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TO GROW OR NOT TO GROW? A Post-Great Recession Synopsis of the Political, Financial, and Social Contract Challenges Facing the University of California

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TO GROW OR NOT TO GROW?
A Post-Great Recession Synopsis of the Political, Financial, and Social Contract
Challenges Facing the University of California

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UC Berkeley

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ABSTRACT

After more than two decades of state disinvestment, the University of California faces significant challenges and misunderstandings regarding its operating costs, its wide array of activities, and its mission. Reduced funding from the state for public higher education, including UC, has essentially severed the historic link between state allocations and enrollment, altering the incentive and ability for UC to expand academic programs and enrollment in pace with California's growing population. "To grow or not to grow," that is the question. This macro management and major modification in UC's historical social contract with the people of California confronts the new president, Janet Napolitano, and, more generally, the UC academic community and Californians. On the positive side, there are signs of an improved economy as well as a governor and legislature dealing with fundamental budget issues, such as better controlling public pensions and reducing exorbitant incarceration rates. If California, under a revised Master Plan, floats toward an attempt to recreate a suitable funding and organizational model for public higher education, Napolitano is potentially a powerful political figure who could help drive it to a successful conclusion. To truly reach a solution, public leaders will need to work with lawmakers, not the other way around.

Keywords: California Higher Education, University Funding, Access, Economic Development

After some three decades of state disinvestment and "doing more with less," there is an increasing sense that the University of California (UC) will need to forge a new funding model on its own, with little support from taxpayers and politicians in Sacramento. This pattern of disinvestment began well before the Great Recession, but accelerated significantly with the dramatic downturn in the economy. Once the bulwark of funding for public higher education in California, the state has become an important minor and unreliable partner, often distributing budget cuts mid-year. More importantly, reduced funding has essentially severed the historic link between state allocations and enrollment workload. This has perhaps permanently altered the incentive and ability for UC, and similarly for all public higher education institutions in the state, to expand academic programs and enrollment in pace with California's growing population and to meet labor needs in the long-term. "To grow or not to grow," this is a major challenge for the University of California. To put it another way: UC may seek to maintain the quality of its academic programs and no longer increase enrollment without an adequate funding model.

In the following, I discuss the choices facing UC, while also attempting to address some common misperceptions about the university's operating budget, evolving funding model, the workload and activities of faculty, and, more generally, its teaching research and public service missions. While UC may be entering a period of a significant redefinition of its social contract and role in the life and economy of Californians, there is also reason for hope.

With signs of an improved California economy, a less divided state legislature, and perhaps the attention of the current governor, there may be an opportunity to forge a more robust and steady investment pattern from the state. The University of California's

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ten-campus system also has a new president, Janet Napolitano.¹ With each new president, hope springs eternal. Napolitano, the former politician with links to the Obama administration, will add *gravitas* to UC's pitches in Sacramento (and in Washington where UC now generates significantly more income than from the State of California). There may also be an opportunity to develop a wider effort to reshape the organizational and funding model for California's once-pioneering system of public higher education, a system that has seen no major innovations for some fifty years.²

Yet any effort to revitalize the state's role in supporting UC requires generating a deeper public understanding of UC's activities and costs, and the choices it faces if it is to remain the world's most renowned public multi-campus university system. The following provides what I hope is an initial, yet limited, synopsis for creating this deeper understanding and seeking a revitalized social contract.

Revenues and Expenditures

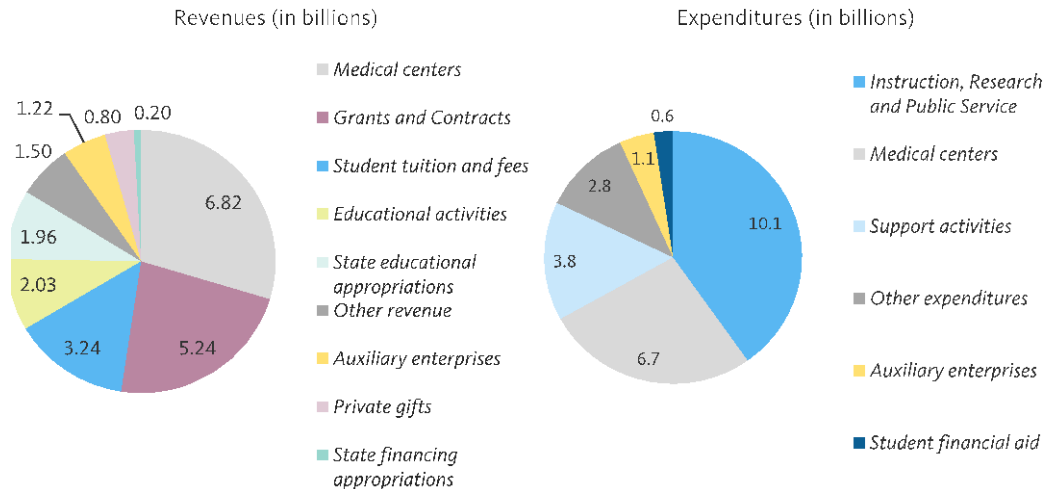
Does the University of California represent a huge financial burden to the State of California and its taxpayers? The short answer: no. For every dollar from Sacramento, UC generates just over 10 dollars from other sources, all of which feeds into California's economy. UC generates and contributes much more tax revenue to state coffers than the state provides to UC in direct funding.³ UC is an income generator, as long as it has a workable funding model.

At the same time, and despite the pattern of disinvestment, it is important to note that state dollars remain extremely important for the operating budget of the University of California, funding most faculty salaries. But it is no longer the chief source of income for the university.

The University of California is a huge enterprise, with ten campuses, some 233,000 students, five medical centers, five law schools and the state's only veterinarian school. It generates around \$24 billion in revenues—more than the GDP of many countries. Reflecting in some measure the expense of medical research and training, but also the high cost of operating hospitals in the US, nearly \$7 billion of revenues and expenditures are related to UC's medical centers, the largest single revenue source in a diversified portfolio. That is followed, in order of magnitude, by Grants and Contracts mostly for research and mostly from federal research agencies like the NSF and the NIH. UC faculty and researchers secure nearly nine percent of all academic research and development grants coming from Washington.

The next largest funding source is student tuition and fees, then various "educational activities" including income from life-long learning courses and extension programs (for industries ranging from agriculture to professional groups like law). State funding accounts for about \$2 billion, including appropriations for educational costs and state financing for capital projects related to instruction and research (or I&R). The core activities of instruction, research, and public services (including faculty salaries), remain the largest single expenditure, followed by costs for Medical Centers, support activities such as student services, capital construction, and auxiliary enterprises (like housing and food services).

Figure 1: UC Revenues and Expenditures by Function 2011-12



There are various ways to look at the expenditure and operational side of the equation. But the most important points are not only the well-known decline in state funding for UC, but also the magnitude *and* seemingly irreversible nature of what appears to

be a new paradigm over the past three decades: where state funding, once the primary source of income for UC, is now a minority stakeholder.

There are also two additional current and future expenditures that are not detailed in this data: first, rising pension and medical costs as UC faculty age and retire; and second, capital costs for seismic safety, for modernization of existing facilities, and for enrollment and program growth—if UC is to grow with the state's population.

