

**WHAT MADE BERKELEY GREAT?
THE SOURCES OF BERKELEY'S SUSTAINED ACADEMIC EXCELLENCE¹**

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George W. Breslauer
UC Berkeley

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ABSTRACT

UC Berkeley's chief academic officer explores the historical sources of Berkeley's academic excellence. He identifies five key factors: (1) wealth from many sources; (2) supportive and skilled governors; (3) leadership from key UC presidents; (4) the pioneering ethos within the State of California; and (5) a process of continuous devolution of authority within the State and the University. He then addresses the extent to which these factors continue as causal drivers today. He concludes by identifying optimistic and pessimistic scenarios, based on contrasting assumptions about the strength of those causal drivers, and ends with a call for the State and the UC system not to inhibit efforts by UCB's leaders to do what is needed to sustain Berkeley's academic excellence.

I. INTRODUCTION

As Berkeley's Executive Vice Chancellor & Provost (EVCP), it is my responsibility to work with the deans, department chairs, vice provosts, vice chancellors, and Chancellor to maintain the University of California - Berkeley's (UCB) academic excellence and the success of our entire academic enterprise. I hold this responsibility during a time of unprecedented financial strain for the University, California, and the country. As I weigh the choices facing us, and decide where to direct my energies, I ask myself: historically, what made Berkeley great and kept it great? And what lessons do the answers suggest about what we should prioritize at the present moment?

In discussing Berkeley's excellence, my focus in this paper is principally on faculty research excellence and the university's status ranking as a research university. Although my focus in this essay is on the sources of Berkeley's excellence, I will occasionally define the growing strength of the UC multi-campus system as a facilitator of Berkeley's excellence---as, for example, in the system's success in securing funds from Sacramento, and in attracting core research facilities shared by many campuses.

II. HISTORICAL SUMMARY OF INDICATORS OF BERKELEY'S GREATNESS

The University of California was founded in 1868, with Berkeley the first of what would eventually grow to be a ten-campus system. During the first thirty years of Berkeley's existence, it was neither academically nor financially strong (Douglass, p. 104). But by 1906, it was ranked in the so-called Big Six nationally (Kerr, p. 56). By 1934, a national survey ranked Berkeley as having as many "distinguished and adequate departments as any university in the country" (Pelfrey, pp. 29-30). By 1964, the campus ranked as "the best balanced distinguished university in the country" (Kerr, p. 56). In 1995, 35 of 36 UCB graduate programs that were evaluated by the National Research Council ranked in the top ten nationally, 24 of them in the top five.

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In 2010, the National Research Council released the results of its newest rankings. This time it used bands instead of point-rankings; Berkeley had 40 of its 52 programs in bands that extended into the top five nationally, exceeded on this score only by Harvard. Berkeley had built a comprehensiveness of excellence in both Letters and Science and the professional schools and colleges that was truly extraordinary.

This march to sustained greatness occurred despite periodic, severe shocks to the university. For one thing, there was the Great Depression, during which enrollment grew by one-quarter while state funding declined by about one quarter, resulting in---sound familiar?---steep budget cuts, salary reductions, and hiring freezes (Douglass, pp. 140-141).

Later, when budgets had been restored and enhanced, political controversies intervened to alienate segments of the university community, leading to the departure of dozens of faculty members. There was the loyalty oath controversy of 1950, and later the political turmoil of the 1960s.

Thereafter, the main threats to the university were budgetary. Severe cuts to the State allocation were imposed in the second half of the 1970s, in the early 1990s, the early 2000s, and the late 2000s---the latter in response to the Great Recession in which we currently find ourselves. The State today allocates to the University one half of the number of dollars (constant value) per student that it allocated twenty years ago.

The question on all our minds is whether Berkeley will be able to retain its greatness in the conditions of today. More specifically, will we be able to continue to recruit and retain the best faculty and the best graduate students in the face of this diminished State financial commitment? One way to approach the question is to ask: what made Berkeley great and kept it great? And do those factors still exist? These are the foci of this essay.²

II. FIVE CAUSAL DRIVERS IN THE DEVELOPMENT AND MAINTENANCE OF BERKELEY'S EXCELLENCE

A. *Wealth from many sources*

Over the course of the first 30-100 years of the existence of Berkeley, the campus benefited from the remarkable wealth possessed by the several potential sources of revenue for the university: the State, federal agencies and foundations, and private philanthropy. The State of California itself, by the end of the 19th century, had developed great wealth in agriculture and mining (recall the Gold Rush).

In the 20th century, and especially during and after World War II, advanced manufacturing and high-tech industries exploded in number, especially defense-related sectors during World War II and the Cold War, and later IT and biotechnology in the 1980s and beyond. These boom times created the wealth that fed State coffers and allowed for growing allocations to UC. Between 1920 and into the 1960s, the State of California was by far the largest source of funds for the operating and capital budgets of the University. And within the University of California system, Berkeley consistently received its fair share of the State allocation.

Federal wealth became a major source of research funding, made possible by the economic boom during the quarter-century following World War II. Huge federal investments directly into the State of California, and directly into its leading research universities, mightily reinforced the State's investments. The establishment of the National Science Foundation in 1950, and the federal response to the USSR's launching of Sputnik in 1957, massively increased federal funding of both the sciences and the humanities (Title VI programs for foreign area studies). Such increases did not distinguish Berkeley from its main competitors, which were also, and often equally, the beneficiaries of federal wealth. But California got more than its fair share of federal investments in defense-related industries (Douglass, p. 171) during the initial decades of the Cold War, which bolstered the ability of the State to increase its funding of UC.

The University of California, and especially Berkeley, also benefited from unique direct federal investments. The US Government's establishment of the Lawrence Berkeley National Laboratory in 1931 created a partner to the campus that vastly enlarged the local scholarly community engaged in collaborative research in the physical, chemical, biological, and engineering sciences. (Today, some 250 Berkeley faculty have joint appointments with the Lawrence Berkeley Lab). The Manhattan Project to build an atomic bomb during World War II focused initially on Berkeley faculty for intellectual and administrative leadership.

² I hasten to note that I am not a historian of the University of California. To prepare this paper, I base my argument on historical materials gleaned from the works cited in the References section. I have written this essay to help orient me to challenges I address as Berkeley's executive vice chancellor and provost, and to help me prepare for a speech on this topic that I delivered in October 2010.

The establishment of the Lawrence Livermore National Laboratory in 1952 placed another well-funded think tank just 30 miles from Berkeley. The growth of Stanford and, later, UCSF into major centers of top-ranked academic expertise enlarged this Bay Area community of scholars, the synergies among whom have been extraordinary. Also, innovators at Berkeley and Stanford helped to build Silicon Valley, which became an intellectual and entrepreneurial magnet for many faculty and students in science and engineering. Put differently, Berkeley might not be as great as it is today were it not for Stanford, UCSF, and Silicon Valley--and Berkeley's scientific and engineering units certainly would not be as excellent as they are without the Lawrence Berkeley Lab.

