

Re-Imagining California Higher Education*

October 2010

John Aubrey Douglass
University of California – Berkeley

Copyright 2010 John Aubrey Douglass, all rights reserved.

ABSTRACT

2010 marks the 50th anniversary of California's famed Master Plan for Higher Education, arguably the single most influential effort to plan the future of a system of higher education in the annals of American higher education. This essay builds on the analysis offered in a previous CSHE research paper ("From Chaos to Order and Back") by discussing the major challenges facing California's higher education system, and offering a possibly pathway to reforms and institution-building essential for bolstering socioeconomic mobility and greater economic competitiveness. Most critics and observers of California's system remain focused on incremental and largely marginal improvements, transfixed by the state's persistent financial problems and inability to engage in long-range planning for a population that is projected to grow from approximately 37 million to some 60 million by 2050. President Obama has set a national goal for the US to once again have among the highest educational attainment rates in the world. This would require the nation to produce over 8 million additional degrees; California's "fair share" would be approximately 1 million additional degrees. A number of studies indicate that California's higher education system will not keep pace with labor needs in the state, let alone affording opportunities for socioeconomic mobility that once characterized California. California needs to re-imagine its once vibrant higher education system. The objective is to offer a vision of a more mature system of higher education that could emerge over the next twenty years; in essence, a logical next stage in a system that has hardly changed in the last five decades. Informed by the history of the tripartite system, its strengths and weaknesses over time, and the reform efforts of economic competitors throughout the world who are making significant investments in their own tertiary institutions, I offer a "re-imagined" network of colleges and universities and a plan for "Smart Growth." I paint a picture that builds on California's existing institutions, predicated on a more diverse array of institutional types, and rooted in the historical idea of mission differentiation. This includes setting educational attainment goals for the state; shifting more students to 4-year institutions including UC and CSU; reorganizing the California Community Colleges to include a set of 4-year institutions, another set of "Transfer Focused" campuses, and having these colleges develop a "gap" year program for students out of high school to better prepare for higher education. It also encompasses creating a new Polytechnic University sector, a new California Open University that is primarily focused on adult learners; and developing a new funding model that recognizes the critical role of tuition, and the market for international students that can generate income for higher education *and* attract top talent to California. There is also a need to recognize that for the US to increase degree attainment rates, the federal government will need to become a more engaged partner with the states. For the near and possibly long-term, most state governments are in a fiscally weakened position that makes any large-scale investment in expanding access improbable. Because of the size of its population alone, California is the canary in the coal mine. If the US is to make major strides toward President Obama's goal, it cannot do it without California.

California's famed 1960 Master Plan for higher education preserved and reinforced the tripartite system of a statewide University of California, a regionally oriented California State University, and local Community Colleges, and offered a path for that system to grow at an affordable cost to taxpayers. This structural approach for mass higher education imagined by California Progressives in the early part of the 20th Century (what I have termed *the California Idea* in a previous book), served the people

* This is the second part of a two-part series tracing the historical development and discussing the possibly futures for California's higher education system. John Aubrey Douglass, "Chaos to Order and Back: the Cal Master Plan@50," CSHE ROPS (May 2010): <http://cshe.berkeley.edu/publications/publications.php?id=358>; Thanks to Robert Shireman, C. Judson King, Marijk van der Wende, Richard Edelstein, Steven Brint, and Cecile Hoareau for their comments in developing this essay.

of California well. California always ranked among the top states in high school graduates, the number of younger people going on to college, and, just as importantly, the number actually gaining a tertiary degree.

But the vitality of that system has been slipping away for some three decades, marked by declining funding on a per student basis and California's ranking among the bottom ten states in degree production rates. The Great Recession has greatly accelerated this trajectory. Over the past two years, public funding for higher education has been reduced by some \$1 billion. Tuition and fees have climbed, but have not produced sufficient revenue to mitigate large budget cuts. The University of California and California State University have limited enrollment for the first time, and in the midst of growing enrollment demand. This has pushed more students toward Community Colleges, but they too are unable to meet demand as they cut academic staff and reduce course offerings.

In the following, I reiterate these major challenges facing California's higher education system, which are more fully discussed in a previous research paper ("From Chaos to Order and Back," CSHE May 2010). And I offer a series of reforms – that I term as a "Smart Growth" plan that seeks clear goals on future degree attainment rates, a restructuring of the state's higher education model that builds on its current strength of differentiated institutional missions, contains costs to taxpayers and students, and includes suggestions for a revised funding model.

Most critics and observers of California's system remain focused on incremental and largely marginal improvements, transfixed by the state's persistent financial problems and inability to engage in long-range planning for a population that is projected to grow from 37 million to some 60 million by 2050.

But the reality is that California has essentially stopped innovating in the development of its higher education system. How can California once again be in the vanguard of supporting and growing a mass system of higher education?

But the reality is that California has essentially stopped innovating in the development of its higher education system. How can California once again be in the vanguard of supporting and growing a mass system of higher education? The state needs to think big, to imagine a more robust and competitive economy, with higher education as one of its essential building blocks. Informed by the history of the tripartite system, its strengths and weaknesses, and the reform efforts of economic competitors throughout the world who are making significant investments in their own tertiary institutions, here I offer a "re-imagined" network of colleges and universities -- in essence, a logical next stage in a system that has only marginally changed over the last five decades.

NOTES ON THE DEMAND SIDE

Make no mistake about it, the demand for higher education will continue to climb, in California, in the US, and throughout the world. Developed and developing economies are all in a race to produce an ever more educated workforce. California should be no exception.

Yet a number of studies indicate that California's higher education system will not keep pace with the labor needs in the state, let alone affording opportunities for socioeconomic mobility that once characterized it.

If current trends persist, the Public Policy Institute for California (PPIC)¹ estimates that California will fall short by over one million college graduates than it needs for its economy by 2025. Depending on immigration patterns of highly educated professional, only about 35 percent of California's population will have some sort of post-secondary degree. PPIC estimates that the state will need at least 41 percent with a college or university degree.

Make no mistake about it, the demand for higher education will continue to climb, in California, in the US, and throughout the world. Developed and developing economies are all in a race to produce an ever more educated workforce. California should be no exception. Yet a number of studies indicate that the California's higher education system will not keep pace with labor needs in the state, let alone affording opportunities for socioeconomic mobility that once characterized California.

This and other projections on future labor needs should to be taken with a grain of salt. The variables are numerous, including looking into a crystal ball to guess which economic sectors will grow or shrink, and, as noted, how to factor in the US's long-standing ability to attract talent from throughout the world.

But it is worth noting that all of our economic competitors are betting that the most competitive economies will be those with the highest educational attainment levels. Much of Europe is collectively pursuing new investment strategies in higher education specifically to exceed the education attainment levels of the US. Many have already succeeded.

