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HIGHER EDUCATION BUDGETS AND THE GLOBAL RECESSION

Tracking Varied National Responses and Their Consequences*

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ABSTACT

In the midst of the global recession, how have national governments viewed the role of higher education in their evolving strategies for economic recovery? Demand for higher education generally goes up during economic downturns. Which nations have proactively protected funding for their universities and colleges to help maintain access, to help retrain workers, and to mitigate unemployment rates? And which nations have simply made large funding cuts for higher education in light of the severe downturn in tax revenues? This essay provides a moment-in-time review of the fate of higher education among a number of OECD nations and other countries, with a particular focus on the United States, and on California – the largest state in terms of population *and* in the size of its economy. Preliminary indicators show that most nations have not thus far resorted to uncoordinated cutting of funding for higher education that we generally see in US state systems. Their political leaders see higher education as a key to short-term economic recovery, long-term competitiveness, and often their own political viability – particularly in nations with upcoming elections. Further, although this is speculative, it appears that many nations are using the economic downturn to actually accelerate reform policies, some intended to promote efficiencies, but most focused on improving the quality of their university sector and promoting innovation in their economies. One might postulate that the decisions made today and in reaction to the "Great Recession" by nations will likely speed up global shifts in the race to develop human capital, with the US probably losing some ground. The Obama administration's first stimulus package helped mitigate large state budget cuts to public services in 2009-10 and to support expanded enrollments largely at the community college level. But it was not enough to avoid having universities and colleges lay off faculty and staff, reduce salaries and benefits, often eliminating course offerings that slow student progress towards a degree, or making sizable reductions in access in states such as California. States have very limited ability to borrow funds for operating costs, making the federal government the last resort. *In short, how state budgets go, so goes US higher education; whereas most national systems of higher education financing is tied to national budgets with an ability to borrow*. Without the current stimulus funding, the impact on access and maintaining the health of America's universities would have been even more devastating. But that money will be largely spent by the 2011 fiscal year (Oct 2010-Sept 2011), unless Congress and the White House renew funding support on a similar scale for states that are coping with projected large budget gaps. That now seems unlikely. The Obama administration announced its proposed 2011 budget in February, including $25 billion in state aid targeted for Medicaid. This is a modest contribution to states that face projected cumulative budget deficits of $142 billion in 2011, and there is uncertainty regarding the final federal budget. This is because Obama's proposal will be debated and voted on in a Congress increasingly focused on stemming the tide of rising federal budget deficits. Without substantially more federal aid to state governments, many public colleges and universities will face another major round of budget cuts. There is the prospect that higher education degree production rates in the US will dip in the near term, particularly in states like California that have substantially reduced access to higher education even as enrollment demand has gone up.

In the midst of the global recession, how have national governments viewed the role of higher education in their evolving strategies for economic recovery? Demand for higher education generally goes up during economic downturns. Which nations have proactively protected funding for their universities and colleges to help maintain

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access, to help retrain workers, and to mitigate unemployment rates? And which nations have simply made large cuts in funding for higher education in light of the severe downturn in tax revenues?

This essay provides a brief review of the fate of higher education among a number of OECD nations and other countries, with a particular focus on the United States, and on California – the nation's largest state in terms of population and in the size of its economy. It is admittedly a limited moment in time analysis, as the budget process of nations is on-going and changing, shaped in part by the financial health of governments before the Great Recession, the pace of their current economic recovery, and the priority of higher education and government reform efforts in the political discourse.

I have argued that expanding higher education funding and enrollment capacity may be as important as any other policy lever to cope with the economic downturn, including funding for infrastructure.[1] A recent study into the financial future of universities internationally by Moody's International Public Finance, a credit rating and financial forecasting company, has also predicted that in most nations, higher education will fare well in retaining revenues despite the severity of the global recession, "due to their counter-cyclical business aspects, government support, and growing role in economic development and rebuilding."[2] Yet there is growing evidence of a more nuanced story, with the US offering a contrast to much of the world – in part reflecting the uneven severity of the recession on different economies.

A simple set of observations:

- *In short, how state budgets go, so goes US higher education; whereas most national systems of higher education financing are tied to national budgets with the ability to borrow and leading to different policy responses – with most OECD nations delaying budget cuts to higher education or, in some instances, actually increasing their investment and enrollment rates*.