The state withdrew from providing any subsidies for pensions and health benefits during the early 1990s recession and has not contributed any additional dollars since—even as it continues to provide substantial pension funding for CSU and Community Colleges, and as UC faculty and staff increasingly contribute to their own pensions. UC Employees currently contribute around 12 percent of their salaries to the pension program, up from 10 percent the previous academic year. The lack of state contributions combined with the continued erosion in the benefits packages that have long helped UC compete to attract and retain top faculty is having a significant impact on campus budgets: for example, UC Berkeley's Vice Chancellor for Administration and Finance, John Wilton, estimates that, by 2018, UC employees may need to increase their contribution to approximately 20 percent to keep the UC pension plan solvent and that Berkeley alone estimates that it will incur an additional \$120 million in retirement costs to its operating budget.⁴

Increasing employee contributions is the modern model, yet the absence of any contribution from the state creates an unusual burden for UC.

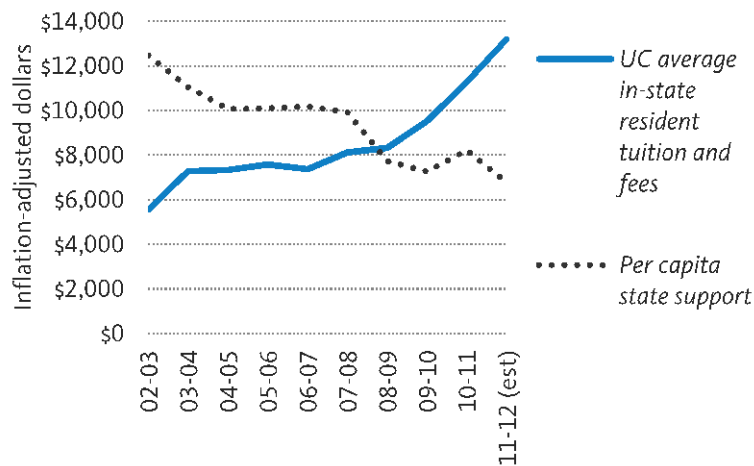
Likewise, state funding for capital costs has shrunk significantly, meaning that most costs for simple maintenance, never mind enrollment growth, is a relatively new significant cost for UC. Campuses must then integrate any capital costs into campus and academic department budgets.⁵

The Drive to Lower State Costs

There is a widespread perception that higher education institutions keep increasing in their operating costs—what some have called the “cost disease.”⁶ Even after massive state funding cuts, lawmakers, critics and pundits desire further changes in both the revenue and expenditure story of UC: for the university to do even more with less. Their desired path is to generate lower state costs and tuition rates, perhaps through increases teaching loads for faculty and the hopeful magic of technology. The general perception is that UC operating costs keep going up and that faculty teach less than in the past.

But these perceptions do not reflect the reality in California. Looking at operating costs nationally, for example, on a per student basis, one needs to disaggregate institutional types. The most fundamental divisions are between public, private, and for-profit institutions, and within the first two categories between the extremes of a community college and a research-intensive university. Averages, the primary focus of the media and outside observers, within a nation of some 4,700 degree granting higher education institutions in fifty different states, simply does not tell the story on the public side, where there is a growing trend toward part-time faculty and increasing teaching workloads for faculty.⁷

Figure 2: UC Rising In-State Fees and Declining State Funding Support



The big story is not growing operating costs, but public disinvestment on a national scale, and particularly in California. Public disinvestment is one cause for rising student debt levels and the increasing numbers of part-time students in the US, a huge problem that relates directly to the nation's low degree production rates compared to our international economic competitors. (Approximately 45 percent of all students in degree granting institutions in the US are part-time students. None of the US's major economic competitors have such a high rate of part-time students).⁸

Focusing on UC, California's budget woes extend over several decades and, as noted, accelerated mightily during the Great Recession (almost Depression). Higher education is a discretionary spending item in California's state budget; there is no mandate in statute or in the state constitution to fund it. The squeeze of other funding priorities as tax dollars declined—most notably out-of-control mandated medical costs that afflict the entire US economy, over-promised public pensions, and huge expenditures on prisons—has resulted in a 30 percent decrease in state funding to UC over the last decade or so. The predictable result: UC has raised tuition fees to *partially* make up for this huge loss in state funding.

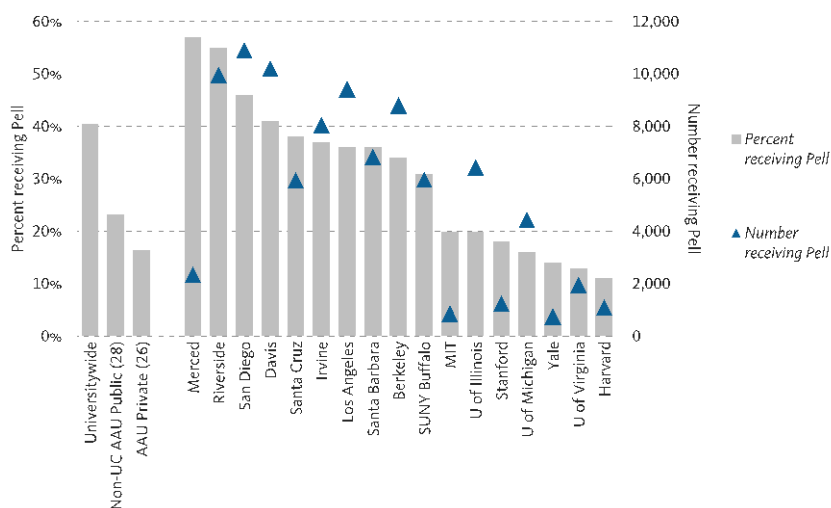
Even though a third of all tuition income goes to lower and some middle class families as financial aid, the rise in tuition has caused legitimate concerns by California families accustomed to relatively low tuition fees, and alarm among legislators. UC tuition and fees is now about \$13,000 per year for in-state students. Room and board is another big cost driver, exceeding tuition and fees for in-state students. Any analysis on affordability needs to include living costs that are generally higher in California (particularly higher in urban areas), and rely on a mix of on-campus and private housing.

Returning to UC's operating budget: After redirecting some 33 percent of each tuition dollar to financial aid, UC nets only a little more than \$8,000 per student via tuition and fees. This means greater access to lower- and at least some middle-income students. UC Berkeley introduced a "middle-class action plan" that provides a 15 percent discount on tuition for students whose family income is between \$80,000 and \$140,000.⁹ Again, redirecting tuition income largely funds this program. The result? At Berkeley, for example, 40 percent of undergraduates pay no tuition; 65 percent receive some form of financial aid. A similar program is now in place across all UC campuses.

UC is moving toward what I call a "Progressive Tuition Model," essentially charging higher-income Californians more to help reduce the cost and debt for lower income students and their families. The state used to do this via its tax and spending policies, but now UC (and CSU) are relying on this tactic. UC is backing into what can only be called an experimental model; it is not a deliberate or well-articulated path. And no one is sure of the consequences if the price tag to students continues to go up.

Thus far, however, it seems to be working. UC continues to enroll more low-income students than just about any other major research university in the US (UC Berkeley alone has as many low-income students as the entire Ivy league; UCLA does as well). Some 42 percent of UC's undergraduates receive Pell Grants, the federal grant program for students from families making around \$44,000 a year or less. This is one indicator of the importance of UC as a path for socioeconomic mobility in California.