At the same time, economists are increasingly noting the high correlations of educational attainment levels and over all economic performance – historically and projecting into the future. Indeed, the US', and California's economic growth over the past one hundred years has had less and less to do with the abundance of natural resources, and more to do with the talent and education of its people.

Past projections on the labor needs of California and the nation have often underestimated the need for college graduates in the economy.

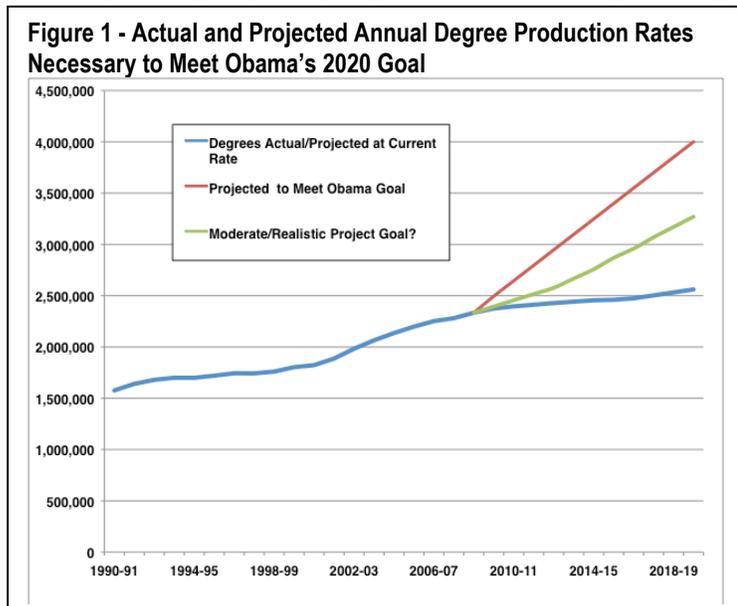
For instance, a 1998 forecast by the US Bureau of Labor Statistics under-estimated by some 47 percent the labor needs of the economy for those with an Associate of Arts degree. We also know that whereas a high school degree was once the threshold requirement for a middle-class family income, today it is a college education. Increasingly, and for certain professions, access to graduate education will increase in value as well.

A new study published by the National Bureau of Economic Research states that there is a, "growing mismatch between the jobs that will be created over the next decade and the education training of our adult workers." Those jobs that rely on workers with only a high school education or less are quickly receding in numbers and importance.² Another recent analysis funded by a number of foundations looking to promote higher education attainment levels in the US, and worried over the progress of economic competitors, notes that, "Postsecondary education has become the threshold requirement for a middle-class family income," and that the Great Recession is accelerating the shift in jobs that require a college degree. Yet the educational attainment level of both lower income families and the middle class is dropping.³

The trajectory is clear: For example, in 1973, twenty-five million jobs required applicants to have at least some college education. By 2007, that number had nearly quadrupled to ninety-one million jobs. During that time, the percentage of jobs available to high school dropouts fell from 32 percent to 11 percent, while the percentage of jobs requiring some education after high school grew from 28 percent to 59 percent.⁴

The Great Recession is accelerating this trend. Many jobs in manufacturing, farming, fishing and similar industries will not be coming back. When the economy does recover, the overwhelming number of new jobs will require a college degree or at least some postsecondary education. These are national trends, but they are all more exaggerated in California.

According to the PPIC study, and reflecting trends over the past five decades in the US, economic growth will occur most significantly in service industries, including business, health, legal and educational services. Currently, California has some 8 percent of its workforce in the high tech sector. If there is an increased supply of engineers and other highly trained people, that sector could grow substantially.



In yet another indicator of the challenge facing the nation and California, in meeting the societal need for broader access to higher education, the Obama administration has a number of policy goals for the US. Some two decades ago, the US was number one in the world in access to higher education among both younger and older students; it was also number one in the

number of students who entered a postsecondary institution and then received a degree. But for a number of reasons, that has all changed.

Economic competitors have expanded and improved the quality of their higher education systems. Obama announced that by 2020, “America will once again have the highest proportion of college graduates in the world.” He also asked that every American commit to at least one year or more of higher education or career training. “This can be Community College or a four-year school; vocational training or an apprenticeship. But whatever the training may be, every American will need to get more than a high school diploma.”⁵

But how will the US get there in only ten years? What reforms could reverse such a course in twenty-five years, let alone a decade?

To date, there is no credible plan or articulated path to reaching such a goal, either by the administration or the higher education community. Such pronouncements have their uses, even if they are not exactly based on a clear analysis of future labor needs – a murky profession in any case. Obama’s goal helps frame a much needed debate on what the US needs to do to remain competitive and to promote socioeconomic mobility. It also helps frame the magnitude of the challenge for California – the largest state in the Union in population and in the size of its economy.

Today, the US enrolls about 19 million students in degree-granting colleges and universities and produces approximately 2.4 million degrees (741,000 AA degrees, and some 1.4 million bachelor’s degrees). To meet Obama’s goal will require a huge increase in degree production rates.

One study estimates that the nation would need to produce 8.2 million additional degrees over an 11-year period (2008-09 to 2019-20). That would require an annual increase of 123,000 AA and Bachelor’s degrees each year above the projections offered by the US Department of Education of the likely growth in degrees without any major reforms.⁶

Achieving such a quantum leap is a daunting and probably improbable task. To paint a more moderate goal, and a more gradual ramping up of degree production, I offer a middling projection in Figure 1. Still it would be an impressive gain.

And what would California’s role be in providing its “fair share” of the national objective set out by the President? California enrolls approximately 2.6 million postsecondary students, or nearly 15 percent of all students enrolled in the US. The state produced 198,620 undergraduate degrees in 2009. Under the concept that each state needs to reach or nearly reach the goal of 60 percent of all 25 to 34 year olds with a college degree, and because California is now a low degree production state, the challenge is more dramatic than for many other states. By 2020 it would need to produce a yearly total of 330,000 degrees – a nearly 40 percent increase. Cumulatively, that would mean that between 2010 and 2020 California would need to produce just over 1 million additional degrees over what it is currently projected to produce – that is, if no further effort is undertaken to increase the state’s degree production rates.⁷

If the US is to reach for Obama’s goal, it is fair to say that as California goes, so goes the nation. The US will just not get there without California delivering the goods. Yet to date, there has been no significant assessment about how the US, and how the mega-state of California, can possibly meet their fair share target.

The Great Recession has accelerating California’s decline and may have a significant impact on educational attainment levels in the state – probably a real decline in the short-term, exactly the wrong direction to help meet Obama’s goal.

CRACKS IN THE ARMOR

In terms of access and graduation rates, the grand success of California’s pioneering public higher education system, and its Master Plan, is in many ways a thing of the past. Where California was always among the top states in high school graduation rates, in access to higher education, and in degree completion rates, the state now ranks among the bottom ten in most categories.

In short, it is modestly good in access, and an extremely low performer in degree production.