Private wealth of a philanthropic sort is also part of the explanation for Berkeley's gaining and then sustaining its excellence. Douglass (p. 106) notes that, "by 1914, [Phoebe Apperson] Hearst had spent twice as much on buildings at the Berkeley campus as the state had since the university's inception." Pelfrey (p. 16) adds that, "until 1940, more than half of all the lands and buildings of the University were purchased as a result of donations from private sources." The names, in many cases, are legendary, and some appear on buildings or facilities of the UC, and in particular Berkeley: Tompkins, Rockefeller (I-House), Lick (the Observatory), Toland [who funded building for what became UC's medical school in San Francisco], Bacon, Harmon, Hearst, Boalt, Sather (Pelfrey, pp. 16-19). Doe Library, host to one of the great university research libraries in the country, was built entirely with private donations.

Lick's name reminds us of another funding-based source of UCB's excellence. The wealth and largesse of the State of California built UC into a system that now boasts fully six AAU comprehensive research universities (not including UCSF, which is not eligible for AAU membership). That wealth, along with federal and private donations, also created core research facilities (in astrophysics and astronomy, in particular) that would have been beyond the means of Berkeley alone to afford. The academic strengths of the other campuses have allowed for scholarly synergies among UC faculty, while shared facilities have provided unique research opportunities to UCB faculty.

But the wealth of prospective funders cannot alone be the explanation, for wealth must be secured and renewed and, to have its effect, must be invested well.

B. Supportive and Skilled Governors

The University, at key points in its history, has benefited from the good will and political skills of governors of the State of California who viewed the university as serving a vital social purpose that they wanted to advance. In the 1910's, Governor Hiram Johnson transformed the funding stream for UC, from one based on property taxes to one driven by student enrollment. This was the first enrollment-driven funding formula for a state university in the nation. The formula motivated UC to enlarge enrollments and, hence, programs. Benjamin Ide Wheeler's presidency (1899-1919) benefited immensely from the wealth generated by this change.

Later UC presidents also were able to make their marks because of sympathetic and ambitious governors who defined the greatness of UC, and of higher education in general, as key to the economic development and social justice of the State. President Robert Gordon Sproul (1930-1958) could not have accomplished what he did (after the Great Depression) without the active support of Governor Earl Warren.

President Clark Kerr (1958-1967) could not have accomplished what he did without the enthusiastic support for the University of Governor "Pat" Brown. In later decades, Governor George Deukmejian pulled the university out of the doldrums of the stagflation of the late 1970s by increasing the State's allocation to UC by 30% in one year alone (1983). This act, "wiped out the 16 percent lag in faculty salaries between UC" and its competitors (Pelfrey, p. 63).

These were not all "easy choices" made in flush financial times. Governor Johnson entered office in 1911, at a time of moderate recession, yet he openly voiced support for Berkeley. His budgetary reform to the benefit of UC was enacted as the State emerged from this recession. Governor Warren started to plan for investment in UC already during World War II and as part of a larger plan to expand access to higher education to avert a return, after the war, to recession-era unemployment rates.

Governor Pat Brown entered the governorship facing a significant recession and an antiquated tax structure. He forced the enactment of a number of tax reforms to boost revenues and to invest in infrastructure and higher education. Governor Deukmejian entered the office in January 1983, when the US was pulling out of a severe recession. While there were strong signs of economic recovery, and steep new federal investments in California's defense industries, the magnitude of Deukmejian's increased investment in UC required a faith, both in the prospective strength of the economic recovery and in the importance of UC as an institution.

In sum, these governors' attitudes toward higher education shaped their actions, and were not simply easy choices made in flush financial times. But supportive governors are usually not lone rangers. They must be predisposed to invest in the university, but they must also be convinced to do so. And sustained investment requires that the university use the funds wisely and thereby maintain political support for the enterprise. In this respect, UCB's march to greatness benefited hugely from the political, administrative, persuasive, and leadership skills of key UC leaders.

C. UC leadership in support of grandeur and in defense of excellence

He was not the longest-standing president of UC, but Daniel Coit Gilman, who served only three years (1872-1875), won a tumultuous political battle over a fundamental decision that would define the character of UC as an institution. He prevailed over the advocates of UC as a "trade school" and defined it instead as a scientific research enterprise with a broad, liberal-arts curriculum. Powerful forces, both external and internal to the university, were arrayed behind the idea that land-grant institutions should be *de facto* trade schools, training students in the practical skills required in agriculture, mining, and "the mechanic arts." This was not Gilman's vision. He saw the university as serving the interests of the state best by conducting scientific research on the practical economic challenges facing the state, and by educating citizens broadly.³ Nonetheless, UC did not begin to flower as a comprehensive research university until some thirty years later.

It was President Benjamin Ide Wheeler (1899-1919) who put UC on the map. Ambitious, single-minded, and utterly determined to build a world-class university, his was the transformative leadership that typically "launches" great institutions. Wheeler emphasized building up the sciences, classics and the Library⁴. He "recruited top-notch faculty from around the country" (Pelfrey, p. 24); he increased the size of the faculty from 202 to almost 700 (Pelfrey, p. 26; Douglass, p. 112). He raised salaries to compete for the best talent. He created about 20 new academic departments, principally in the physical and social sciences (Douglass, p. 109), raised admissions standards, established a graduate division, further elevated the role of research, created research stations throughout the State that would become the seeds of other campuses, expanded UC Press, acquired the Bancroft collection, expanded University Extension and initiated summer sessions (Douglass, pp. 109-112).

Moreover, it was Wheeler who built the relationships that garnered many of the private donations noted. And it was Wheeler who convinced Governor Hiram Johnson to link the level of State funding to the level of enrollment, as Wheeler correctly sensed that State funding, not private philanthropy, would determine the University's future health.

Robert Gordon Sproul (1930-1958) brought unparalleled energy and charisma to his performance of the role of UC President. Although he had to contend with cutbacks during the Great Depression, he otherwise persuaded the State Legislature that UC needed the funds and facilities if it was to recruit the best faculty talent available. He used those resources to good effect, attracting "a brilliant array of talent in virtually every branch of learning" (Pelfrey, p. 32). By the end of the 1950s, a large number of Berkeley faculty were members of the National Academy of Sciences.

Clark Kerr, who was Chancellor at Berkeley from 1952-1958, and President of the UC system from 1958-1967, ushered in the "comprehensive excellence" that Berkeley enjoys today. He increased investments in those areas that had been somewhat underserved by his predecessors, such that, by 1964, Berkeley was voted "the best balanced distinguished university in the country" (Kerr, p. 56). Also under Chancellor Kerr, the attractiveness of the campus's physical and cultural environments was sharply upgraded and, under President Kerr, highly competitive faculty salaries were put in place throughout the UC system.