Figure 3: UC Undergraduate Pell Grant recipients and AAU Comparison Institutions **2010**



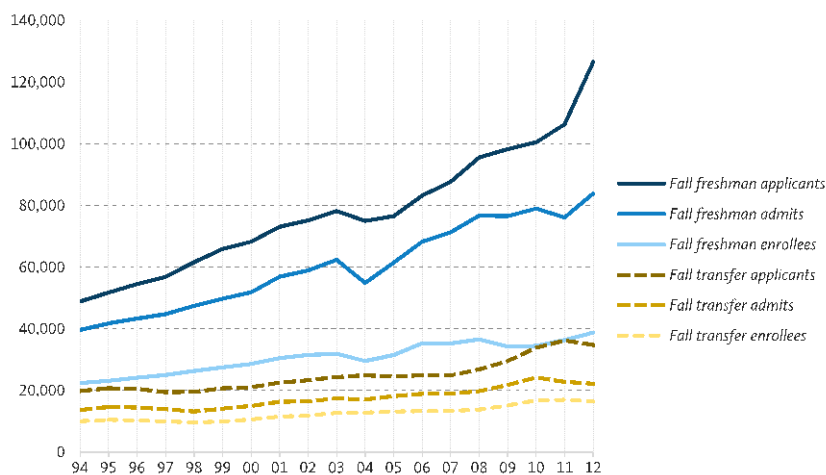
Source: IPEDS¹

At the same time, UC has undergraduate degree completion rates unmatched by any other research-intensive public university and student debt levels are relatively low. Approximately half of undergraduates that graduate have no debt burdens. Those who do borrow have an average debt of \$19,800¹⁰—a significant, but generally manageable, burden and well below the national average of over \$27,000, which is now largely driven by high cost of private colleges and universities and, in particular, growing enrollment in for-profits.

The key variables for maintaining access are not tuition costs alone. Rather, it is a robust financial aid system that includes both institutional aid (via tuition and fundraising at the institutional level) as well as sustaining and increasing the amount of federal and state financial aid through programs such as Pell Grants and Cal Grants (California's program of financial aid for low-income students), and includes the cost of housing and related expenses. The combination of Cal Grants and Pell Grants has been a significant support for the enrollment of so many low-income students at UC. Cal Grant funding has remained relatively robust in the face of other budget cuts. As an indirect support of UC's financing, they no doubt will play an important role in supporting future access to UC.

Thus far, it appears that rising tuition has not had a significant effect on the demand to apply and enroll at a UC, which is driven in part by population growth and the fact that UC remains a lower cost alternative to other comparable institutions. California's biggest challenges are on the supply side, which I will return to later.

Figure 4: UC Freshman and Transfer Applicants, Admits and Enrollment 1994-2012



Source: UC Corporate Student System¹

Reducing Costs = Technology?

Governor Brown's push for online education is, in large part, focused on how to make UC cheaper for the state, and for California students and their families. Without much regard for the significant body of experience and research on online education—for example, that different age cohorts interact and perform differently, and that “traditional age” students (18-24-year olds) typically show extremely low completion rates in purely online courses—many politicians and academic leaders alike hope for the holy grail of internet-based courses to create economic efficiencies and even, perhaps, boost degree-completion rates.

The reality is that online education as currently conceived is a needed supplement, but not a transformative tool for the UC system—or for large public research universities in general. For one, it is hard to beat the inexpensive model of having a significant number of large classroom courses (while using technology as an additive). Second, a model that requires undergraduates to take, for example, the majority of their freshman and sophomore courses via MOOCs would likely result in greater course attrition rates and, ultimately, a longer time-to-degree, with a higher percentage of students that will likely drop-out of UC.

Again, like analysis of the operating budgets of institutions, one needs to disaggregate the market to assess the relevancy of online forms of education. Despite the media frenzy, MOOCs and its brethren have not proven to be a significant way to reduce

operating costs, in part because of extremely high attrition rates. The future at UC includes greater integration of technology in what we think of now as traditional courses, complemented by fully online courses in selected introductory subjects with high demand and limited seat space in class lectures—what are called “impacted” courses. This would help with “throughput,” but perhaps at the expense of the quality of the student learning experience.

Many of the most aggressive promoters of fully online courses essentially argue that there is little to no need for personal, real-time human interaction that we cannot afford anyhow. But that appears not to be the view of students, particularly younger students at universities like UC and CSU, who crave interaction with academic staff and properly view their undergraduate experience as more holistic with opportunities for in-person mentoring. Preliminary studies also indicate that students at UC, and at other research-intensive universities, do not prefer or particularly like purely online courses.¹¹

So how to make UC cheaper for the state and for students and their families?

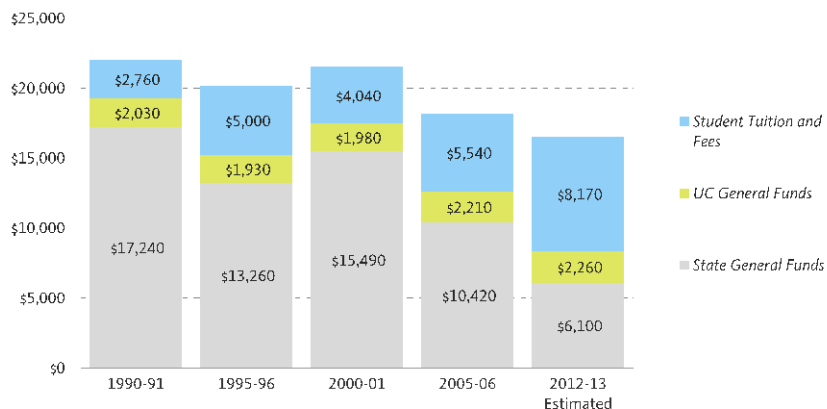
Reducing Costs = Increase Student to Faculty Ratios

President Obama recently proposed a series of federal reforms related to higher education and named the rising cost of higher education as the most significant problem facing current and future students and, more generally, educational attainment rates in the US.

But one needs to unpack this statement by disaggregating institutional types: the highest prices are at the privates, non-profits and for-profits, with the for-profits most significantly driving up student debt and with, by far, the highest student default rates on their loans. Indeed, the Obama’s administration’s proposal to use productivity measures, like campus degree completion rates is, to a large degree, an effort to reduce the flow of federal financial aid dollars to the high-cost and low-productivity of the for-profit sector. Hence, he will likely see significant opposition from House Republicans who typically show strong support for the for-profit sector in general.

Within the public institutions, operating costs generally are not rising. What is increasing is the cost to families in the form of tuition and fees largely due to state government disinvestment.

Figure 5: UC Per-student average expenditures for education, 1990–91 to 2012–13 selected years



At UC, the educational cost-per-student has declined by nearly 19 percent over the last decade and is today about \$17,000 according to a formula agreed to by the state. This is the combined cost of undergraduate and graduate students. It is important to note that calculating the average cost for educating students in a complex organization like UC is difficult and contested. One reason is that that universities rely on revenue sharing. For example, research revenues help support teaching and vice versa. Time allocation of faculty is also a complex issue. For example, faculty time spent mentoring and advising advanced undergraduates and graduate students does not lend itself easily toward a time punch card. Different methodologies produce different results. The chart above and the figures cited, however, display an agreed-upon formula with state government agencies, providing a consistent method to estimate costs over time. Are they going up or are they going down? In this analysis, the state contribution for educational costs, including both undergraduate and graduate students, dropped from \$17,240 to just \$6,100 per student since 1990.