The causes are many, including declining investment in education generally, low high school graduation rates, and high attrition rates among students in higher education – a pattern that correlates with a high number of part-time students in California and an inadequate financial aid model at the national and state level. California’s ranking in a number of funding and performance indicators are shown in the accompanying Figure 2. Note California’s general low ranking in the US; then note that the US has been declining relative to economic competitors among the 32 mostly developed member nations of the Organisation for Economic Cooperation and Economic Development (OECD).

The Great Recession has accelerated California’s decline and may have a significant impact on educational attainment levels in the state – probably a real decline in the short-term, exactly the wrong direction to help meet Obama’s goal. Declining state revenues has brought a near collapse in coherency of California’s higher education system. Public funding per student has plummeted and, for the first time, students normally eligible for the University of California and California State University systems have been denied admissions.⁸

Over the past decade, both UC and CSU have been taking on more and more students that are, in the parlance of university administrators, “unfunded.” The University of California has some 15,000 undergraduates receive no corresponding funding from the state; at a campus like Berkeley, some 18 percent of undergraduate are “unfunded” by the state.

California’s Community Colleges could not absorb students refused admission to UC and CSU. A budget cut of \$825 million for these colleges has led to wholesale cutting of courses and shrinking enrollment capacity, translating into some 200,000 or more prospective Community College students being denied access.

This has resulted in a phenomenon I call the “Brazilian Effect”: when public higher education can not keep pace with growing public demand for access and programs, For-Profits rush to fill that gap, and become a much larger provider. This is the pattern in many developing economies – Brazil where more than 50 percent of student enrollment is in For-Profit institutions; Korea, and Poland reflect also this model.

Figure 2 - California Education Report Card: Sample Rankings

CALIFORNIA	US Rank
K-12 Spending Per Student	44
K-12 Spending Percentage of Personal Income	46
Number of K-12 Students Per Teacher	50
Number of K-12 Students Per Guidance Counselor	49
Adult Population with at Least a High School Degree	49
High School Seniors Who Enter Higher Education	49
Baccalaureate Attainment of 18-24 Year Olds	43
18-24 Year Olds Who Enter 4-Year Institutions	50
Underrepresented Minority Students in 4-Year Institutions	47
Underrepresented Minority Students with BA/BS	45
UNITED STATES	OECD Rank
High School Graduation Rate	10
HE Graduate Rates Among 18-24 Year-Olds	15
25-34 Year Olds With Some HE Experience	12

Sources: National Center for Ed Statistics; Geiser, “Beyond the Master Plan” CSHE 2010; Thomas G. Mortenson, “California at the Edge of a Cliff” 2009; OECD Education at a Glance 2010.

To be fair, Brazil has recently made significant strides to regulate its non-public providers through a new accreditation process, and has pushed the development of three-year colleges oriented toward vocational degree programs.

California is on the opposite side of that curve. There is currently a steep rise in enrollment in For-Profits in California precisely because of cuts in enrollment at UC, CSU, and the Community Colleges.

In essence, California is increasingly having the characteristics of both a developed and an under-developed economy, i.e. a society with high rates of near poverty level incomes, low high school graduation rates, limited access to public higher education, and low production of tertiary degrees.

This has resulted in a phenomenon I call the “Brazilian Effect”: When public higher education can not keep pace with growing public demand for access and programs, For-Profits rush to fill that gap, and become a much larger provider.

Some growth in the For-Profit sectors in California is inevitable and good. A diversified market of higher education providers is an essential component to expanding access and graduation rates. But there is evidence that much of that sector is of low quality

and productivity and very expensive for the student and the federal and state governments which provide grants and loans to students.

Some 80 percent or more of For-Profit operating expenses come from taxpayer funded student grants and loans. Particularly at the traditional college cohort of 18 to 24 year-olds, very high attrition is common among these institutions and, in turn, low degree production rates – even lower than comparable public institutions. In 2008-09, students at for-profits accounted for nearly 10 percent of all higher education students, but received 23 percent of all federal student aid, roughly \$23.9 billion, according to a recent Congressional report.⁹

The Obama administration has proposed new and fairly minimal rules regarding the eligibility of For-Profits for federal student aid that have extremely high attrition rates and extremely low job placement histories. The industry, with most companies traded in the stock market, is vehemently opposed and, in the midst of Congressional hearings on the bill, has launched a massive and deceptive add campaign to defeat the bill. In this case, it is about money, and specifically the prospect of declining profits and declining stock prices; it is also about the possibility of further federal restrictions of the flow of tax dollars to these private institutions.¹⁰

Nevertheless, even with new regulatory controls on the worst of the For-Profits, many of which are predatory, recruiting students who cannot afford large loan debts and with low job probabilities, the market will remain robust for this growing sector of California's higher education system. There is a role for For-Profits, but it is a matter of balance.

The current surge in enrollment is largely the unintended consequence of an inability to properly structure and grow public higher education; yet, at the same time, these private enterprises operate largely on taxpayers funding. My primary concern is that this is a default position that funnels growing higher education demand to For-Profits. We need a more strategic approach.

Seeking Smart Growth

To borrow the terminology of urban and suburban planners, how might California once again pursue a policy of “Smart Growth” in its higher education system? Smart Growth would seek clear goals on future degree attainment rates, a restructuring of the state's higher education model, a containment of costs for taxpayers and students, and a revised funding model - what one might call *the California Idea Revisited*.

California needs to re-imagine its once vibrant higher education system. Here are some particulars that should be considered by Californians, including lawmakers, and the business community that depends on a healthy higher education sector. It is an expansive vision with many political and financial hurdles.

The point here is to not let current fiscal woes completely dominate thinking on a possible future. The following paints a picture that builds on California's existing institutions, predicated on a more diverse array of institutional types, and rooted in the historical idea of mission differentiation. With one of the world's largest economies, California can afford this Smart Growth plan.

- **Setting Goals**

California's political leadership should set an ambitious goal that the state should match or exceed the access *and* degree production rates of the highest-achieving states in the U.S., or, better yet, a grouping of international economic competitors. Bachelor degree production rates, and some assessment of the quality of a nation's tertiary institutions, offer perhaps the best single benchmark regarding the productivity and impact of a higher education system.

Figure – 3 Re-Imagining Assumptions

- Significant increase in postsecondary enrollment demand, and increase labor market needs for baccalaureate and above degree holders – more than 400,000 additional students between 2010 and 2020 according to CPEC, and perhaps more than 1.5 million additional students by 2050 (author's estimate).
- Need for California to take decisive action to increase the educational attainment level of its citizens.
- Need to rebalance where students go to college to meet these goals.
- Need for revised admissions policies and a greater diversity of higher education providers, but with public institutions likely the primary provider – otherwise, you cannot begin to approach Obama's goals for educational attainment.

Setting such a goal might seem arbitrary; but, as in Europe, it can serve as a powerful strategic policy tool. It focuses discussion on the respective roles of the various public and private college and university systems and what they need to achieve collectively.