- *Yet in those nations hit hardest by the Great Recession, and usually with governments already with large deficits and more vulnerable economies built on the housing bubble and consumer debt (e.g., the US, Ireland, England, Portugal), there are similar policy responses of significant cuts in higher education budgets, although generally cuts appear smaller and delayed in the EU and elsewhere when compared to the US.*

Over 75 percent of all students in the US attend public institutions controlled and largely funded by state governments. Most state and local governments in the US are in the midst of wholesale cutting of their higher education budgets. Feeling the effects of repeated budget cuts, many multi-campus public systems are capping or reducing enrollment (despite growing enrollment demand) and raising tuition. The Obama administration has initiated a number of policies to help soften the blow to higher education, including expanding the Direct Loan program, offering tax credits for tuition, and providing stimulus funding to states to, among other goals, lessen severe cuts in university and college budgets.

Before Congress, President Obama stated a broad national goal to increase educational attainment – the first president to do so. In a speech in Michigan last July, he reiterated his intention to elevate higher education in the national discourse.

> Time and again, when we have placed our bet for the future on education, we have prospered as a result – by tapping the incredible innovative and generative potential of a skilled American workforce. That is what happened when President Lincoln signed into law legislation creating the land grant colleges and not only transformed higher education, but also our economy. That is what took place when President Roosevelt signed the GI Bill, which helped educate a generation – and usher in an era of unprecedented prosperity. That is why, at the start of my administration I set a goal for America: by 2020, this nation will once again have the highest

[1] John Aubrey Douglass, "College vs. Unemployment: Expanding Access to Higher Education is the Smart Investment During Economic Downturns," CSHE Research and Occasional Paper Series, CSHE.21.2008; a version published in *InsideHE*, December 9, 2008: http://cshe.berkeley.edu/publications/publications.php?id=324

[2] Moody's International Public Finance, Global Recession and Universities: Funding strains to keep up with rising demand, June 2009.

proportion of college graduates in the world.[3]

But I fear the policies pursued thus far by the Obama administration are not enough. Preliminary indicators show that most nations are not resorting to uncoordinated and reactionary cutting of funding, and reductions in access, that we see in the US. Their political leaders see higher education as a key to both short-term economic recovery *and* long-term competitiveness, and often their own political viability – particularly in nations with upcoming elections. Further, although this is speculative, it appears that many nations are using the economic downturn to actually accelerate reform policies, some intended to create efficiencies, but most focused on improving the quality of their university sector and promoting innovation in their economies.

One might postulate that the decisions made today and in reaction to the "Great Recession" by nations in this difficult economic era will likely accelerate global shifts in the race to develop human capital, with the US probably losing further ground in bachelor degree production rates and similar gauges of educational attainment - despite significant efforts by the Obama administration to ease budget cuts to higher education systems and public universities.

A. ECONOMIC RECOVERY AND HIGHER EDUCATION

In forming a strategy to deal with the severe economic downturn, President-elect Obama and his evolving brain trust of economic advisers apparently reflected on the largely successful and innovative efforts by federal and state governments to avoid a projected steep post-World War II recession – in particular, the key role given to higher education.

Beginning in earnest in 1944, many leaders in Washington and throughout the nation – including President Roosevelt - worried about a return to Depression-era unemployment rates. There are many reasons that the expected deep recession eventually turned into the beginning of an economic boom in the US after the war, including high saving rates during the war resulting in unanticipated and pent-up consumer demand. But another reason was proactive efforts to mitigate feared unemployment rates, to support industries with growth potential, and to fund yet another round of infrastructure development and expansion of public services.

One of the most important solutions to come out of that era of policymaking, one that provides a guide for our present predicament, was large-scale investment and innovative policies by both federal and state governments to promote greater access to higher education. The famed GI Bill, for example, was not simply an effort to open new opportunities for deserving returning veterans – many of whom had delayed their education or needed new skills to enter the job market. The unprecedented investment by the federal government to provide grants for college had another important purpose: to reduce projected unemployment rolls and, at the same time, help restructure the US labor market by producing a more skilled labor force.