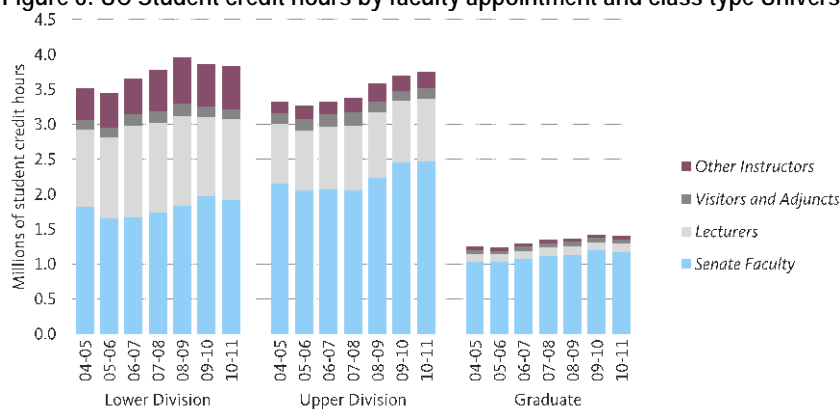
Relying on these numbers, how might we put them into perspective? The State of New York spends some \$19,000 a year to educate a student in its public elementary and secondary schools (kindergarten to twelfth grade, or K-12). Some of the highest performing K-12 systems in urban areas, such the Boston Metropolitan School District, spend a similar amount per student. The same cost in California is close to \$10,000. But it should also be noted that California ranks among the bottom five states in investment per public school student.¹² So educating a student at one of the world's top universities, like UC Berkeley, is only marginally more expensive than what New York or other top-performing school systems spend on a per-student basis.

Whether you think that UC's education costs are too high for California taxpayers (at an estimated \$6,100 per student), how is it that UC has reduced per student costs to such a significant degree? This has been accomplished largely by increasing student-to-faculty ratios, albeit reluctantly. The ratio keeps going up as the state cuts funding.

Higher education is a labor-intensive activity that is dependent on highly educated and trained professionals—much like the high-tech sector, which, ironically, has modeled itself in many ways on the knowledge-generating world of academia. So when making significant cuts in operating budgets, labor costs are the obvious place to make adjustments.

In the 1980s, the student-to-faculty ratio was about 15:1. After the cuts in the early part of this new century, ratios had risen to around 19:1. In the aftermath of the Great Recession, they are now 24:1.¹³ As a point of reference, at a Harvard or a Stanford, the ratios are about 10:1 or lower. Faculty contact with students and a decent dose of small classroom experiences is still valued by upper-income parents who send their offspring to these elite private schools, but has been devalued as “too expensive” for the vast majority of Americans who attend public institutions.

Figure 6: UC Student credit hours by faculty appointment and class type University-wide



Source: UC Faculty Instructional Activities dataset

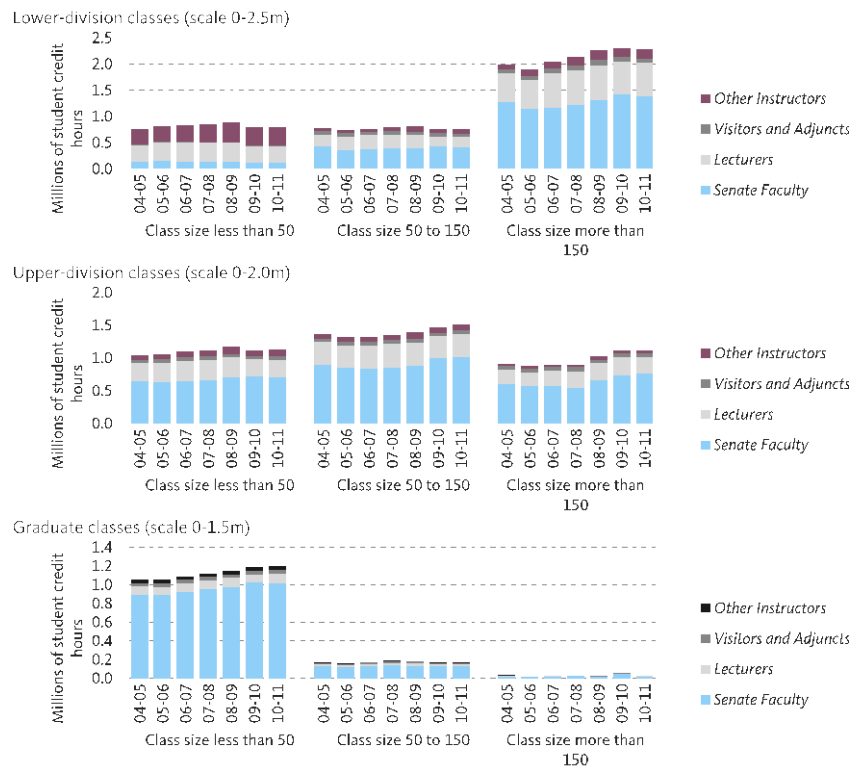
At the same time, UC faculty have on average a teaching load of about 5 courses a year under a quarter system, up a bit from a decade ago. They are also teaching more students in larger and larger classes at both the undergraduate and graduate level, and with most courses in a “hybrid” format; that is, incorporating supplemental online technologies. In 2010-11, only 21 percent of lower-division (first two years in an undergraduate program) student credit hours (or SCH, the number of students in a course multiplied by the number of credits awarded in the course) were in classes of 50 or less; at the upper-division level, when students take more advanced courses often related to their major, only 30 percent of the SCH were in courses with 50 or fewer students (see Figures 6 and 7). Relatively small class experiences for undergraduates are becoming more and more rare.

Increasingly, and at the undergraduate level, faculty are now managers of what might be called Massive In-Classroom Courses (or MICCs). It may not be conclusive, but the recent experiment with an online course at San Jose State University funded by the Gates Foundation found that MICCs have better outcomes and are possibly cheaper on a per-student completion basis than MOOCs.

Faculty teaching and mentoring responsibilities do not begin and end in the classroom; they initiate and supervise group research projects with significant participation by both graduate and undergraduates, and they are charged with mentoring students. UC has a very high percentage of undergraduates engaged in faculty research activity; some 58 percent of seniors assist faculty in research or creative projects (see Figure 8).¹⁴

UC faculty have an equal responsibility to generate new knowledge and perform public service within and outside the university—per their job description under UC’s state charter—with dramatic benefits for California’s economy. Faculty are very busy and they are evaluated regularly on their teaching, research, and public service responsibilities and achievements by their peers, forming the long-standing post-tenure review process at UC forms a key accountability mechanism.