- **Rebalancing Where Students Go to College**

California needs to seriously reconsider where students go to college. California's heavy reliance on Community Colleges made sense for a 20th century economy, but I postulate not for meeting the needs of the state in the future.

As noted, California, and the U.S. in general, places too many students in two-year colleges that are often under-funded, where most students (75 percent or so in California) are part-time and struggling with their finances, and where attrition rates are extremely high and degree completion extremely low.

At least part of the rationale for pushing so many students into Community Colleges was that it was a cheaper way to provide for mass higher education. But this is not necessarily the case.

A 1968 seminal study looked at national data and concluded that, "Community College students cost more, pay less, and hence receive a greater annual financial subsidy than do lower division university students." The lowest cost on a per-student basis, and, hence, lowest public subsidies were at public research universities. More recent studies indicate similar results and, at the same time, show much higher rates of degree attainment for students who enroll at the university level.¹¹

This is very much counterintuitive, and contradicts the impulse of lawmakers and many critics of American higher education who profess that a grand solution for increasing educational attainment levels is to funnel more and more resources into Community Colleges.

This is not to diminish the key role of these institutions. In California, we need to improve the number of students who get a high school degree and then enter a college or university; we need to improve the fiscal condition and vibrancy of our network of over one hundred Community Colleges; we need to reduce the number of part-time students in these institutions.

But I sense that even with these improvements, pushing so many students into two-year colleges will not significantly improve our degree production rates. In a pending CSHE paper, Saul Geiser analyzes some of the effects of such a high dependency on Community Colleges in California, including low bachelor degree production rates relative to other states among low-income and underrepresented minorities.¹²

In the end, it is probably a matter of striking the right balance. More specifically: What is the proper balance between 2-year and 4-year enrollments that will produce a healthy level of socioeconomic mobility and meet the US' need for skilled and professional labor for a 21st century economy at an affordable cost to taxpayers and their families?

California needs to shift more students to four-year institutions. There are two major paths to achieve this. The first is to increase access to the California State University and the University of California – in other words, the exact opposite of the current trend of reducing enrollment in these universities.

There are some real problems that this shift would generate. Many students entering CSU, and to some extent UC, are in need of remedial programs. Without improved college preparation at the high school level, both UC and CSU would need to bolster programs intended to prepare students for university level courses. One option is to create a "gap" year program at designated Community Colleges for that purpose – essentially adding a year to the path to a bachelor's degree.

In the end, it is probably a matter of striking the right balance. More specifically: What is the proper balance between 2-year and 4-year enrollments that will produce a healthy level of socioeconomic mobility, meet the US' need for skilled and professional labor for a 21st century economy, and at an affordable cost to taxpayers and their families?

The second structural reform is to designate a key number of Community Colleges, perhaps ten or more, as four-year degree granting institutions. Some ten states are in the process of extending a set of Community Colleges into bachelor degree granting institutions. It is not clear, thus far, how successful this will

be, particularly in regard to the quality of the academic programs and employability of graduates. But these experiments, such as in Florida, Texas, Washington, and Nevada, give California the opportunity to more fully analyze the costs and benefits of such a reform.

Some 24 Community Colleges in Florida have been authorized to offer the bachelor's degree, with most offering programs in work force related fields and often creating significant debate over "mission creep." More than 1,000 students are enrolled in a four-year program at Miami Dade Community College, where the average age is 33 and more than half are Latinos. "We supply the area's nurses and the teachers," states the college's president, Eduardo J. Padron, "and we respond quickly to new work force needs in our community, training people for real jobs. You won't see us starting a B.A. in sociology. We're offering degrees in things the universities don't want to do."¹³ But one could imagine a more expansive role for these new hybrid colleges in California.

In evolving some select group of California Community Colleges into 4-year degree granting institutions, I would advocate keeping them as part of the larger California Community College system, but pulling them from local district control. California has 72 local Community College districts, which makes statewide coordination difficult. Developing and managing the 4-year colleges could include the creation of a separate "council" to guide their development, and reporting directly the California Community College Chancellor, and the lay Community College Board of Governors.¹⁴

Beyond shifting more students to CSU and UC, and elevating a select group of Community Colleges to four-year programs, California could revise the institutional missions among the Community Colleges to help increase the degree attainment rates of Californians. One option: the state could designate and specially fund a key number of Community Colleges to focus almost entirely on transfer programs – a proposal that has been floated in previous years.

Why has this not transpired? One reason, I suspect, is the dominant culture among the faculty, administrators, and local college boards who increasingly view the role of their colleges as vocational and serving adult learning. There is also a strong egalitarian impulse, in which having one Community College focused on a seemingly more elite function (like transfer), while others are more vocational in orientation, is not a politically accepted path.

The fact is that we ask too much of Community Colleges, which attempt to be all things to all people and without adequate resources. It is time to seek some mission differentiation among the institutions.

There is also a role for the for-profit sector to help expand access to four-year degrees. But this would also require much greater regulatory review by both national accrediting agencies, and the state of California, and an assessment of the cost-effectiveness.

- ***Build a Polytechnic Sector and a New California Open University***

California should consider establishing of new polytechnic sector and a California Open University offering on-line courses and modeled on similar and highly successful universities in other parts of the world. Both should be managed independently of UC and CSU. Both would help shift more students in four-year institutions, but the major benefit relates to future economic growth of the state, one targeted toward increasing the supply of talent in technology and applied skilled fields such as engineering, biotechnology, and communications, the other toward adults and life long-learning and retraining.

Within the state's public higher education system, both the Community Colleges and CSU have exceedingly low degree production trends in these fields. Broadening student options and creating academic communities focused on bolstering science and engineering education is vital, and could help recruit and expand the profile of these fields among potential students.

The polytechnic model has grown in its importance in developed economies, linking tertiary education with the labor needs of major industries. California could benefit by investigating these models and planning for two or more institutions strategically placed as the state's population and economy grows.

Current liberal arts institutions can improve in this regard and grow in enrollment. Nevertheless, California should create a new type of public segment, based on an extremely successful model: a set of polytechnic colleges awarding degrees up to the M.A. level, and explore the possibility of three-year Bachelor of Science degrees in selected fields.

One could imagine having CSU simply add more of these types of institutions (in addition to San Luis Obispo and Pomona and with perhaps more science and technology-driven charters), or establish distinct colleges within existing or future CSU campuses.

However, there are major advantages to establishing a new and distinct segment within California's higher education system with its own governing board power and focused on a mission to support science, engineering and technology-based businesses in California.

The Polytechnic model has grown in its importance in developed economies, linking tertiary education with the labor needs of major industries. California could benefit by investigating these models (moderately to highly selective in admissions, as in Switzerland and France) and plan for two or more institutions strategically placed as the state's population and economy grows. In their mission and the scope of programs, they would simply build on the model at Cal Poly San Luis Obispo (SLO) and Pomona with a "learn by doing" approach, but with a stronger link with regional economies in large urban areas.