But more important still, President Kerr pushed for the creation of California's now famous Master Plan for Higher Education, which reinforced the UC system as the state's sole public provider of doctoral training and the primary provider of academic research. He overcame potentially destructive competition between UC and what became the California State University that desired state funding for both doctoral training and research, and which was growing in political strength as its total enrollment then exceeded UC's. The Master Plan represented a negotiation process that reinforced the division of labor and synergies among the community colleges, the CSU system, and UC, gaining the support of then Governor Pat Brown. The impact on State politics was immediate: "After 1960, California proceeded to fund a massive and orderly expansion of higher education. It is a remarkable record unparalleled by any other state" (Douglass, p. 316).

³ As Gilman put it in retrospect, he had "helped rescue a state university from the limitations of a college of agriculture and enlarge it to meet the requirements of a magnificent commonwealth" (quoted in Pelfrey, p. 14).

⁴As Clark Kerr, put it, p. 369: "a great library draws a great faculty." And, he added elsewhere, a university cannot be great without a great faculty.

Wheeler, Sproul, and Kerr were not only persuasive and skilled at convincing the State to invest in UC. They were also committed to the pursuit of excellence, not just wealth. They appointed chairs and deans who themselves were stars in their fields, and they empowered them to recruit top-notch talent to round out their faculties. They were determined to build not only a first-rate public university, but also one that could compete with the leading private research universities. And they succeeded in doing so.

In his memoirs, Kerr is characteristically modest in attributing credit (p. 361): "Tremendous effort went into securing resources. The high prosperity of the United States and a favorable atmosphere of support in Sacramento made all this possible. The possibilities turned into realities because higher education was serving such high national and state purposes." He might have added, "the possibilities turned into realities" because he was so highly skilled at articulating the link between the life of the university and those "high national and state purposes." And all four presidents---Gilman, Wheeler, Sproul, and Kerr---were skilled at establishing academic priorities for building the university at each stage of its history.

D. Ideational factors: California "culture" and the ideal of a public university

State and national wealth, sympathetic governors, skilled university leaders---these are the factors I have isolated so far in trying to account for the growth and maintenance of Berkeley's excellence. But another factor must be accounted for, one that is in the realm of ideas. That is, why were those governors and university leaders persuasive in arguing that the wealth should be invested in UC or in public higher education more generally? Why did so many exceptionally talented scholars choose to accept UC's and, later, UCB's offers to join the faculty? And why did they stay in such large numbers?

The leading private universities also possessed the material resources to offer competitive salaries, facilities, students, faculty colleagues, and social stature. Perhaps good weather and beautiful, waterfront landscapes had their appeal. But there was something more: (1) California's egalitarian and pioneering culture; and (2) the ideal of a public university that combines excellence with access, in service of the public interest.

California was on the far frontier of the American continent. Many of its pioneering residents, encompassing waves of immigration from the Gold Rush onward, embraced a public ethos of optimism that they were building the future of American society. They were part of a "young state untrammelled by tradition." This lack of rooted traditions fueled the "distinctive California characteristics of restlessness and seam-bursting vigor" (Pelfrey, p. 11,19).

Within this context, there arose "the California conviction ... that education is a potent force in reshaping society and promoting prosperity . . . both a symbol and an engine of opportunity" (Pelfrey, pp. 1, 3). The University came to be viewed, not just as a source of skills and training, but also "as a path to distinction for individuals in a new society that had few status-granting authorities" (Pelfrey, p. 91). By the heyday of the Progressive Era (1900-1920), which corresponded almost exactly to President Wheeler's term in office, Californians came to see UC as an institution that could provide an education to achievement-oriented students from all classes, without the stricter class structures from which many of them had fled in the eastern part of the country. Indeed, this egalitarian ethos also led the State to mandate equal access to UC for women, a policy that was light-years ahead of the rest of the country.

The lack of a preexisting network of private colleges and universities (unlike the east coast) left a vacuum that allowed State legislators to fill the void with public institutions (Douglass, p. 5). All of which gave rise to the ideal of the public university as a unique contributor to society. This gave form to what John Douglass has dubbed "the California Idea": "the rise of a cohesive and popular vision of public higher education as an ameliorative and pro-active agent of state and local government, which would set the stage for a modern and scientifically advanced society. More specifically, the California Idea is the manifestation of this vision into a system of public colleges and university campuses" (Douglass, p. 82).

This ideal of the California public university went far beyond the research contributions. It encompassed as well the concept of broad access to the university for those who met the academic prerequisites, regardless of social origin or affordability. From this perspective the university was an engine of social mobility and a fundamentally just and equitable institution. These ideas animated discussion within the politics of the State. And they infected faculty who were given the opportunity to join this inspiring enterprise.

We do not know exactly why scholars agreed to join Berkeley's ranks and to stay here; there were no entrance and exit polls. But the "California Idea," in its several dimensions, and the ideal of a public (and public-serving) university, can certainly be hypothesized, with confidence, to have contributed its fair share to the attractiveness of the place.

E. Historical stages and the redistribution of decision rights

To use funds well, to recruit the best faculty in the world, and to construct the facilities that will nurture their work are not simply the products of wealth, political support, the wisdom of key leaders, and the power of ideas. For the funds to be spent well also requires a distribution of decision rights that is appropriate to the times. The history of the University of California's march to greatness is also a history of the constant readjustment of decision rights, by which I mean that key decisions about who, within the State, within UC, and within the campuses, was empowered to make which kinds of decisions shaped the directions in which the University was allowed to grow.

Wise choices about decision rights began already before UC was chartered. The federal Morrill Act of 1862 allocated federal lands to States for the purpose of establishing "land-grant" colleges and universities. In contrast to many other countries, there are no "federal universities" in the United States. States were given the responsibility to charter higher education institutions. This decision "fundamentally shaped America's multifaceted and decentralized brand of education" (Douglass, p. 3).

A turning point in the evolution of the University of California came in 1879, when UC was given constitutional autonomy: Article IX, Section IX of the State Constitution "vest[ed] unqualified authority to govern the university in the board of regents, and requires the regents to keep the university free of sectarian and political influence in the conduct of its internal affairs" (Gardner, p. 11). Few public universities in the United States enjoyed this degree of autonomy from direct legislative control, which is often framed rhetorically as "accountability."

Despite periodic threats to the University's autonomy, it was never subordinated to a State "Central Governing Board," as happened, more often than not, elsewhere in the United States. It is safe to say that this protection from direct political controls, by either the federal or the state government, has made it possible for UC to define its academic priorities, build faculty excellence and maintain it. It also prevented Berkeley and UC "from evolving into a generic state university with less selective admissions and high rates of undergraduate attrition, which was the norm [in the United States] by the 1920s" (Douglass, personal communication).

Yet Wheeler's transformative leadership of the University might not have been possible without a further decentralization of decision rights. Wheeler understood that his ambitions were incommensurate with the existing authority of the office. Hence, as a condition for taking the presidency, Wheeler secured from the Regents "sole authority to hire and fire faculty and set salaries" (Douglass, p. 105). And he wielded that authority with determination to realize his vision. The granting of presidential rule made possible a twenty-year-long period of authoritarian regime that launched UC into the very top ranks of the nation's research universities.