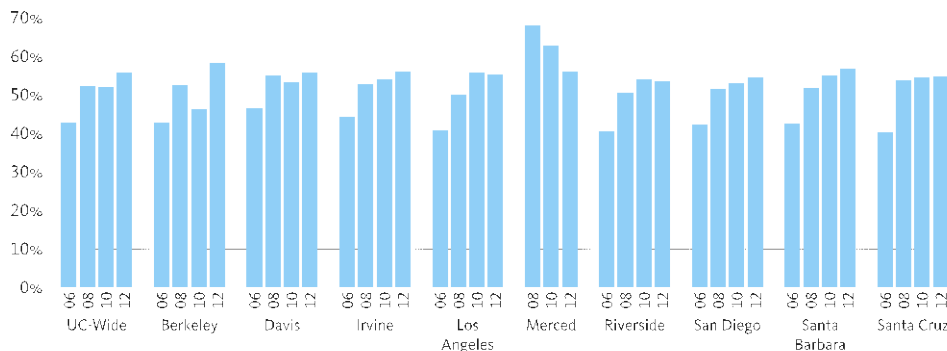
Figure 7: UC Student credit hours by faculty appointment, class type and class size University-wide



Source: UC Faculty Instructional Activities dataset

Are there other ways to reduce operating costs? Increasing the number of part-time faculty (non-tenured) is one option, but with consequences for the culture of UC and research productivity. UC has always had “lecturer” who sole role is to teach, usually part-time, yet a significant reduction in permanent faculty would place UC outside of the norm of research-intensive institutions. There are always opportunities to increase efficiencies and, specifically, reduce administrative overhead. But arguably much of that has already occurred over the past five or more years with staff lay-offs and reduced salaries, as well as reductions in faculty positions.

Figure 8: UC Seniors who assisted faculty in research or creative project University-wide and UC campuses, 2009-2012



Source: UCUES¹

The jury is out regarding the potential impact that these reductions in staff numbers will have on the quality and productivity of the university. Most administrative staff positions support the teaching and research functions of the university. There are probably only marginal opportunities for big savings via further cuts in administration or, the favorite of consulting firms, centralizing everything imaginable, like purchasing, human resource personnel, and support staff for generating extramural grants. Some have viewed the “shared services” push as the Kremlinization of an organization that is, inherently, decentralized—but that is another story.

Faculty salaries (which were cut by some 5 percent and partially re-funded recently) could also be reduced; but UC already is, on average, behind its list of state-approved competitor public and private universities. They could increase faculty course workload, already at the high end for research-intensive universities, particularly those that generate more research income than state income. Both of these options would make it more difficult to recruit and retain top faculty.

So what path is there for further reducing costs that Governor Brown and other critics desire? One answer stands out: continue to increase the student-to-faculty ratios and, perhaps, further reduce the ranks of full-time faculty. Do more with less means fewer faculty per student. When the governor and others dream of reducing operating costs via the ideal of online courses, that is what they are really talking about.

So what is the ratio that meets the political and budget needs of Sacramento? How about 30:1?

These are the kinds of external political challenges facing UC President Napolitano: how to identify and articulate to Californians, and to Sacramento, the implications of disinvesting in UC and, more specifically, what a new financial model might look like, because the one that helped build the best public university system in the cosmos is gone.

Internal Challenges = Devolution and Quality

While dealing with Sacramento, and perhaps being a national player, UC's new president has to develop internal UC relationships and deal with a number of substantial policy challenges. The first order is to gain credibility with the faculty, and to demonstrate that she adequately understands the unusual academic milieu of UC; faculty have significant authority regarding academic policy and, technically, influence on budget issues related to the university's instruction and research mission.

Once familiarity and relationships are built, then the meat and potatoes of UC internal management challenges will follow. It is this process that very well may fundamentally and permanently re-shape the UC system. On the front burner, UC is in the throes of the decentralization process, or what I have called “devolution,” with campuses like Berkeley wanting more authority to set tuition rates at the undergraduate and graduate levels. Others are pursuing various initiatives that could best be called privatization of academic programs and activities: witness the proposal by UCLA's Anderson School of Business to be a semi-autonomous branch of UCLA.

Such initiatives reflect national trends, but they have additional meaning at UC, which pioneered the notion of a multi-campus university system (which has become the norm in most states), including a unique portfolio of university-wide policies on admissions, tuition and fees, academic personnel, internal processes for quality assurance (such as the post-tenure review of faculty), and the ideal that all the UC campuses compete on a level playing field for funding. Since the 1930s, this has been called UC's “One University” model.

It is hard to argue with the results of the “One University” approach: four of the UC campuses rank in the top 20 universities worldwide, with some of the highest graduation rates among America's public universities, and the UC system generates the most patents and business spin-offs of any other university system. As noted, California's economy gets more than 9 dollars for every tax dollar spent on UC, a tremendous direct rate of return that does not take into account the additional economic impact of its talented alumni.

But the coherence of the system is partially unraveling or being redefined (depending on your opinion), with a strong desire by Berkeley, Los Angeles, and San Francisco to increasingly go it alone in regard to fees, faculty salaries, and similar fundamentals. UC Berkeley, along with UCSF, has outlined the need for a change in governance to include a campus-based lay board that could tie campuses more directly to local constituents, justified in part because the financing environment has changed so fundamentally.¹⁵ Under this proposal, entitled “Modernizing Governance at the University of California,” the Regents would retain their university-wide policy and fiduciary responsibilities, but the new campus boards would guide campus budgets and set tuition and financial aid policies. This might include the Regents setting a range or maximum fee. As explained by one of the co-authors of the proposal, “(L)ocal boards need substantial decision-making authority to feel invested psychologically, which leads them to be more generous in their donations to the institution.”¹⁶

Beyond focusing on UC's relationships with Sacramento and DC, Napolitano must evaluate and guide what may be an inevitable process in which the coherence of the UC system is forever altered. While there are many factors at play in this process of "University Devolution" in which campuses, schools, and departments seek greater budget and administrative independence, the long and then rapid decline in a central source of funding, state government, is clearly a major influence.¹⁷ Historically, having a significant portion of UC's budget funded by the state, based on workload, and funneled first to the Office of the UC President, then to the campuses on a relatively equal basis, helped to focus the mission of UC. But that is largely a bygone era. Without a dramatic shift in state funding, UC will remain a public institution, but with a different profile.

Beyond dealing with the various opinions and political pressures to navigate what could be a major redefinition of the UC system, there are the practical problems of an institution dealing with the long haul of budget cuts. Faculty salary levels are below competitors—based on agreed-upon criteria with the state. At the same time, budget cuts have slowed the hiring of new faculty, not keeping pace with departures (e.g., retirements or faculty lured away by other institutions usually with higher salaries, those denied tenure, and deceased faculty).

Graduate student financial aid and other sources of support have declined relative to competitors as well—especially to top-tier private institutions like Stanford that are generally well funded through private sources. Enrolling top graduate students, and therefore competing for them, is a key factor in attracting and retaining top faculty and, extending the logic, for continuing to support economic development in the state, as many of these students enter the California workforce or start new businesses.

Then there is the effect of rising student to faculty ratios on the experience and learning outcomes of undergraduates. How does UC continue to provide at least some small classroom experiences? How do we expand opportunities for students to have contact with faculty as mentors and, for example, to engage in faculty directed research—a big factor influencing the career path of students?

The Final Macro Factor = Enrollment and Program Growth vs. Quality

California built a coherent network of community colleges and the CSU and UC systems beginning in earnest by the 1920s that successfully grew in program and enrollment capacity as the state's population grew. As a result, in most of the last century, California led the nation in college-going rates and degree production, in large part because of consistent public investment.

