers, 2007), 91–120.
18. This is the pattern traced famously in France by Pierre Bourdieu. See Pierre Bourdieu and Jean-Claude Passeron, *The Inheritors* (Chicago: University of Chicago Press, 1979). As the more optimistic study by Yossi Shavit, Richard Arum, Adam Gamoran, and Gila Menachem, *Stratification in Higher Education: A Comparative Study* (Stanford, Calif.: Stanford University Press, 2007) demonstrates, this does not mean that expanding higher education brings no gains. They show that across fifteen countries, students from all classes tend to benefit from expansion. Hierarchical differentiation still provides the framework for elite reproduction, but educational attainment can and does mediate the impact of family background. Much depends on the selection processes that accompany expansion.
19. Of course, universities around the world have a substantial formal similarity, and they have undergone important historical shifts in concert. See the discussion in David John Frank and Jay Gabler, *Reconstructing the University: Worldwide Shifts in Academia in the 20th Century* (Stanford, Calif.: Stanford University Press, 2006). At the same time, there are significant variations in context, funding, performance and other factors, and the research university system is organized as a hierarchy rather than a sector of similarity.
20. A more substantial account would have to include attention to the turmoil in exchange rates after the United States pulled out of the Bretton Woods Accord in 1971

(which, among other things, caused the dollar to depreciate and oil producers' revenues to decline) and the Yom Kippur War of 1973, an inflection point in the ongoing entanglement of energy prices in politics (particularly, but not only, in the Middle East). Still broader factors in the background included the crises of authority and of welfare compromises represented by the range of social movements that came to the fore in the late 1960s and early 1970s, as well as the crises of Third World governments that, for example, first brought socialists to power and then led to military dictatorship in Chile and played out in different ways in different contexts.

21. See Robert H. Frank and Philip J. Cook, *The Winner-Take-All Society* (New York: Free Press, 2005).
22. On the effort to achieve quality assurance net of rankings as an end in themselves, see chapter 13.
23. See chapters 7 and 8 , and also N. V. Varhghese, *Private Higher Education in Africa* (Paris: UNESCO, 2004).
24. The late nineteenth and early twentieth-century transformation that produced the research university in the United States was led partly by the "land grant" public universities established to support industrialization and agricultural innovation. But it was led even more directly by several new universities established by private benefactions: Johns Hopkins, Chicago, Cornell (which also received some public support), and Stanford. There were tensions over just how tightly donors could control scientific research, and it is no accident that these private universities (and a few others, like Columbia, which sought to remake themselves as research universities) figured disproportionately in early struggles over academic freedom.
25. On the tension between change efforts and traditionally conservative and inflexible German academic administration, see chapter 11.
26. Mark Yudoff, president of the University of California system, quoted in "Before the Fall: California's Universities in Trouble," *The Economist*, August 14, 2009.
27. For the original master plan and later discussions, see http://sunsite.berkeley.edu/~ucalhist/archives_exhibits/masterplan/.
28. For a closer look at how these missions interacted and informed debate over globalization at the University of Michigan, see chapter 15.
29. According to chapter 2, more research and a longer temporal perspective will be required to gauge how deep the crisis of the public research university may be or whether it may yet be renewed for a new phase of leadership. See, too, the essays collected in Steven Brint, ed., *The Future of the City of Intellect: The Changing American University* (Stanford, Calif.: Stanford University Press, 2002); and Craig Calhoun, "Is the University in Crisis?" *Society* 43 (2006): 8–18.
30. By universality, Newman means truth founded in the natural order, meeting the tests of reason and ever more extensive empirical investigation. He meant to exclude the

merely contingent, not to grapple with the issues that postmodern inquiry would raise with the idea of universality.

31. John Henry Newman, *The Idea of the University* (New Haven, Conn.: Yale University Press, 1996), 1. The book first appeared in 1873, even though Newman began his series of lectures in 1852 and an earlier print version appeared in 1859.
32. According to chapter 3, two distinct issues reinforce each other: a global ideology and American hegemony.
33. See Thomas Haskell, *The Emergence of Professional Social Science* (Baltimore: Johns Hopkins University Press, 1977)
34. See Frank and Gabler, *Reconstructing the University*, which builds on the "world polity" perspective of John Meyer, in, for example, John Meyer, Francisco O. Ramirez, and Yasemin N. Soysal, "World Expansion of Mass Education, 1870–1980," *Sociology of Education* 65: 128–49.
35. John Ziman, *Real Science* (Cambridge: Cambridge University Press, 2000).
36. Much of the pursuit of external funding actually costs universities money, but it provides administrators (as well as leading researchers) with flexible resources. Paradoxically, this makes even a money-losing operation attractive. See Roger L. Geiger, *Knowledge and Money: Research Universities and the Paradox of the Marketplace* (Stanford, Calif.: Stanford University Press, 2004). For an effort to track the relative costs of teaching intensive humanities departments and professional schools with substantial external research funding, see Christopher Newfield, *Unmaking the Public University* (Cambridge, Mass.: Harvard University Press, 2008).
37. See Derek J. de Solla Price, *Little Science, Big Science* (New York: Columbia University Press, 1963); Peter Galison and Bruce Hevly, eds., *Big Science: The Growth of Large Scale Research* (Stanford, Calif.: Stanford University Press, 1996); and much discussion since.
38. See the classic discussion in Richard Hofstadter and Walter P. Metzger, *The Development of Academic Freedom in the United States* (New York: Columbia University Press, 1955). Also see Thomas L. Haskell, "Justifying the Rights of Academic Freedom," in *The Future of Academic Freedom*, ed. Louis Menand (Chicago: University of Chicago Press, 1996); Robert Post, "The Structure of Academic Freedom," in *Academic Freedom After September 11*, ed. Beshari Doumani (New York: Zone Books, 2006); and Craig Calhoun, "Academic Freedom, Public Knowledge, and the Structural Transformation of the University," *Social Research* 76, no. 2 (2009): 1–38.
39. This particular pattern is American, but differences between more and less secure parts of the academic labor market were also pronounced elsewhere. See chapter 14.