As is often the case in organizational histories, lengthy periods of authoritarian rule, however progressive in their accomplishments, eventually generate democratizing backlashes and a further redistribution of decision rights. In some cases, the backlash awaits the retirement or death of the authoritarian leader. After Wheeler retired in 1919, a faculty revolt took place. The Academic Senate demanded henceforth to be consulted on all faculty appointments and promotions; this was the origin of UC's vaunted practice of "shared governance." The faculty did not trust that subsequent presidents would necessarily use the powers of the office wisely, and they had developed a confidence in their own academic standards and judgments.

The Regents granted the wish of the Academic Senate---though the Regents retained their right ultimately to veto faculty appointments, a right they have exercised only very rarely---and the Senate's advisory power continues to this day. President Sproul would work closely, and well, with the Academic Senate as he further built the university's excellence. Clark Kerr would do so as well.

Indeed, in his memoirs, Kerr (p. 413) retrospectively views Academic Senate review of all promotions and appointments as the most important factor in the maintenance of Berkeley's faculty excellence. Berkeley was an early adopter of a rigorous process of regular peer review of faculty research, teaching, and public service accomplishments. The faculty "ladder" system was pioneering. It gave professors a clear view of the steps through which they could advance their careers, and, when coupled with Academic Senate review of all advancements, it became a powerful antidote to cronyism, instilling in the faculty a perception of both high standards and equitable treatment. Also a boost to faculty morale and loyalty has been the policy of reserving a tenured slot for every person hired as an assistant professor, such that no deserving faculty member would be denied promotion to tenure for budgetary reasons.⁵

⁵ This stood in sharp contrast to the practice within most Ivy League universities, which hired large numbers of assistant professors for whom no tenured budgetary line existed.

This policy has also facilitated UCB's practice of "growing its own" by hiring largely at the assistant professor level. (In 2010, 60% of the tenured faculty members at Berkeley had begun their careers at Berkeley as assistant professors.) UC was also an early adopter of regular Program Review, which again combined high standards with a sense of fairness. All these are norms and practices developed at Berkeley that gave it a market edge and a culture of developing talented faculty (Douglass, personal communication). The emphasis on merit and equity fit well with the egalitarian ethos of "the California idea."

In the 1920s and 1930s, new campuses were constituted and UC became the first multicampus system in the nation. In 1936, the Regents formally proclaimed that we were "One University." This concept empowered the office of the president to lobby in Sacramento for funding of UC as a whole, thus preventing the campuses from competing with each other for State funds. Hence, when the system grew to nine campuses in the 1950s and 1960s, the campuses were not left to compete with each other in Sacramento---a political "free for all" that might have worked to Berkeley's disadvantage.

Enlargement of the UC system, however, induced decentralization of operating functions. In the 1950s and 1960s, many of the powers of the President were devolved to chancellors appointed for each campus, and the powers of the Academic Senates on each campus were commensurately upgraded to advise those chancellors. Given the differentiation of scope, complexity, and academic emphases among the campuses, it is impossible to imagine that each of them could have grown into the institutions that they currently are, had detailed decision rights remained under the control of a systemwide president.

On the Berkeley campus, Chancellor Kerr introduced further decentralizing measures that also contributed to the maintenance of faculty excellence. He introduced a tenure system for faculty, which was adopted in December 1958. He arranged for the rotation of chairs and deans (another form of decentralization of authority), which overturned the lifetime-appointment model for chairs or deans that often leads eventually to organizational sclerosis and perceptions of cronyism. Importantly, however, their administrative superiors appointed those chairs and deans after informal consultation with the faculty. They were not "elected" by the faculty, staff, and students---as is the practice in many public universities in Europe. And the academic deans, provosts, and chancellors were members, usually distinguished members, of the faculty, albeit individuals who had proven their administrative skills in lower-level positions, whether at Berkeley or elsewhere. This gave them informal authority with both their faculty colleagues and their administrative superiors. In short, the university's academic enterprise was not to be run by professional administrators.

Kerr's advocacy for a Master Plan was also a stroke of organizational genius that led to the reinforcement of the UC system's authority in doctoral training and research, and the state resources that went with it. The negotiated agreement between the State Board of Education, the UC Regents, and state lawmakers also avoided the creation of a superboard to oversee all of California higher education -- which would have eventually been a disaster for UC. UC's autonomy would have likely vanished, and the board's loyalties would have been eventually divided among the competing segments.

Avoiding centralization under a single board also bucked the national trend of the 1950s. That trend diluted academic standards and subordinated research to the teaching of students who had been admitted, more often than not, under a policy of essentially open enrollment. And as Jud King has noted (personal communication), the Master Plan sustained an efficient use of the State budget for higher education. The University of California, not the state government's political process, retained the authority to determine when new UC campuses are needed and where they will be located. Those stipulations hold down the number of public research universities in California. By contrast, in other states there is mission creep, whereby non-research universities become research universities and whereby politicians get new campuses for their districts.

In the 1990s, President Atkinson further devolved aspects of budgetary authority to the campuses. And the turmoil of the first decade of the new century reintroduced a fluidity regarding who is in charge of what. But generally, the distribution of decision rights that emerged in the 1960s remains largely in place today. To be sure, in any given decade, a president of the system may be more or less assertive in the use of his powers, and the Regents may be more or less assertive in defining what is good for UC. And on any given campus, there will be stronger or weaker chancellors, stronger or weaker academic senates.

But these shifts have usually taken place within the parameters set in the 1960s. The basic geometry of authority has not changed all that much. And the long-term trend toward this eventual geometry served the university, and Berkeley, exceptionally well by empowering those individuals and offices that were closer to the ground and better able to make the judgments required, first to build Berkeley's excellence, and then to maintain it.

F. Reinforcing Factors

There are other factors to consider in understanding Berkeley's path to being one of the great universities of the world. The attractiveness of living in the San Francisco Bay Area cannot be dismissed, though it is hard to imagine that the most high-powered, serious, and ambitious scholars would have kept coming to UCB were the research resources, intellectual atmospherics, administrative flexibility, and commitment to excellence not in place and sustained.

A second reinforcing factor was Berkeley's having grabbed an early lead in a *niche*--the public research and teaching university--that places very high barriers to entry in the way of would-be competitors.⁶ It is extremely costly to build facilities for advanced work in the sciences and engineering by a very large faculty. And it takes a great deal of resources to build and sustain comprehensive excellence of both faculty and graduate students. Thus, some measure of UCB's ability to sustain its excellence was path-dependent. But it would be fanciful to assume that, once put in place, Berkeley's excellence was self-sustaining.