This would also not exclude having polytechnic and vocational programs at the Community College level – including the proposed four-year campuses, and modeled in part, perhaps, on the Hogescholen in the Netherlands and Fochhochschulen in Germany. In expanding the tertiary options for Californians, there will still be some redundancy in academic, vocational, and professional programs, yet rationalized by the focus of programs offered by the different segments, and the demand and need for a greater number of choices or paths for students to enter tertiary education.

This new Polytechnic segment would provide a clear sign to Californians of the importance of Science, Technology, Engineering and Math fields (STEM), and I think would help improve the pipeline from high school to these programs.

There is a problem with the relatively low number of students who come out of high schools who state an interest in STEM fields – a supply problem. Efforts to boost the interest of high school students, and earlier, to pursue science and math have, thus far, had limited success. But a leak in the pipeline is also found within our colleges and universities. We lose many potentially good to high quality students once they come to UC and CSU as many are "weeded out" by a curriculum structure purposely constructed to lower the number of STEM majors – in part, because our existing science and engineering programs can not handle the number of students who state an interest in science and fields such as medicine. As an indicator of unmet demand, both SLO and Pomona campuses have among the lowest student to application rates of all the CSUs – meaning many potential STEM students are being denied admission.

A new fifth California higher education segment could provide an alternative path toward a bachelor's degree and selected credentials. Almost twice the size of New York, California is projected to grow by some 22 million people over a forty-year period. If this is anywhere near a real number, California needs to make a stronger effort to create a viable, publicly supported alternative university system. Perhaps the most famous model is England's Open University, but throughout the world nations have created similar institutions, focused on adult learners and increasingly offering on-line courses that lead to degrees and credentials.

In the US, there are a few examples of such institutions. In the 1990s, California embarked on an effort pushed by then Governor Pete Wilson for a "virtual" university. But it suffered two maladies. Each of California's public universities, CSU and UC, were wary of a seeming competitor and agreed only to help develop the California Virtual University if it only provided a portal for their on-line courses. This meant that, unlike other models – from the UK to South Africa – the CVU had no faculty of its own, and essentially reluctant partners. Another major problem? In the early 1990s, the technology for on-line courses was relatively primitive and untested.

Now would be an opportune time to revisit and reinvent by creating a stand-alone California Open University that might be publicly chartered and partially privately funded as a public service corporation — a quasi-public or private corporation.

Now would be an opportune time to revisit and reinvent by creating a stand-alone California Open University that might be publicly chartered and partially privately funded as a public service corporation — a quasi-public or private corporation. UC and CSU each have plans to expand their on-line offerings. UC recently made noise of a substantial new effort to expand on-line

courses leading a degree reminiscent of an earlier effort, but faced with limited faculty interest. Judging from patterns in other parts of the world, the likelihood is that these will be tangential arrangements – important, but not vigorously pursued.

For-profit institutions would be, perhaps, most affected by market competition. But a public California Open University would provide a more healthy market in the midst of significant growing demand for educational programs and services.

- **California as an International Higher Education Hub**

The US is far behind our economic competitors in recognizing global trends in the search for talent. California needs to be the first state in the US to overtly recognize that its state-chartered public colleges and universities are not simply a state or local asset; they are a national and really a global asset. There are large economic benefits to such a re-conceptualization.

Bottom line: Attracting talent in a global market *and* increasing degree attainment rates of the domestic population are not mutually exclusive goals. Indeed, they will be the hallmarks of the most competitive economies.¹⁵

California is a good performer in attracting talent at the graduate level, but extremely poor performers in attracting undergraduates from abroad. Attracting many more students from other states and nations can bring huge benefits for upgrading the talent pool for local businesses, for promoting innovation, and as part of a strategic reformulation of funding for California's cash-starved public colleges and universities.

In the UK, for example, international students now produce some 10 percent of the entire income of the higher education system. In Australia, they fund some 15 percent of all income for national universities.¹⁶ New Zealand also relies heavily on international students to support its national higher education system; Japan is now trying to follow a similar path, offering an increasing array of degree programs in English.

But the economic benefits of foreign students extend beyond supporting the higher education sector. It is good business. In Australia, for instance, international students and university ventures abroad generate about \$12 billion (US), making higher education the nation's third largest export.¹⁷

In the US, international students inject over \$15 billion directly into the economy through tuition and living costs, making it a bright spot in an otherwise rather dismal balance of trade. States like California receive some \$1.4 billion from foreign students in tuition and fees alone, and a total of \$2.4 billion when counting living expenses and related costs.¹⁸

The key to a properly framed strategy for attracting and enrolling international students is twofold.

When will the U.S. and states like California wake up to this growing market opportunity? State lawmakers and the higher education community need to work together to create networks and even regions, such as the Bay Area, that generate programs catered to both graduate and undergraduate students in the world. They need to provide financial aid packages similar to that offered by competitors, and to effectively market California as a "higher education hub."

Policymakers also need to insure that such a strategy does not crowd out domestic students, including poor and otherwise underrepresented students. This means California needs to be much more expansive in its thinking about building its physical and possibly virtual enrollment capacity – a thought that is, thus far, nowhere on the radar screen of either the higher education community or lawmakers in Sacramento.

Because of its still famous higher education system and increasing multi-cultural society, California is in a unique position to become an international Mecca for higher education unsurpassed in the world. California, however, should also look at evolving models, such as that found in Singapore, in which nations and regions also make it attractive for quality foreign universities to come to California and offer programs.

Private, independent institutions in California – such as Stanford, the Claremont Colleges and other quality institutions – will also continue to be important players in the state's evolving network of colleges and universities¹⁹. But the reality is that they are not much interested, or capable, of significant enrollment growth. They welcome an environment in which they gain increased selectivity among students, in part because of their relative scarcity and high reputation. Thus, they will likely be a smaller, yet important, provider relative to total California tertiary enrollments.

In the end, a greater diversity in providers of quality educational services (to use the nomenclature of globalists) than now exists should be a key objective of California's effort to increase the educational attainment levels of its natives, for attracting talent, and, ultimately, for boosting its economy

- ***A Revised Funding Model***

A concerted effort to recruit international students is one component of a revised funding model. But of more importance is some recommitment of state and local funding, and a recognition that tuition and fees will grow in order to achieve the goals previously mentioned – including increasing the number of full-time students, increasing access to four-year institutions, including a polytechnic sector, a California Open University, and expanding the enrollment capacity of the public system.

While not giving up on the importance of state and federal funding, the future of California's higher education system, and that of the US in general, will depend on moving toward a *moderate tuition and high financial aid* model. It is highly unlikely that state governments will be able to return to the institutional subsidy levels of some five decades ago.