Yet California's success and national leadership may be at an end. Partisan fights (kill the beast!), Proposition 13, three-strikes, and recessions large and small—all have led Sacramento to reduce investment levels in higher education. This has created a short-term neurosis among the leadership of our public universities, including UC: how to deal with yet another round of budget cuts from the state, often coming mid-stream in a fiscal year? It is hard to think how California's public higher education system might mature under these circumstances—and with no significant organizational innovation since 1960, UC needs a larger, expansive "what should come next" vision.¹⁸ Now is not the time for retrenchment.

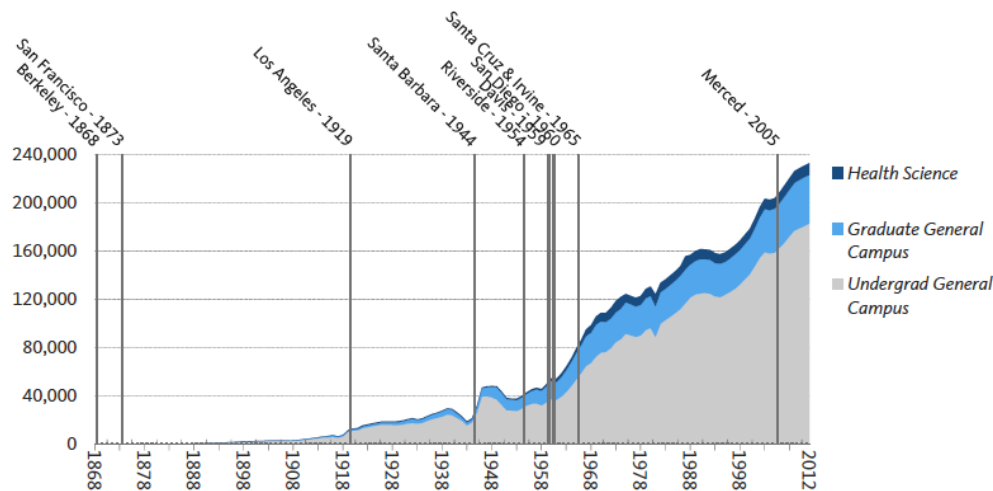
After years of taking on additional students without increases in funding, UC senses that the social contract with the state is permanently altered—that they should focus limited funds on quality and productivity of the teaching, research, and public service enterprise at the expense of simply growing in unfunded enrollment. Facing the same question, CSU reduced its enrollment by some 40,000 students over the last few years—students who would have normally attended CSU. Inadequate funding to hire teaching staff, most of whom are now employed part-time, led California's community college to cut courses that resulted in some 200,000 students not gaining access.

The for-profit institutions benefit greatly from this scenario as unmet demand in the public sector feeds increased demand in their higher priced teaching and degree services. I have called this the "Brazilian Effect" as California is now mimicking developing economies that have relied on the for-profit sectors to pick up demand that public institutions cannot meet.¹⁹ The cascading effect results in growing enrollment at for-profits, where tuition costs are higher and most have extremely high drop-out rates. As noted previously, for-profit institutions are one of the biggest drivers of increasing student debt-burdens and loan default rates.

The short-term neurosis means that no real effort has been put into the question of how UC can grow in programs and enrollment. To keep pace with California's population, and understanding that technology has perhaps marginal promise to alter the need to house students, provide classrooms, and, even with 30: 1 student to faculty ratios, hire additional faculty, there is still a need for additional physical space. As noted previously, capital funding from the state—which built the capacity to grow along with California's population in the last century—is now anemic.

Today, UC relies on infrastructure largely built in the 1950s and 1960s to help expand enrollment (see Figure 9 showing enrollment growth since the university's establishment in 1868). Even with UC Merced's continued enrollment growth, UC will run out of physical space, as well as the funds needed to expand the ranks of top faculty. And there is no doubt that if UC cannot, or will not, maintain its commitment to accept students that rank among the top 12.5 percentage of high school graduates, keeping the doors open for transfer students (now about 25 percentage of all undergraduates), already disadvantaged groups will see the most detrimental effects.

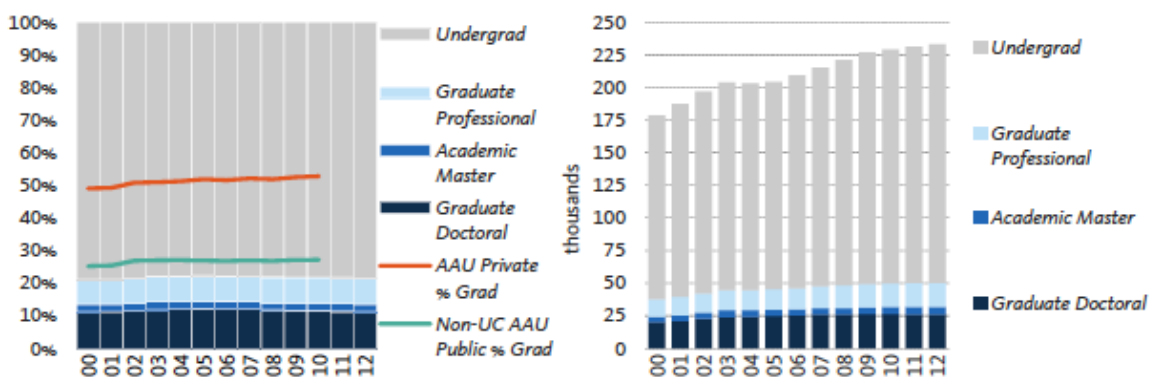
Figure 9: Living off the Past? - UC Enrollment Growth and New Campuses, 1868 -2012



At the same time, the recent rush for international and out-of-state students is about generating revenue, and though this can have positive effects on the bottom line, it also has implications for the enrollment supply for native Californians. The enrollment growth of these two populations at the undergraduate level needs to fit into a larger funding model that helps UC build enrollment and program capacity while also serving regional economies, a model that exists in other parts of the world.²⁰

It is important to note that UC's graduate programs need to grow with the state to meet its future economic needs. Indeed, UC has a remarkably low percentage of its students at the graduate level—about 20 percent, down from 30 percent in the 1960s. In comparison, the average percentage of graduate student to all enrollments in the AAU public institutions is about 30 percent, and graduate enrollment at private AAU institutions is closer to 50 percent. In short, UC has used scarce and declining public dollars to grow undergraduate enrollment in order to meet its social contract at the undergraduate level.

Figure 10: UC Graduate and Undergraduate Enrollment, Comparison AAUs 2000 -2012



Source: IPEDS and UC Corporate Student System¹

UC should grow in its graduate programs, largely to meet the professional and skill needs of California and, more generally, the nation and the world. In all developed economies, the labor market is demanding larger numbers of workers with some form of graduate education. The proof is on lower unemployment rates and salaries. The salary premium between those with a BA and an advanced degree is growing, not to mention the large premium over the average lifespan of an employee of those with only a

high school degree. There is another reason why graduate enrollments need to grow: these students help create a more financially viable academic ecosystem that integrates graduate students into the teaching program and also helps facilitate mentorship and research opportunities for undergraduates.

California is making a big mistake if does not provide additional incentives and support for UC to grow its undergraduate enrollment *and* its graduate programs.