Continuing political and other battles for resources and legitimacy, at key points throughout the 20th century, had to be won, lest that excellence erode or collapse. And the outcomes of those battles hinged on the orientations and skills of UC presidents and State governors, the vibrancy of the "California idea," the organizational flexibility within UC, and the division of labor among the UC, CSU, and CCC, that lent confidence to the claims that the funds would be spent well. Moreover, the high barriers to entry did not prevent many of the leading private universities from attaining or retaining their competitive positions vis-à-vis Berkeley. Berkeley's early lead, and the high barriers to entry, did not ensure that even an initially well-resourced campus would maintain its competitiveness nationally and internationally. Yet it did.⁷

III. ARE THE CAUSES OF UCB'S EXCELLENCE STILL IN EFFECT?

Many of the generalizations in this essay analyze the factors that led Berkeley, by 1990 or so, to be top-ranked among all public and private research universities. But since then, the campus has gone through three rounds of wrenching budget cuts. It is worth asking, then, whether the factors that made Berkeley great remain in effect. Put differently, is the past prologue, or has it passed?

A. Wealth from many sources

Certainly the periodic infusion of large amounts of funds from the State of California was crucial in building the comprehensive excellence that Berkeley currently enjoys. But that has been a declining asset for the past quarter-century, such that, today, on a per-student basis, the campus receives only half the inflation-adjusted dollars it received from the State twenty years ago. The populist, ballot-initiative process almost ensures that the State will not be able to raise taxes significantly to balance its budget, thereby leaving the UC budget constantly hostage to fluctuations in the overall economy.

That said, however, federal, foundation, corporate, and LBNL support of research at Berkeley is higher than ever. Private philanthropy, though typically earmarked and only occasionally able to relieve the operating budget, has risen from negligible amounts thirty years ago to over 300 million dollars per year today. In-state student tuition, which was \$1,500 only 20 years ago, is slated to rise to over \$11,000 in July 2011. And Berkeley has the ability to attract international and non-resident domestic students at a tuition level of about \$34,000.

Prospectively, Berkeley has the capacity to enlarge its off-campus, tuition-paying population through potentially lucrative on-line programs and/or self-supporting degree programs. And Berkeley can trim its operating costs significantly by reducing the size of the non-academic workforce, rationalizing procurement, and managing the use of both energy and space more efficiently. In sum, while the sources of the wealth have changed over time, and while the future of the budget of the State of California is highly uncertain, Berkeley's ability to partially compensate for the major cuts thus far allows us to conclude that this factor--wealth from many sources--remains operative, albeit configured very differently.

⁶ My thanks to Michael Cohen, of Berkeley's Office of the Vice Chancellor for Research, for this insight into the impact of high barriers to entry on would-be competitors.

⁷ The most telling exception to the "high barriers to entry" argument is UC San Diego, which was founded in the late 1950s and has grown into a global, top-20 university, and a powerhouse in the sciences. Indeed, this was made possible by that campus's being a member of the UC system, which, in flush economic times, was able to invest heavily in several new campuses without depriving UCB and UCLA of resources. It is safe to say that UC San Diego could never have emerged and developed as it did as an independent entity.

To be sure, if the State further slashed the University's operating budget, which pays for faculty and career-staff salaries, and if the State declined to help the University cope with the stress on its pension fund by refusing to match pension contributions (as it was doing until the pension-contribution "holiday" began in 1991), the compensatory sources of funds might be insufficient to maintain Berkeley's comprehensive excellence and extremely difficult choices about the shape of our intellectual portfolio might have to be entertained.

B. Supportive and Skilled Governors

Support of State governors at crucial points in the University's history was instrumental in building and maintaining UC's and UCB's academic excellence. The question is whether, going forward, the politics and economics of the State will facilitate or frustrate the efforts of supportive governors to refresh UC's funding.⁸ Several changes suggest a negative conclusion:

- The discretionary portion of the State budget has shrunk to a fraction of what it was in earlier decades.
- The tax base has been restricted by Proposition 13, while tax adoption has been subjected to a two-thirds rule and the possibility of being rescinded by ballot initiatives.
- Growing income inequality has fueled political polarization over fundamentally different notions of who should pay for services and what services should be provided at State expense.
- The changing ethnic demographics of the State reinforce polarization between a wealthier, older, white *voting* electorate and a lower-income and younger *eligible* electorate that is composed disproportionately of members of minority groups.

In short, governors now must face a much different electorate than they did in the 1960s or early-1980s, one that is more polarized and anti-taxation than in the past--and at a time when much more of the budget is already "locked in." Higher education turns out to be the third or fourth priority for each political party. Democrats want to protect K-12 education first, then health and welfare programs, then corrections/prisons. Republicans want to cut taxes first and foremost, protect corrections so as not to appear soft on crime, and provide infrastructure, which has a strong business and developer constituency. In each case, this leaves little for higher education.

Neither party is hostile to higher education per se, but they have other priorities. And they have limited leeway to reconsider their priorities because there are powerful, concentrated forces on the left and the right that have the capacity to punish legislators who stray from the higher priorities. By contrast, higher education cannot punish members of the legislators; it is respected but not feared.

If UC and the other segments of higher education want to change this equation, they will have to create an organizational mechanism through which advocates (campaign contributors?) can be mobilized to punish targeted legislators for failing to prioritize higher education. On this score, there is good news in a very recent public opinion poll conducted by the respected Public Policy Institute of California (Baldassare et al., 2010). The poll shows that Californians:

- Believe that a college education is very important (86% compared to a national average of 76%);
- Believe that UC is doing a good job (64% saying UC doing good or excellent job);
- Believe that planning for the future of the State's higher education system is very important (76%) or [?] important (21%), leaving only a miniscule 3% who consider it unimportant;
- Worry that college is becoming unaffordable (57% of parents with children 18 or younger--up from the past); and
- Believe that the state is not providing enough money for higher education (74%--up 17 percentage points from October 2007).

But they are less sure about whether taxes should be raised to maintain current funding (49% yes; 49% no). They seem to think that either money should come from other programs or through economies at the universities.

Thus, a governor seeking to mobilize support for investments in higher education has a potentially receptive public audience, but will have to rely on the advocates for higher education to mobilize that support through channels that have the capacity to punish legislators who vote against those investments. One of several channels for such mobilization could be key business groups, such as those in Silicon Valley, which view UC as an engine for economic and technological innovation.

⁸ My thanks to Henry Brady (UC Berkeley) for alerting me to the data in this section, and for helping me to interpret them.

C. *The “California Idea”*

The optimistic idea of California as a land of unlimited opportunity and prosperity, unhampered by tradition and fueled by a restless search for new ways of doing things, provided a culture that facilitated efforts to build UC into the most remarkable university system in the world. Today, public debate concerns whether this “idea” and this culture are fading away in favor of greater pessimism or fatalism about the future potential of the State.