The fact is that public universities and colleges have raised fees largely in reaction to the decline in public subsidies, and without a defined plan on the proper balance of government and student cost for services rendered. One reason for this inability of institutions, and states, to define the proper role of fees and tuition is the political risk of an open discussion on expanding the role of fees and worries over the potential impact on low and moderate income students. It is the third rail issue.

One result? Students and their families face great uncertainty for over the actual cost of attendance. Meanwhile, public colleges and universities cannot accurately predict their revenue stream and costs for financial aid support. Despite increasing fees in California, fees remain below the national average in helping to cover instructional costs – e.g. those costs related to enrolling a student.

Whether it is in Europe or in the US, the move toward a large role for student fees and tuition for public universities is relatively new territory, without good research on elasticity in pricing and its differentiated impact on society. But there are a few things we do know. For one, tuition can be too high, but it can also be too low. By that I mean that low pricing is associated with two realities.

First, low fees correlate with high to very high rates of attrition. When costs are very low, there is less investment by students to actually complete a course or a degree. Indeed, very high fee institutions have very high completion rates. The reasons are complex, including usually greater selectivity in admissions, and almost always full-time status of undergraduate students. But there is a relationship and an argument to be made that a moderate fee and tuition rate may well lead to better course and degree completion rates in 2- and 4-year public institutions.

Second, we know that if public institutions do not have an adequate revenue stream that includes fee and tuition income, they can not offer programs and courses that can lead to a degree in a timely way. For example, the California Community Colleges have extremely low fees – among the lowest in the nation. They also have among the highest attrition rates.

Whether at 2-year or 4-year institutions, public higher education needs to now move more overtly to what might be termed a Progressive Fee System: in effect, because the progressive tax system for state government is not adequate to provide for public higher education, these public institutions are adopting a system that taxes (charges) the more wealthy student to help subsidize low and middle income students.

Because they have a completely inadequate funding model, tied to local and state funding formula that relegates them to near poverty funding, and with no political ability to raise fees and tuition, they have cut courses and, in effect, limited enrollment.

In this case, low fees neither means high access nor high degree completion rates.

What is worse is that Community College fees in California have been so low – covering only 10 percent of the instructional costs, versus the national average of 31 percent for 2-year institutions – these colleges have missed out in millions of federal grant subsidies.

Some moderate fee increase, plus a change in state policy that allows Community Colleges to keep fee income (currently, that is not the case), could have translated into more courses being offered, and more students being served. This is counterintuitive to the heartfelt argument that any fee increase has a detrimental social effect.

The University of California is moving toward this moderate fee and high financial aid model, but not in a well-articulated manner and on a year-to-year-basis. CSU is moving in this direction also without much clarity. Arguably, California's Community Colleges are in the most need for a major revision in their funding model, tied more fully to a fee structure and aid program that is based on their market for students.

Whether at 2-year or 4-year institutions, public higher education needs to now move more overtly to what might be termed a Progressive Fee System: in effect, because the progressive tax system for state government is not adequate to provide for public higher education, these public institutions are adopting a system that taxes (charges) the more wealthy student to help subsidize low and middle income students.

A proper funding model for public higher education is a complex issue, of course. Any projection of future funding needs requires a reasonable agreement on the goals and future structure of the system. Here I suggest that it also requires a sense of future state and local investment, plus an estimate of future income if California graduated to the status of an international higher education hub.

- **An Expanded Federal Role**

While California can make significant strides to improve access and the quality and efficiency of its higher education system, it is my sense that it, along with most other states with growing populations, cannot do it alone. California, and most other states, will need a significant partnership with the federal government in Washington.

For the near and possibly long-term, most state governments are in a fiscally weakened position that makes any large-scale investment in expanding access improbable, let alone in building a more robust financial aid model, and significantly higher degree attainment rates.

In short, California is the canary in the coal mine. If the US is to make major strides toward President Obama's goal, it cannot do it without California. So what might the federal government do?

Ignoring for now the inconclusive although passionate debate over the appropriate size of the federal deficit during a monstrous economic downturn, there are two traditional levers that Washington could employ. First, the financial aid system in the US is grossly inadequate and, in some instance, funneling money to the wrong institutions – specifically, for-profits with very high federal subsidization, high attrition rates and, sometimes, very low quality programs.

As part of a series of reforms, the Obama administration has increased funding and the size of individual grants to low-income students, and increased funds available for student loans. Yet relative to the cost of most higher education institutions, the grant and loan program are still grossly inadequate.

There are serious questions about why American higher education is so expensive, and much room for cost-containment.

But relative to other major economic sectors that employ highly trained professionals, the rising costs are close to average. Colleges and universities in the U.S. also face exorbitant and non-competitive costs related to health care and in some instances pensions. In most other national higher education systems, health care and pensions are a national cost and, particularly in regard to health care, are much less costly.