President Napolitano, UC academic leadership and faculty, the Regents—all will undoubtedly espouse the desire to keep UC's doors open as the state grows from about 38 million people today to some 50 million people in 2050 as estimated by the state's Department of Finance.²¹ Before the Great Recession, UC planned on growing by some 48,000 additional students to a total enrollment of 265,000 by 2020-21—or about 1.1 percent a year, and with greater growth in graduate education.²² UC enrolled 233,000 students in fall 2013.

Among some in the academic community, however, there is a perception that UC, and California, will have time to deal with long-term enrollment demand as projections indicate a slowdown in the total number of California high school graduates in the near term and only moderate growth after that.²³ But it is a matter of magnitude: moderate growth would still mean significant numbers in the largest state in the Union. California also now ranks in the bottom ten states in high school graduation rates.²⁴ Even modest improvements in these rates, say to meet the national average, would mean an additional increase in demand for a UC education.

UC, and the state, should be ambitious. They should plan on California getting better, not worse, in its secondary degree completion rates *and* preparation for college. It should even consider a slight increase in the 12.5 top high school admissions pool with the goal of getting more Californians into four-year institutions as one means to increase B.A./B.S. production rates (California ranks among the bottom five states in the percentage of students who enroll in higher education and then receive a bachelor's degree). When more students attend and graduate from UC, it will also help the California economy. The Public Policy Institute of California projects that, in about ten years, California will require about one million baccalaureate degrees to meet labor needs in the state. When certificate and associate degree earners are included, that number grows to 2.3 million.²⁵

Finally, it is important to understand that UC is approaching limits in physical enrollment capacity. There is only room for moderate annual growth at a few campuses such as Merced. Barring the alternative thought of huge numbers of students taking never on-campus, fully on-line courses—a route to a caste system, and some say second class UC education—it will take significant time and planning, and resources, to grow enrollment capacity in a meaningful way (it took some twelve years to propose, plan, and build UC Merced which is now growing rapidly).

The reality is that without a significant investment by the state, the resources for enrollment growth will not be there. The demand is there, by students, by the labor market, and UC provides high quality programs at a reasonable price. But there is no funding model for growth, let alone maintaining quality. As one faculty member put it, "The decades long, gradual withdrawal of support from the state is now finally reached a stage where the conditions that facilitate faculty activity undergirding world class reputation is seriously at risk."²⁶ Increasingly the internal discussion is about "Right Sizing" that balances revenues with preserving academic quality and a reputation that took some 150 years to build.

In a deal cut with Governor Brown, and prior to Napolitano's arrival in August of 2013, UC agreed not to increase tuition in the near term with the promise of a marginal yet meaningful increase in state funding: \$125 million in 2013-14 and another \$145 million next fiscal year. While it is an improvement over the free fall of the last decade or so—now we are trading water instead of sinking—the crucial link between enrollment growth and state funding is largely gone. The logical conclusion: greater incentive for UC (and CSU) not to grow.

Influencing this dynamic, and besides the overall decline in general campus operating funds from the state, Brown and the legislature have continued to reduce the state's investment in capital funds. UC estimates that it needs more than \$1 billion in capital funding over the next five years for core academic programs. Like the operating side, UC has been attempting to attract other sources of funding for capital projects. But it is utterly unrealistic to think that private and corporate giving, or perhaps risky loans based on currently nonexistent funding streams, can provide the level investment required.

"To grow or not to grow," that is the question. Or a derivative: to right size or not? This macro management issue awaits not just the new president and UC academic community, but Californians in general. On the positive side is the glimmer of an improved economy and a governor dealing with fundamental budget issues, like gaining better control of public pensions and reducing exorbitant incarceration rates. Napolitano's initial proposal, presented at her first meeting of the UC Regents on November 13,

2013 on the UCSF campus, included freezing tuition into 2014-15, and focusing the near-term discussion with Sacramento on the issue of the state once again contributing to UC's pension fund and possibly some funding for marginal enrollment growth.²⁷ The bill: about \$120 million.

The Governor's initial reaction was not encouraging saying that UC needs to face the reality of limited state funding and should reduce its operating costs. "I don't have a Nobel Prize, but I know the political climate in California probably better than anybody else," Brown said. "[T]he 5 percent we're going to give you is pretty much all you're going to get."²⁸

In the longer-term, Napolitano's plan to freeze tuition next academic year complies with the previous deal with Brown (who wants a freeze through 2017) and the obligatory search for further operational cuts. It also indicates a plot to have a serious discussion both outside and within the university on the relative role of state versus tuition and to some extent other funding sources for a cash-deprived UC. In short, by next academic year or before, the operational question before lawmakers: will UC retain the goal of low tuition or remain on the road to a relatively high tuition and high financial aid model? Is California's state government a reliable partner to create predictable tuition policies—which research indicates is a big variable for expanding access to disadvantaged students? Will it grow in enrollment and programs, or seek a significantly revised social contract with the people of California? Perhaps there is now room for a grand bargain.

UC should not, cannot in the end, try to solve its funding problems in isolation. If California floats towards a sincere attempt to recreate a suitable funding and organizational model for public higher education under an amended Master Plan—a regular desire that emerges every decade or so, and recently reiterated in a report by the Little Hoover Commission—Napolitano is potentially a powerful political figure who could help drive it to a successful conclusion.²⁹ The past is strewn with well-intentioned but largely uninformed lawmakers attempting to reorganize or reform higher education in California without much success.³⁰ Thus, the leadership in the public sector, including the CSU chancellor (who has a deep understanding of the workings of the California's higher education system) will need to work together with lawmakers—not the other way around—to find a path forward.

ENDNOTES

¹ Being president of the UC is not like running one of the UC campuses—the job of the “chancellors.” Her duties are, largely, to negotiate and deal with Sacramento (most significantly UC's share of the state budget), decipher the wants and advice of the Regents, manage conflict and cooperation between the Chancellors, and work with faculty's Academic Senate on system-wide policies.

² In light of significant funding and performance problems, there is yet another round of proposals for a revised California Higher Education Master Plan. The most recent comes from the Little Hoover Commission, *A New Plan for a New Economy: Reimagining Higher Education*, Report #218, October 2013: <http://www.lhc.ca.gov/reports/listall.html>

³ According to a 2011 report on UC's economic impact, “Every \$1 that the California taxpayer invests in UC and its students results in \$9.80 in gross state product and \$13.80 in overall economic output.” See: Final Report The University of California's Economic Contribution to the State of California, Prepared for: The University of California Office of the President, Prepared by **Economic & Planning Systems, Inc.** September 12, 2011 <http://regents.universityofcalifornia.edu/regmeet/sept11/f7attach.pdf>

⁴ This estimate is from John Wilton's two-part analysis of UC and UC Berkeley's finances, “Time is Not On Our Side – Part 2,” Office of Administration and Finance, UC Berkeley, September 27, 2013, pp. 5-6: <http://vcaf.berkeley.edu/who-we-are/vc-wilton/blog>

⁵ *Ibid.* p. 6.

⁶ For a discussion of long-term trends in higher education costs in the US, see William G. Bowen, “The ‘Cost Disease’ in Higher Education: Is Technology the Answer?” Tanner Lectures, Stanford University, October 2012.

⁷ For the number of colleges and universities in the US, see: http://nces.ed.gov/programs/digest/d12/tables/dt12_306.asp and http://nces.ed.gov/programs/digest/d12/tables/dt12_275.asp

⁸ See The Condition of Education 2013, Figure 3: http://nces.ed.gov/programs/coe/indicator_chb.asp

⁹ See http://students.berkeley.edu/finaid/undergraduates/types_mcap.htm.