I cannot resolve that issue here. But if the California Idea is dying, then efforts to maintain the excellence of UC through ample State funding will have to be justified on two grounds: economic pragmatism and social pragmatism. The economic argument points to the number of jobs created as a result of UC’s excellence and the number of innovative businesses opened by UC graduates. This argument will be strengthened if California experiences before long an economic turnaround, based, perhaps, on “GreenTech” and “BioTech” revolutions.

The social argument points to UC’s role in providing avenues of upward mobility for high-achieving, low-income students, thus heading off a perilous freezing of social class distinctions. This argument will be strengthened as California approaches a majority-minority population, and especially as Latinos become an ever-larger proportion of the State’s population. Both the economic and social arguments are powerful ones, and could become still more powerful over time. Hence, they might carry the day, especially in light of the most-recent public-opinion polling discussed above.

But since the voting electorate, as opposed to the eligible electorate, disproportionately represents the middle- and upper-income brackets, which, in turn, are disproportionately white, a political threat to UC could arise should middle-income students become a significantly diminishing percentage of the UC student population. As the cost-of-living and UC tuition rise---currently totally about \$31,000 for California residents at UCB---and as home equity lines no longer serve as a credit card to pay college expenditures, the families that suffer the most will likely be those whose household income is too high to qualify for financial aid but too low to be characterized as “wealthy.” UCB’s financial aid mechanisms make it affordable to the low-income student, and now also to students from households earning \$45,000 - \$80,000 per year, but increasingly less affordable to families with household incomes in the \$80,000 - \$120,000 range. Were UCB a commuter school, this would be less of a problem, but the overwhelming majority of our students live on or near campus and must pay for room and board, transportation, and other normal living costs.

Members of the “middle-class” constitute a sizable portion of the growing population of “Independent” voters in the State, and could become a political force that is alienated from UC if they find that it caters primarily to the low-income and wealthy segments of the California population. And the growing Latino population, although heavily low-income, is increasingly middle class. To the extent that middle-class Latinos come to vote as frequently as their white counterparts, their alienation from UC would rise, should they perceive UC to be unaffordable while simultaneously having a very low percentage of Latinos in its student population relative to the Latino share of the high-school-graduating population.

When the California economy turns around, it will be interesting to see whether public opinion polls reveal the optimistic “California idea” to be still alive in the minds of the voting and eligible electorates---having been, not dead but in hibernation, during the Great Recession. From the standpoint of the future of UC, we will also want to determine whether Latino members of the voting electorate embrace the idea of California as a land of unlimited opportunity.

D. *UC Leadership*

Towering figures like Wheeler, Sproul, and Kerr built UC and UCB into the world-class institutions that they are. By 1960, the UC system was in a class of its own. And, in the same year, the Master Plan for Higher Education led to a turning-point in the State’s policy toward higher education, creating a stable political and economic environment in which to expand higher education enrollment and programs in California. These men were system-builders. The question currently facing UC is whether these kinds of transformative leaders are needed to maintain the excellence of the institution---and, derivatively, of Berkeley.

Seven distinguished educators have served as UC president since Clark Kerr stepped down in 1967: Charles Hitch, David Saxon, David Gardner, Jack Peltason, Richard Atkinson, Robert Dynes, and Mark Yudof.⁹ Each of them has left (or is leaving) his mark on some aspect or campus of the University. They sought to defend or enhance the excellence of the system that Wheeler, Sproul, and Kerr had built. Two of them served in good economic times, which afforded them the opportunity to build further the quality of individual campuses and to augment the strength of the system as a whole. But all five others served when

⁹ I exclude Harry Wellman, who served as acting president in 1967-68.

the political and fiscal condition of the State required them to make the best of a bad situation. They were absorbed largely by the challenge of preventing deterioration of UC's quality, stature, and accessibility.

Hitch (1968-75) is best remembered for preventing the political turmoil and gubernatorial hostility of the time from undermining the Master Plan and infringing on the University's constitutional autonomy. Saxon (1975-83) struggled with diminished State funding due to the severe recession of the mid- and late-1970s, coupled with the effects of Proposition 13 on the availability of State funds.

David Gardner (1983-1992) served during "The Booming 1980's" (Pelfrey, p. 62), the first time since the early 1960s that the University would benefit from State financial largesse. Gardner helped to persuade Governor Deukmejian to reinvest heavily in UC and went on to secure substantial sums in successive budget years. He used those funds first to close the faculty-salary gap between UC and its competitors, then to start up new professional schools on three southern campuses, to initiate and build the Humanities Research Institute at UC Irvine and the Graduate School of International Relations and Pacific Studies at UC San Diego.

Gardner also presided over a nearly 1500% increase in the University's budget for capital construction and renovation. And he was the president who began the formal advocacy that would result later in the founding of the UC Merced campus in 1995. In all, he expanded intellectual horizons within the UC system, greatly increased the strength of campuses other than UCB and UCLA, and planted the seeds of system-expansion to Merced.

Gardner was followed by Jack Peltason (1992-1995), who served during "a budget crisis of mammoth proportions" and "the worst economic slump since the Great Depression" (Pelfrey, 2004, p. 69), deepened by severe cutbacks to California's defense industries after the end of the Cold War. Peltason, like Saxon in the 1970s, was forced largely to focus on damage-limitation, although he did, before his retirement in 1995, secure a "compact" with Governor Wilson to set a floor under subsequent UC funding by the State. His successor would benefit from the State's and the nation's economic recovery that accelerated shortly thereafter, fueled by the high-tech boom.

Richard Atkinson (1995-2003) persuaded the State to use its new-found wealth to the benefit of UC. And he used those resources, both to restore campus budgets that had been cut severely during the recession and to nudge the University in new directions. He established an umbrella under which campuses would expand their ties with private industry in order to stimulate innovation in specified areas of science and engineering. He enlarged enrollments in engineering and computer science. He worked with Governor Davis to realize their joint vision of major, multi-campus institutes working on multi-disciplinary challenges of innovation in science and engineering. This effort resulted in the State allocating funds for four institutes of \$100 million each to four such multi-campus endeavors, now known as the Gray Davis Institutes of Science and Innovation, represented on the Berkeley campus by CITRIS and QB3.¹⁰ Atkinson also founded (in 1997) the California Digital Library, which was a pioneer in the storage and dissemination of knowledge and in rethinking the library and scholarly-communication needs of the system. Thus, like Gardner in the 1990s, Atkinson secured State support during good economic times, and used that support to innovate creatively within the confines of the existing system.¹¹

Robert Dynes (2003-2008) was appointed president while the economy was in another recessionary trough. He secured from newly-elected Governor Schwarzenegger a reaffirmation of the "compact" that President Peltason had earlier negotiated with Governor Wilson. But the economic recession was soon followed by political scandals that largely scuttled Dynes' presidency. Dynes was on the defensive for more than three years, before resigning the presidency.