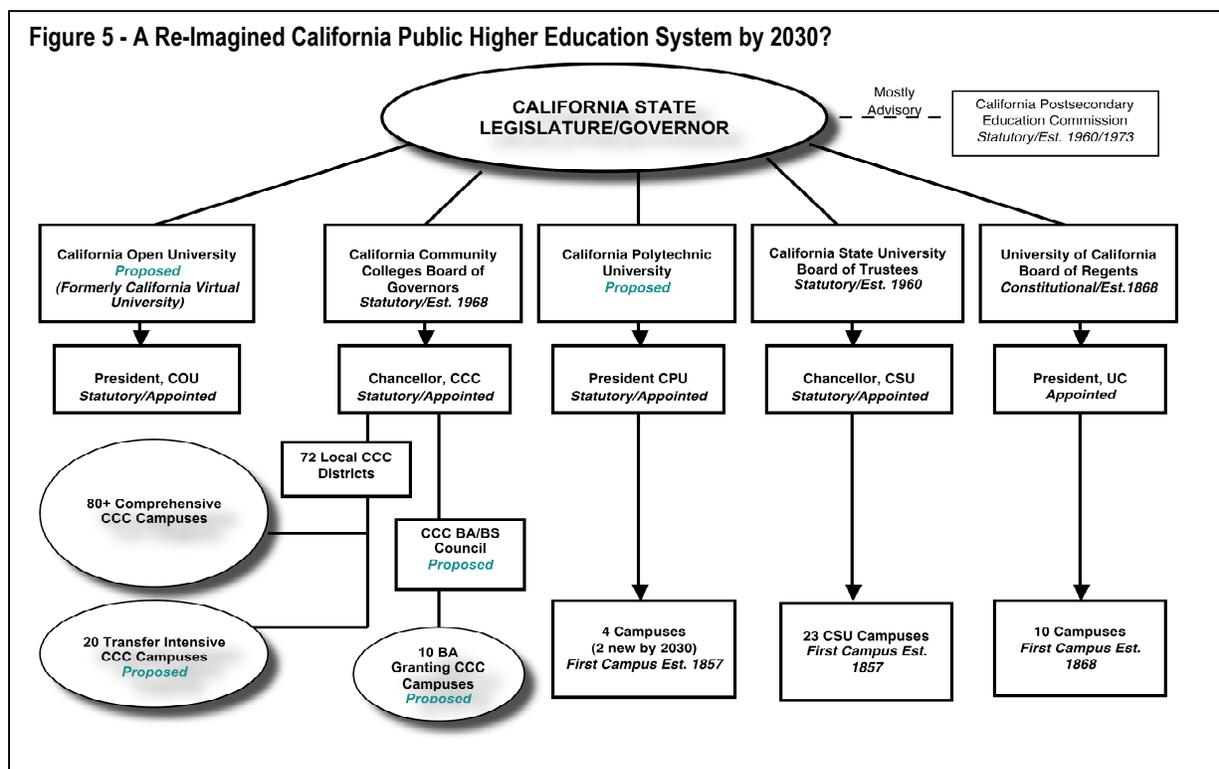
Figure 4 - Re-imagining Smart Growth

- Set Degree Attainment Goals for California
- Rebalance Where Student Go to College
 - Revised CSU and UC freshman admissions pool
 - Ten or so Community Colleges grant baccalaureate degree
 - Ten or so Community Colleges focus on transfer function
 - Community Colleges offer "Gap Year" programs for transition to college
- Establish a Polytechnic Segment
- Establish a New California Open University
- Develop California Higher Education Hub Policies
- Revised Funding Model – "Progressive Tuition Policies"
- A Larger Federal Role in Financial Aid and Capacity Building

Cost containment is a complex issue. For example, the adoption of technology, in the classroom, in laboratories, has not, thus far led to cost-savings. One needs to differentiate institutional types as well, with many Community Colleges near the rock-bottom of costs and boutique private colleges and university skewing the national average upward. Also, the most effective means of lowering costs is to drive up student to faculty ratios – which is what has already been happening throughout public tertiary education. But that can have detrimental effects, like fewer course offerings, much less student faculty contact and mentoring time, and correlates with higher student attrition rates.

Do not get me wrong, there is much room to lower the operating costs of colleges and universities, but their likely impact will be marginal on the costs for governments and students, particularly among public institutions where the vast majority of students go.

The primary way to reduce the exorbitant number of part-time students, and to help significantly increase degree completion rates, is to offer a much more robust federal financial aid program that is targeted to both lower and middle-class families, and to institutions that have proven quality and degree completion rates.



The federal government should also revisit its 1960s higher education programs that greatly helped public colleges and universities expand their enrollment capacity by building with bricks and mortar. Virtual universities and on-line education is an important and growing avenue to increase access, but it is highly unlikely that it will abrogate the need for real campuses, or the need of students for real-life contact with other students and faculty mentors – particularly among 18-24 year olds.

There are oodles of research that demonstrate that attending a college and university is also about socialization beneficial in the transition from home to work and citizenship.

In both cases – increasing federal financial aid funding and creating funding support for expanding enrollment capacity – California and other states with projected population growth need to lobby Washington to make these investments. The federal government will need to play a larger role if the US is to drive up degree attainment rates.

The Vision Thing

This proposed path toward a more robust California higher education identified here offers a macro view, ignoring for now many other issues and conundrums – from efforts to increase college “readiness,” to ongoing efforts to decrease attrition rates, bolster transfer rates, improve time-to-degree, new efforts to ease the transfer process to UC and CSU, and to create alternative delivery systems for higher education that incorporate new technologies, competency-based approaches and other innovations.

These are all important, but just not enough in my view to make significant strides toward a more productive higher education system in California. The state’s higher education system must grow in enrollment capacity and programs; the big question is how, at what cost, and with what effect on Californians and their economy?

My effort here focused on how to effectively expand undergraduate access *and* graduation rates. But an equally important issue is the vibrancy of California’s academic research community and robust growth in graduate education. The University of California would remain the state’s primary research and doctoral granting institution, although CSU is also a very important contributor. Funding models need to support both graduate education and research productivity as a key for future economic development. UC’s research prowess is so great that for every one dollar of state funding, the institution generates another three in federal grants and private research support.

This outline of a possible future would also be cost-effective, although much analysis and thinking about variations on this plot would be required, and the politics significant – including the treacherous waters of navigating through negotiations with faculty unions at the Community Colleges and CSU (UC faculty are not unionized), and the narrow interests of each existing segment. It assumes the need for mortar and brick campuses, and satellite campuses, as well as virtual or on-line courses and degree programs. The future is a mixed environment. Much of the enrollment expansion would happen in the lower cost Community College sector (including new four-year Community Colleges), and with more marginal increases at CSU and UC.

There are other ideas for how to reshape this famed system to best meet the socioeconomic needs of the largest state in the U.S. – a state that, if it were a country, would rank in the top ten economies in the world.²⁰ However, thus far none, in my view, fully comprehend the scale of the challenge, and, specifically, the need to efficiently grow the enrollment capacity and programs for California to once again rank among the nation’s, and world’s, most productive higher education systems.

I offer in this paper a much more expansive notion of California higher education in the hope of spawning a debate. That is, of course, a tough order.

The fact is that such a re-imagined system, the *California Idea Revisited*, is, thus far, seemingly beyond the imagination of state lawmakers, the state’s higher education community, and even public policy think tanks. The never-ending economic morass has engulfed Californians for so long that it is hard to conjure an alternative future – one in which there are improved high school graduation rates, particularly among low-income families, where access to higher education is enhanced, and where California offers a greater variety of institutional types and paths to a degree. Ultimately, a more robust middle-class and a California economy that attracts the best and the brightest throughout the world would reemerge. Both are key ingredients for economic growth and innovation.

If history is any guide, it will take more than simply an active partnership among the higher education community, lawmakers, and stakeholders including businesses, to debate and articulate a vision of an alternative path; it requires a governor who is willing to make higher education a central theme of his or her tenure.

If history is any guide, it will take more than simply an active partnership among the higher education community, lawmakers, and stakeholders including businesses, to debate and articulate a vision of an alternative path; it requires a governor who is willing to make higher education a central theme of his or her tenure.

In the past, major reforms, whether it was during the Progressive Era under Hiram Johnson, the post-World War II period of growth in higher education under Earl Warren, or the 1960 Master Plan under Pat Brown, aggressive leadership by the governor and key lawmakers in times of economic expansion was the essential component in charting the future of California’s system.

Without the strong vision and interest of a governor, it is unlikely that California can buck its current trajectory and seriously compete with other economic powers to increase the educational attainment level of its population. Let us hope for a resurrection.