¹⁰ See University of California, *Annual Accountability Report 2013*. Page 37” <http://accountability.universityofcalifornia.edu/>

¹¹ This is an area of study that I and fellow researchers are pursuing related to the Student Experience in the Research University (SERU) Consortium, which includes an on-line, census survey of students at some 24 top ranked research universities in the US.

¹² U.S. Census Bureau, “Per Student Public Education Spending Decreases in 2011 for the First Time in Nearly Four Decades,” News Release, May 21, 2013: <http://www.census.gov/newsroom/releases/archives/governments/cb13-92.html>; see also Source: <http://www.edsource.org/today/2013/california-drops-to-49th-in-school-spending-in-annual-ed-week-report/25379>

¹³ See section 9.4 in the UC Accountability Report 2013:

<http://accountability.universityofcalifornia.edu/documents/accountabilityreport13.pdf>

¹⁴ Data from University of California Undergraduate Experience Survey (UCUES) generated by the Student Experience in the Research University Consortium based at the Center for Studies in Higher Education, UC Berkeley.

¹⁵ Robert Birgeneau, George Breslauer, Judson King, John Wilton, and Frank Yeary, "Modernizing Governance at the University of California: A Proposal that the Regents Create and Delegate Some Responsibilities to Campus Boards," Center for Studies in Higher Education, Research and Occasional Paper Series, CSHE.4.12:

<http://cshe.berkeley.edu/publications/publications.php?id=399>

¹⁶ George Breslauer, correspondence with author, November 28, 2013.

¹⁷ John Aubrey Douglass, "University Devolution: How and Why American Research Universities are Becoming Even More Tribal," Hiroshima Research Institute for Higher Education, International Seminar Reports, No 18, 2012.

http://en.rihe.hiroshima-u.ac.jp/pl_default_2.php?bid=107768

¹⁸ John Aubrey Douglass, "Re-imagining California Higher Education," Center for Studies in Higher Education, Research and Occasional Paper Series, CSHE.14.10 (October 2010).

¹⁹ John Aubrey Douglass, "The Rise of the For-Profit Sector in US Higher Education and the Brazilian Effect," *European Journal of Education*, Vol. 47, No. 2, 2012. <http://onlinelibrary.wiley.com/doi/10.1111/j.1465-3435.2012.01521.x/full>; edited version "The Rise of For-Profit Universities and Colleges," *University World News*, July 15, 2012:

<http://www.universityworldnews.com/article.php?story=20120710160228719&query=Rise+of+For-Profit>

²⁰ For a strategy to recruit and enroll international students, see John Aubrey Douglass, Richard Edelstein and Cecil Haoreau, "Seeking Smart Growth: The Idea of a California Global Higher Education Hub," *California Journal of Politics and Policy*, January 2013, 5(1): 1-29: <http://www.degruyter.com/view/j/cjpp.2013.5.issue-1/cjpp-2012-0019/cjpp-2012-0019.xml?format=INT>

²¹ See California Department of Finance, "NEW POPULATION PROJECTIONS: CALIFORNIA TO SURPASS 50 MILLION IN 2049, Press Release, January 2013: http://www.dof.ca.gov/research/demographic/reports/projections/P-1/documents/Projections_Press_Release_2010-2060.pdf; See also US Census Data:

<http://quickfacts.census.gov/qfd/states/06000.html>

²² UC Office of the President, Long Range Enrollment Planning – University of California, Phase 1 Report, March 2008:

http://www.ucop.edu/academic-planning-programs-coordination/_files/LREP080401_2.pdf

²³ According to California's Department of Finance, "Secondary enrollment is projected to decrease in the short term through 2014-15 followed by almost no change for two years and then moderate increases in the outer years of the projections series resulting in an overall increase of 26,331 by 2021-22." See California Public K-12 Graded Enrollment and High School Graduate Projections by County — 2012 Series, November, 2012: <http://www.dof.ca.gov/research/demographic/reports/projections/k-12/>

²⁴ See America's Health Rankings: <http://www.americashealthrankings.org/all/graduation>

²⁵ Hans Johnson and Ria Sengupta, Closing the Gap: Meeting California's Need for College Graduates, California Public Policy Institute of California, April 2009: http://californiacompetes.org/wp-content/uploads/2012/06/CaCompetes_Report_Final-2.pdf

²⁶ Personal communication with UC Berkeley Professor of Political Science Todd LaPorte, November 27, 2013.

²⁷ President Janet Napolitano, Remarks at the UC Board of Regents Meeting, UCSF Mission Bay, San Francisco, CA, November 13, 2013: <http://www.universityofcalifornia.edu/news/article/30336>; Napolitano also noted the goals of improving the community college transfer path to UC (a focus of recent legislation), improving technology transfer, and moving to a green sustainability goal for the UC system by 2025, added to the president's earlier initiatives to budget \$15 million to support undocumented students and for greater competitiveness in attracting and enrolling graduate students and supporting post-docs. All these initial proposals indicate the beginning of a wider agenda, but I sense not an over-commitment as Napolitano develops a relationship within and outside of the university. She is hitting on areas in which a UC president can make a positive impact.

²⁸ Katy Murphy, "Gov Brown to UC: Don't Count on the State for Another Budget Increase, San Jose Mercury News, November 11, 2013: http://www.mercurynews.com/education/ci_24524816/gov-brown-uc-dont-count-state-another-budget

²⁹ Little Hoover Commission, *A New Plan for a New Economy: Reimagining Higher Education*, Report #218, October 2013: <http://www.lhc.ca.gov/reports/listall.html>

³⁰ On September 23, 2013, I provided the following statement to the Little Hoover Commission:

California's Master Plan for Higher Education was a brilliant compromise in 1960 that strengthened what was already the most successful public higher education system in the US, indeed the world. But since then, it is almost like time stood still; there has been very little innovation in the structural approach to providing mass higher education, even as public investment in higher education has declined precipitously on a per student basis. In a state that continues to grow in population and with significant socioeconomic inequities, we now face an era of increasing demand for access with increasing evidence of a lack of public supply.

It is not unusual to hear calls for a new Master Plan -- indeed there have been many official reviews in the past. Arguably, these reviews have pinned significant changes to come, only to end up with marginal influences on policy. Why is that so? One main reason is that post-1960s reviews have been solely the initiative of lawmakers and conducted by joint committees of the legislature. The most important players, the actual public and private higher education segments, including UC, CSU and the California

Community Colleges, have been outsiders with limited stakes in the outcome of a process often tinged by political agendas and constrained by a lack of knowledge on the workings and social benefits of what is a complex and unique set of institutions.

In some fashion, any effective effort to reshape California's higher education system needs to mimic the successful approach taken in 1960: the governor and key legislators ask and provide political pressure on the segment to develop a process to review and propose ways to grow enrollment and program capacity, and degree production, to meet the future socioeconomic needs of the state. In light of significant declines in public investment in higher education, this new plan must include a revised funding model that is affordable for the state, and students and their families. This proposed plan, and any appropriate legislation, then goes to the governor and the legislature to set out what should be an ambitious and shared vision to have California once again lead the nation in both high access and degree production, while also supporting the research and public service missions of California's public and private colleges and universities