Dynes was succeeded in 2008 by the current president, Mark Yudof, who is presiding during a national and California recession that dwarfs the recession of the early 1990s. He has used his talents, however, to repair much of the political damage he inherited, reconstituting and reshaping the staff of the Office of the President, regaining the confidence of the Chancellors, the Board of Regents, and State legislature. He has also been forced to lead the system through wrenching budget cuts, multiple student fee increases, the restart of pension contributions, faculty and staff furloughs and staff layoffs---all of which have led to continuing student protests and militant union activity. President Yudof has accomplished much in his 2+ years on the job. It

¹⁰ CITRIS = Center for Information Technology Research in the Interest of Society (UCB, UC Santa Cruz, UC Davis, and UC Merced). QB3 = Quantitative Biomedical Sciences (on three campuses: UCSF, UCB, and UC Santa Cruz).

¹¹ I do not cover in this essay Atkinson's (or other presidents') efforts to enhance access to the UC system by under-served populations. Suffice to say that Atkinson became a national leader in rethinking the relationship between aptitude tests (SAT I) and admissions criteria, presided over the introduction of a new system of "comprehensive review" of applications, and greatly increased UC's outreach efforts to K-12.

remains to be seen whether economic conditions will afford him the opportunity to pursue ambitious goals that extend much beyond damage-control.

One of the lessons of this brief survey of UC leadership is that good economic times (actual or prospective) are preconditions for securing the State funds that pay for faculty and career-staff salaries and benefits. When the economy picks up again, perhaps the greatest challenge facing UC leaders will be to devise a political strategy that appeals simultaneously to the middle class, the business community, and those politicians who still embrace the California Dream. That strategy will also have to be channeled through organizations that have the capacity to reward politicians who support UC and to punish politicians who do not support UC.

Finding a winning strategy of this sort will be complicated by the fact that, in an age of digital communication and failing print newspapers that seek scandal to revive subscriptions, UC and UCB are less in control of their own image than was the case in the past. And given the political polarization that marks California politics, it will be more challenging to make the case for State funding of UC than it was in the more consensual 1950s and early 1960s.

Absent the crafting of a winning political strategy, the challenge will be to reconfigure UC in ways that maintain its excellence despite receiving considerably less State funding. Leaders of Berkeley will have to ensure that such a reconfiguration does not sacrifice the breadth and depth of academic excellence that is UCB's comparative advantage in attracting faculty and in fostering interdisciplinary research. And they will have to devise political strategies that allow the campus to chart its own course in seeking funds from sources other than the budget of the State of California.

Indeed, to the extent that cost-savings and revenue-enhancements could derive from partnerships among several UC campuses, both the budgetary and the political "health" of the individual campuses could be enhanced.¹² Numerous types of "public-private partnerships" can be imagined that would infuse more funding into UCB, including ambitious plans for extending UC's reach (and tuition funds) through on-line education of millions of individuals within California and around the globe.

E. *The Distribution of Decision-Rights*

It is safe to assume that the autonomy of UC from direct State control has been a key facilitator of its rise to excellence. In my opinion, the current distribution of decision rights---among the State, the Regents, the Office of the President, the Chancellors, and the Academic Senate---is probably about right for dealing with the challenges facing UCB. Of course, there will always be challenges and tensions within this "dynamic equilibrium."

Most important for UCB will be its ability to fend off periodic systemwide efforts to reduce its discretion and resource base, and periodic efforts by some State legislators, in the name of "accountability," to reduce the system's autonomy from direct State control.

Barring a monumental earthquake or severe climate change, we can assume that the Bay Area will remain a very attractive place to live and an asset in attracting faculty and graduate students. However, the high cost of living will continue to challenge UCB to provide total compensation packages that allow faculty to enjoy an attractive standard of living. This does not distinguish us from Harvard, Stanford, and Columbia, which also are located in high-cost areas. The challenge for Berkeley continues to be the affordability of faculty recruitment and retention packages, which have grown steadily in size since the mid-1990s (when the endowments of private universities started to grow very rapidly). UCB's overall faculty recruitment and retention rates have not suffered during the past fifteen years, but they have encumbered a steadily growing percentage of our resources.

As for the other reinforcing factor---high barriers to entry for would-be competitors---things may change as a result of global trends. China, India, Singapore, as well as selected other countries in East Asia, Europe, and the Middle East are making huge investments in human capital and facilities for higher education and advanced research in the sciences, social sciences, and engineering. They have studied the American system of higher education and are emulating it in the universities they are building or improving. Increasing numbers of ex-patriots, including several at Berkeley, who were trained and employed in leading US universities, are being lured back to their countries or continents of origin. Predictions are that this trend will intensify, triggering what one analyst has called a "great brain race" (Wildavsky, 2010).

¹² For example, Berkeley and UC San Francisco are currently working toward a consolidated approach to procurement; the two campuses are also in discussions about creating a joint School of Public Health.

Thus, investments by newly wealthy countries will overcome the expense constraints on creating competitors for the services of faculty-researchers at leading US universities. Berkeley will have to worry, not only about “raids” by Harvard, Stanford, Princeton et al., but also about raids by Beijing, Tsinghua, Fudan, National University of Singapore, ETH Zurich, Abu Dhabi, and others, driving up further the cost of retention and, perhaps, reducing UCB’s rate of successful retention, which has typically hovered around 70%.

There is, however, a possible flip-side. These institutions will also be training growing numbers of world-class researchers, some of whom may be drawn to the faculties of the leading American universities. Indeed, many Berkeley faculty members during the past sixty years have been hired from abroad, a practice that has surely helped to keep Berkeley great.

Some world-class researchers in other countries may also pursue joint appointments with a leading American university and a research institution in their country of origin—a possibility that has led one US university president—Richard Levin of Yale—to advocate for joint appointments as a means of *retaining* foreign nationals on the Yale faculty (Levin, 2010). In any case, the “great brain race” will be competing for a much-enlarged pool of scholars as a result of the expansion of higher education and research facilities in China and India, in particular. The “great brain race” will not necessarily be a zero-sum game.

IV. Polar Views on the Future

On each dimension, then, one can imagine a worse or a better future. One could collapse those elements into two polar views of UCB’s future, which I will call the “pure optimist” and the “pure pessimist,” even though most people combine elements of each in their thinking.

A. *The “pure optimist”*

To the optimist, California’s wealth is reproducible and the idea remains alive of California as the place in which innovative dreams are realized (Grunwald, pp. 28-34). Tapping into this vein, California’s Governor Arnold Schwarzenegger challenged the State Legislature to further advance the dream of California as the State of education rather than the (newfound) State of prisons. In lobbying efforts, students, faculty, alumni, and officials of the University of California have pressed this theme. The optimist counts on the success of these efforts to sway the politicians to continue investing in higher education. And the optimist believes that California has the technological and business infrastructure to benefit mightily from the next large waves of technological innovation and wealth-creation, which will afford supportive governors the means to invest anew in UC.

The optimist may also (or instead) count on, and work toward, increased federal investments in the operating costs of public higher education. The optimist counts on the success of Berkeley’s ambitious and continuous private fund-raising campaigns. Additionally, the optimist notes that the funding of research by foundations and federal agencies is at historically high levels.