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State governments acted as a partner in that macroeconomic strategy. Under the leadership of Governor Earl Warren, for instance, California markedly expanded the physical capacity of its public higher education systems by establishing new campuses, hiring new faculty, eventually creating its own scholarship programs to supplant the GI Bill, and subsequently reaping tremendous economic and social benefits from such investment in human capital.[4]

The basic strategy of expanding funding for individuals to attend a college or university and to get a degree, and funding the expansion of higher education institutions, has emerged internationally as a key component in national debates over the route to economic recovery. The overall educational attainment of a nation is, in fact, much more

3 President Barack Obama, remarks in Warren Michigan, July 14, 2009, White House, Office of the Press Secretary: http://www.whitehouse.gov/the_press_office/Excerpts-of-the-Presidents-remarks-in-Warren-Michigan-and-fact-sheet-on-the-American-Graduation-Initiative/

4 See John Aubrey Douglass, "Earl Warren's New Deal: Post-War Planning and Higher Education," *Journal of Policy History*, Vol. 12, No. 4, 2000: http://muse.jhu.edu/login?uri=/journals/journal_of_policy_history/v012/12.4douglass.html

important today than some sixty years ago. Broad access is increasingly viewed as vital for socioeconomic mobility, and demand for higher education generally goes up during economic downturns. Individuals who lose their jobs, or fear low prospects for employment in declining economies, see a university or college degree as a means to better employment prospects.

And indeed, as the recession progressed into 2009, enrollment demand in the US did go up dramatically, particularly in the public higher education sector where tuition costs are generally much lower than in the private independent and for-profit sectors. Many students who planned to attend private or out-of-state public colleges have turned to cheaper in-state options, usually community colleges. Preliminary evidence based on a recent survey is that nationally the number of community college students is up approximately 11.4 percent in Fall 2009 over fall 2008, and that many of these students are non-traditional (over the age of 24) and increasingly enrolled full-time.[5]

The surge in community college students will not necessarily translate into higher degree attainment rates. Attrition rates are very high among these two-year institutions, with most student's enrolled part-time and many struggling with their finances . . . In the end there will likely be large disparities between the various states in access and graduation rates, with a potential downturn in actual degree production rates.

But there is also evidence that access to higher education is not keeping up with demand, and that many state networks of public colleges and universities are not operating at full capacity because of large budget cuts. The surge in community college students will not necessarily translate into higher degree attainment rates. Attrition rates are very high among these two-year institutions, with most students enrolled part-time and many struggling with their finances. The true impact will not be known for a year or so because of the lag in data collection. In the end there will be large disparities between the various states in access and graduation rates during and after the Great Recession, with a potential downturn in actual degree production rates.

B. THE CAMPAIGN AND ITS AFTERMATH

During his presidential campaign, Barack Obama outlined his plans for higher education, repeatedly noting the importance of raising educational attainment rates and improving the quality of education in the US. Although the progress of competitors in tertiary degree attainment rates, including much of Europe, has been steadily improving, while the US rates remain relatively stagnant, with actual declines among younger students in big states like California, US political leaders have been largely ignorant of these important global trends. Reflecting a continued political culture of isolationism, in which national pride and self-absorption continue to dominate, US policymakers, and even higher education leaders, have not been much interested in growing data and higher education reform efforts – for good and bad – in Europe and elsewhere.[6]

While his rhetoric on the value of education was not particularly unique, Obama has elevated the national discourse on access to higher education and has subsequently pursued a relatively detailed set of policies.

Obama and his campaign team, however, took note of these shifts and growing concerns of the financial viability of state governments to fund their public higher education institutions. At current rates of participation in higher education, and, more significantly, low degree production rates, one study has projected that the United States may face a shortage of 14 million workers with college-level skills by 2020. Twenty-two of the 30 fastest-growing career fields require some postsecondary education, yet two-thirds of young adults from poor families do not get a college education and about half of all students who enroll in a bachelor's degree program do not get their degree by the age of 29.[7]

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5 According to a February 2010 report by the State Higher Education Officers association (SHEEO), nationally, higher education enrollment in the US grew by 3.4 percent from 2007-08 to 2008-09 (the beginning stage of the Great Recession), and there are signs of increased access, but with varying stories among the 50 states; Eric Kelderman, "Enrollment Growth Amid Recession Creates Long-Range Challenges for States, *Chronicle of Higher Education*, Febraury 11, 2010; Jack Jaschik, "Defining the Enrollment Boom," Inside Higher Education, December 18, 2009: http://www.insidehighered.com/news/2009/12/18/enroll

6 See John Aubrey Douglass, "The Waning of America's Higher Education Advantage: International Competitors Are No Longer Number Two and Have Big Plans in the Global Economy," CSHE Research and Occasion Papers Series, CSHE.9.06. (June 2006)

7 The Condition of Education 2005, U.S. Department of Education, NCES, 2005; Employment Outlook: Occupational employment projections to 2010, Hecker, Daniel. U.S. Department of Labor, Bureau of Labor Statistics Monthly Labor Review, 2001.