ENDNOTES

¹ Public Policy Institute of California, “California’s Education Skills Gap: Modest Improvements Could Yield Big Gains,” April 16, 2009: <http://www.ppic.org/main/pressrelease.asp?p=938>

² James J. Heckman, John Eric Humphries, and Nicholas Maden, “*Help Wanted: Projections of Job and Education Requirements Through 2018*,” National Bureau of Economic Research, No. 16064 (June 2010): The report attributes the growth in demand for education after high school to two major trends. First, the fastest-growing industries, such as computer and data processing services, require workers with disproportionately higher education levels. Second, occupations as a whole are steadily requiring more education. Looking ahead to 2018, approximately one third of all available jobs will require individuals to have a bachelor’s degree or higher. Meanwhile, only 10 percent of jobs will be open to high school dropouts, while about 28 percent will be open to individuals with a high school diploma. See <http://papers.nber.org/papers/w16064>

³ Anthony P. Canevale, Nicole Smith, and Jeff Strohl, *Help Wanted: Projections of Jobs and Education Requirements Through 2018*, Center on Education and the Workforce, June 2010.

⁴ *Ibid.*

⁵ President Barack Obama, Address to the Joint Session of Congress, February 24, 2009, White House Press Office: http://www.whitehouse.gov/the_press_office/remarks-of-president-barack-obama-address-to-joint-session-of-congress/

⁶ National Center for Higher Education Management Systems (NCHEMS), “Closing the College Attainment Gap Between the US and Most Educated Countries, and the Contributions to be made by the States,” April 2010.

⁷ *Ibid.*

⁸ “UC Regents Warn Freshman Enrollments Will Be Curtailed Without Sufficient Funding,” University of California Press Release, Nov. 20 2008: <http://www.universityofcalifornia.edu/news/article/19016>

⁹ U.S. Senate, Health, Education, Labor and Pension Committee, “Emerging Risk: An Overview of Growth, Spending, Student Debt and Unanswered Questions in For-Profit Higher Education, June 24, 2010: <http://www.nasfaa.org/publications/2010/gsenateforprofit062510.html>

¹⁰ According to The Economist, “Shares in Apollo Group, which owns the University of Phoenix, are worth half what they were at the start of 2009. The Washington Post Company has lost nearly one-third of its value since April. Shares in Corinthian Colleges have fallen 70% in the same spell.” See “Schools of Hard Knock: Facing Heavy-Handed Government Regulation, America’s For Profits Are Reforming Themselves,” The Economist, Sept 9 2010: <http://www.economist.com/node/16990955>

¹¹ For a review of the economics literature and their own findings, see Richard M. Romano (2008), “Using the Community College to Control College Costs: How Much Cheaper Is It? Cornell Higher Education Research Institute and Institute for Community College Development, Cornell University: www.ilr.cornell.edu/cheri/workingPapers/upload/cheri_wp116.pdf

¹² Saul Geiser, “Beyond the Master Plan: The Case for Restructuring Baccalaureate Education in California, Center for Studies in Higher Education, Research and Occasional Paper Series (October 2010).

¹³ Tamar Lewin, “Community Colleges Challenge Hierarchy with 4-Year Degrees,” New York Times, May 2, 2009: <http://www.nytimes.com/2009/05/03/education/03community.html>

¹⁴ Elevating some Community Colleges to four-year institutions was discussed although not formally endorsed by a recent report of the Joint Committee on the California Master Plan for Higher Education, chaired by Assemblyman Ira Ruskin. See the draft report: <http://ucfuture.universityofcalifornia.edu/>.

¹⁵ John Aubrey Douglass and Richard Edelstein, “The Global Competition for Talent: The Rapidly Changing Market for International Students and the Need for Strategic Approach in the US,” CSHE Research and Occasional Papers Series, CSHE.8.09. (October 2009): <http://cshe.berkeley.edu/publications/publications.php?id=341>

¹⁶ Brendan O’Malley, “OECD 1: US Share of Foreign Students Drops”, *University World News*, October 21, 2007.

¹⁷ Simon Marginson, “Is Australia Overdependent on International Students?” *International Higher Education*, No. 54, Winter 2009.

¹⁸ Data is from the National Association of International Educators “Economic Impact Statements: 2007-08, which are generated by Jason Baumgartner at Indiana University – Bloomington’s Office of International Services. NAIE states that the total US

impact of higher education of \$15.54 billion is a “conservative” figure. Their report does not rely on a “multiplier effect.” Although this might provide a more accurate estimate of actual economic impact, there is no consensus on the appropriate size of such a multiplier. Many international graduate students gain institutional derived grants and scholarships, particularly in the sciences, and an estimate is made to determine the net economic “export” income generated. The methodology of their study is provided in the appendix of each yearly report: http://www.nafsa.org/public_policy.sec/international_education_1/eis_2008/ For a discussion of the challenges of calculating the economic impact of international students, see the entry “Measuring the Impact of Export Education” in the blog *Global Higher Ed* from February 7, 2009; <http://globalhighered.wordpress.com/2009/02/07/measuring-the-economic-impact-of-export-education-insights-from-new-zealand/>

¹⁹ A report by the California Postsecondary Education Commission provides undergraduate demand projections for California independent colleges and universities. Two forecast models were used: a demographic model that relies principally on observed and projected changes in college-going rates and the population aged 18 to 49 by ethnicity; and an economic model that considers projected changes in personal income, annual unemployment, and Cal Grant funding levels as a function of student demand. Both models estimate demand for the independents to increase by about 16%, from 130,000 undergraduates in fall 2008 to 150,000 by 2019. But will these colleges accommodate this rising demand? See California Postsecondary Education Commission, “Ready for Learning: The Contribution of California’s Independent Colleges and Universities in Meeting Undergraduate Demand,” Report 10.17 (September 2010):

<http://www.cpec.ca.gov/Publications/ReportSummary.ASP?Report=1326>

²⁰ In an earlier CSHE ROPS contribution, C. Judson King argued that perhaps the best path for the University of California to take in building enrollment capacity is to create satellite campuses. Saul Geiser, in a new CSHE working paper, focuses on the unintended consequences of having so many California students in 2-year Community Colleges, and offers a proposal to have the University of California and California State University absorb a number of these colleges and reorient them toward transfer programs. A recent report by a Joint Committee of the California legislature focused on the state’s higher education and noted the possible conversion of some Community Colleges to four-year institutions. See C. Judson King, “An Analysis of Alternatives for Gaining Capacity so as to Maintain Access to the University of California,” Center for Studies in Higher Education, Research and Occasional Paper Series, CSHE.5.6 (March 2006); Saul Geiser, “Beyond the Master Plan: The Case for Restructuring Baccalaureate Education in California,” Center for Studies in Higher Education, Research and Occasional Paper Series (October 2010); I wrote about a number of proposed changes in a 2002 paper, including expanding UC’s and CSU’s eligibility pool and creating a polytechnic segment; see John Aubrey Douglass, “Investment Patterns in California Higher Education and Policy Options for a Possible Future,” Center for Studies in Higher Education, Research and Occasional Paper Series, CSHE.5.02 (May 2002).