To the optimist, the current distribution of decision rights and material resources within the UC system and within the individual campuses is no impediment to maintenance of Berkeley’s excellence. The optimist also assumes that Berkeley will continue to maintain the relative autonomy to chart its own course within the UC system that has helped to make this campus great. The optimist concedes that increased student fees, increased non-resident enrollments, and ambitious, administrative cost-reduction will likely be required, as a hedge against possible limits on State, federal, and private contributions.

But given all this, the optimist does not fear that these measures will compromise, much less sacrifice, the public character of Berkeley and its accessibility to the full range of the State’s population. Indeed, the optimist views these revenue-generating and cost-cutting measures as requisites for the maintenance of both excellence and access. Nor does the optimist, under these conditions, fear alienating the middle class, for it will become possible to extend financial aid further up the socio-economic ladder than it currently reaches.

The optimist views Berkeley’s unique combination of access and excellence—a product of the combination of structural, processual, and ideational factors discussed in this essay—as a continuing attraction for top-quality faculty and students from throughout the country and the world. Indeed, within the world of public universities, Berkeley has a “lock” on this niche, being viewed as the only public university that can compete with the leading privates on the excellence dimension, and with the leading public universities on the access dimension.¹³ Many faculty, the optimist assumes, come to and stay at Berkeley because they

¹³ Two examples from present-day data may be cited in support of this optimism: In 2009, more graduate students chose to come to Berkeley with their multi-year National Science Foundation fellowships than to any other university in the country. The same was true of the winners of

feel good about participating in an enterprise that provides access to such a breadth and depth of excellence. They enjoy, and derive personal satisfaction from, reaching students for whom Berkeley is a gateway to upward mobility within society.

The optimist believes that Berkeley will continue to garner both the material resources and the political support to maintain that unique combination of excellence and access. It may have to do so by means that will sacrifice a fraction of its "public" character,¹⁴ by seeking more private funds through such ventures as high-fee "self-supporting degree programs" or for-profit, on-line courses that reach far beyond the on-campus student body, by charging higher tuition and by enrolling a somewhat larger number of wealthy non-Californians.

Many other such revenue-generating strategies can be imagined. But the optimist is confident that such measures will not sacrifice Berkeley's fundamentally public character and commitment to excellence. Indeed, the optimist will also argue that UCB's "public" character is not only about affordability and accessibility. It is also about serving the broad "public" through the discoveries and inventions resulting from our research, the instruction provided in public-mission disciplines, and the career paths chosen by our graduates.

B. *The "pure pessimist"*

The pessimist doubts that the State of California will ever recover its former economic glory, given heightened competition from many global sources. But even if California did roar again economically, the pessimist doubts that the State would invest its surplus in UC to any significant extent, both because of competing State priorities and because of seemingly irreversible political gridlock that no governor, however well intentioned, will be able to surmount. Given that circumstance, the pessimist assumes that, once the leading privates recover from the current Great Recession, Berkeley faculty will be raided relentlessly---and fee increases, non-resident tuition, cost-cutting, and private fund-raising will be insufficient to maintain UCB's competitiveness.

The pessimist doubts that the federal government will rescue public higher education. And the pessimist notes that, absent sharp increases in State funding, the cost of double-matching pension contributions will be prohibitive for the campus. The pessimist fears that pressures from other campuses, abetted by a redistributive ethos within the Office of the President, will lead to the diversion of funds away from Berkeley to the benefit of other campuses. Indeed, the pessimist doubts that the UC system will continue to benefit Berkeley and predicts that the system will instead take measures that prevent this campus from charting its own course in defense of Berkeley's excellence. An example would be restrictions on our increasing the proportion of non-Californians in the undergraduate student body to compensate for drastic cuts in State financial support.

The pessimist doubts that the "California Idea" and the ideal of public, affordable higher education remain alive and well---either as an inspiration to legislators and citizens, or as a magnet to draw faculty and students to Berkeley. To the pessimist, student fee increases at UC are beginning to lock out the middle class, which will undermine political support for the university, while the changing ethnic demographics of the State will undermine support for UC.

Which scenario is "correct"? Where does "the truth" lie? That is impossible to say with certainty. Each scenario is based on specific projections to which varying probabilities of realization could be attached, if indeed we could specify those probabilities. It seems safe to assume that the "truth" lies somewhere in between, but specification of that "somewhere" is dependent on probabilities that we cannot assign with high confidence.

The challenge facing current UC and UCB leaders, therefore, is to take vigorous action to prove the pessimists wrong. John Douglass (personal communication) notes that, during the last three decades of budgetary stress and political uncertainty for the University, presidents Atkinson, Peltason, and Gardner were always concerned to ensure that revised budgets not threaten Berkeley's academic stature. Let us hope that such concern continues to guide policy-makers in the UC Office of the President.

V. CONCLUSION

I began this essay by noting that, as provost at Berkeley, my responsibility is to help maintain the academic excellence and standing of this institution as an exemplary public teaching-and-research university. Isolating the factors that made and kept Berkeley's research enterprise great is useful for sorting one's thinking about what may matter most. But examining present-day

Ford Foundation and Javits fellowships. And in 2010, despite large fee increases, more undergraduates from low-income households were enrolled at Berkeley than at any time in its history.

¹⁴ The idea of sacrificing a small portion of the "public" character in order to maintain the excellence of the enterprise is introduced and discussed in Hollinger (2010).

dilemmas highlights ways in which changes in approach may be required and functional substitutes for previous causal factors must be sought, if only as a hedge against the possibility that traditional sources of wealth, political support, campus autonomy, and comparative advantage may be wasting assets.

For a campus administrator, a certain amount of optimism is necessary for the maintenance of both internal morale and external support, while a certain amount of prudence is required to avoid "cock-eyed optimism," loss of credibility, and ill-informed decisions. Hence, the imperative is to pursue strategies that are ambitious for the university while hedging against potential fluctuations in our external environment.

If we cannot rely on traditional sources of funds, we must identify new sources of funds---or find ways to reduce the cost of our enterprise without sacrificing its academic quality. If we are not graced with supportive governors to protect and enhance the University, we must devise strategies for persuading governors and legislators alike that the economic and political consequences of neglecting or consciously diminishing the University are not in their political interest. If we cannot rely on the continuing strength of "the California Idea," we must craft communications strategies that highlight the ways in which the University is an engine of economic growth, of upward social mobility for both the lower and the middle classes, a source of immense pride for the State that created it, and a fragile enterprise, the continuing academic quality of which cannot be taken for granted.

And if, in charting our course, we find that the current distribution of decision-rights within the UC system is an impediment to our needs, we must struggle to redefine that distribution once again---by continuing the 140-year-long march toward decentralization and seeking greater autonomy for the campus to chart its own course and prevent the demise of Berkeley's stature.

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