While his rhetoric on the value of education was not unique, Obama has elevated the national discourse on access to higher education and has subsequently pursued a relatively detailed set of policies. During the campaign, Obama outlined four major policies intended to expand access and to mitigate the rising cost of higher education for lower and middle class families, which his administration has subsequently pursued. Below is an outline of each:

- STUDENT LOANS: The Obama administration has proposed an end to commercial loans for student aid for lower-income and middle-class families and a transition to Direct Student Loans from the federal government. The US has used commercial banks to provide student loans, guaranteeing sizable profits by covering any loan defaults. This has been a strictly American approach to student aid.

  The proposed Student Aid and Fiscal Responsibility Act is now before Congress and would end this relationship with banks by July 2010 by having universities and colleges work directly with the US Department of Education in distributing loans to students who meet specific requirements. It also offers a scheme to save some $87 billion over a ten-year period that the Obama administration would use to fund most of its other higher education initiatives noted below, and even support early childhood programs.

  Moving to a "Direct Loan" program is not a new proposal.[8] The US Department of Education began a pilot program in the early 1990s that now constitutes approximately 30 percent of the current student loan market. But this "experiment" faced significant banking industry and Republican Party opposition. US domestic policy, whether it is student loans or health care, is shaped mightily by the unique power of lobbyists and corporate influence in America that is unparalleled in Europe or other developed economies, and the banking interests are spending millions to defeat or slow the Direct Loan program. Ultimate corporate influence may well be greatly enhanced by a recent US Supreme Court ruling stating that corporations can spend without limits on candidates' campaigns – a ruling that equates free speech with the right to spend money in politics, for good or bad. But it appears the administration's push to end federally subsidized commercial lending will eventually be approved by Congress, with the lions share of the savings planned for redistribution to both student loans and grants. But if it is not successfully passed, much of the Obama administration's plans for higher education will implode.

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- LOW INCOME STUDENT GRANTS and TAX CREDITS: In part funded by the savings from the Direct Loan program, the Obama administration has proposed indexing the federal government grants-in-aid to low income students (what are called Pell Grants) to the rate of inflation. Over the past decade and more, funding for Pell grants have only occasionally been increased, while tuition and fee rates have steadily climbed approximately 5 percent a year, well above the rate of inflation. A modified proposal that is part of Obama's 2011 budget would essentially make Pell grants an entitlement, increasing funding by about $17 billion and linking future increases to inflation. The biggest single federal program for higher education, Pell Grants, is projected to cost $33 billion in the 2011 fiscal year, up from the $24 billion budgeted for this year and with the maximum grant rising to $5,710 from the current $5,550.[9]

  The Obama administration has also successfully passed legislation that offered a one-time refundable tax credit for low and middle-class students of $4,000 per student if they agree to 100 hours of public service over two years.

[8] In the 1970, the Carnegie Commission on Higher Education, under the directions of Clark Kerr, argued for the establishment of a National Student Loan Bank as a federally chartered, nonprofit corporation to dispense all federal loans precisely to increase the pool of funding for loans and end private subsidization. Private banks successfully fought the proposal.

[9] Paul Basken, "Obama's Brand of Budget Populism Finds Space Resources for Education," January 31, 2010: http://chronicle.com/article/Obamas-Brand-of-Budget/63827/

- STUDENT AID FORMS: The US Department of education is pursuing a long-overdue simplification of federal financial aid forms by linking applications to tax filings. There have been numerous studies, and complaints by students and their families, that federal financial aid forms are extremely long and ask numerous questions many of which are already asked by individual universities and colleges in other supplementary required information. It is widely believed that the complexity of the current system of forms and regulations deters students from lower income families or first-generation potential college students. [10]

- COMMUNITY COLLEGE FUNDING: During the campaign, Obama promised to provide some form of new federal support for local community colleges, which are largely dependent on local and state funding. The objective was largely to create more job-oriented programs and to help with the retraining of laid-off workers. After his election, Obama announced the American Graduation Initiative, a 10-year, $12 billion plan to invest in community colleges. During his announcement at Macomb Community College in Warren, Michigan, in July of 2009, Obama noted that, "even before this recession hit, we were faced with an economy that was simply not creating or sustaining enough new, well-paying jobs." Obama called the investment in community colleges crucial because "jobs requiring at least an associate degree are projected to grow twice as fast as jobs requiring no college experience" in coming years.[11]

- FEDERAL FUNDING FOR SCIENCE: The White House has proposed significant and long-overdue increases in federal funding for university research, including to the National Science Foundation (a topic we return to shortly).

Obama articulated each of these reforms in one form or another during the campaign for the White House. Each has been subsumed by the evolving domestic policy agenda increasingly shaped by the severe global economic downturn. Imploding financial markets, rising unemployment and declining manufacturing productivity had already caused the federal government under the Bush administration to bail out a number of major financial institutions. In the period between the presidential election and the inauguration of Obama, a consensus emerged, particularly among Democrats who now controlled both the Senate and the House of Representatives, that a major new and much expanded federal economic stimulus package was essential to help stabilize financial markets and avoid an economic depression.

In the months leading up to Obama's inauguration in January 2009, the stimulus bill was debated in Congress. The federal government has a number of ways it can influence the economy in the near term. First, monetary policy and providing a large infusion of public funds to private equity and banking firms was one major and traditionally used intervention – indeed, this defined the focus of the $700- billion Troubled Assets Relief Program (TARP) proposed by the Bush administration and passed by Congress in October of 2008 with bi-partisan support. The program remains controversial, with its bailout of financial markets. The ultimate goal has been to extend credit and restore stability in housing markets and to slow housing default rates, with some evidence of success. The implosion of the over-inflated housing market in the US, linked to the severe overextension of credit by American consumers, remains perhaps the single largest factor for explaining the initial causes of the global recession.

Second, another traditional means for priming the pump of the economy is to provide funds for capital or infrastructure improvements, essentially giving federal and state agencies funds to help build roads, bridges, transit and other much needed improvements, creating jobs and keeping businesses afloat.

And third, the Obama transition team realized the importance of providing states with federal funds to help mitigate huge declines in state government revenues that would lead to equally huge cuts in government services, including education. In contrast to the federal government which can borrow money and operate under what are increasingly

[10] Eric P. Bettinger et al, "The Role of Simplification and Information in College Decisions," National Bureau of Economic Research, NBER Working Paper No 15361, September 2009: http://www.nber.org/papers/w15361; See also, "FAFSA Experiment Boosts College Going," *Inside Higher Education, September 23, 2009:* http://www.insidehighered.com/news/2009/09/23/fafsa

[11] "Investing in Education: The American Graduation Initiative," White House Press Release, July 14, 2009: http://www.whitehouse.gov/blog/Investing-in-Education-The-American-Graduation-Initiative/

alarming deficits, most state governments have severe restrictions on borrowing – largely only for bonds, capital expenditures and various state sanctioned investments, but not for operating budgets.

With calamitous declines in state revenues, there are largely only two options for state governments: either increasing taxes or making large cuts in operating budgets. Most states are reluctant to increase taxes because of their real and imagined effects on economic activity, and often because of strong voter antipathy. The result was that most states proceeded to plan budget cuts, reducing services and, in effect, causing a further drag on economic activity.

The prospect was that public higher education would be an immediate casualty of state budget cuts, possibly forcing some state universities and local community colleges to reduce access at a time of increased enrollment demand. The Obama administration sought to target a prospective stimulus program to states in large part to help mitigate cuts to public education.

Obama also elevated the role of higher education in economic recovery in his speeches. Before a joint meeting of Congress on February 24, 2009, shortly after his inauguration, the new president articulated his domestic policy agenda: energy, health care, and education. Only a small portion of his speech focused on the wars in Iraq and Afghanistan. Perhaps influenced by similar educational attainment targets stated by political leaders in Europe and elsewhere, Obama and his staff seemingly reflected on OECD and other data showing relative declines or stagnation in US educational attainment rates, and stated a goal (noted previously) 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."[12]

Unto itself, Obama's lofty goal of keeping America's educational attainment rates competitive with global competitors appears ineffectual, particularly at a time of severe declines in state revenues and drastic cuts in the operations of the nation's public universities. There has been no explanation or creative thought by the administration or the higher education community on how to achieve the president's target – and indeed, much evidence that in the near term, higher education degree attainment rates may well go down in the US.

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But it is important to note that Obama is the first president to state such a goal and to recognize the progress of competitors.[13] In turn, he has at least framed an important challenge for the US – a nation in part built upon its tremendous success in developing the world's first mass higher education system, and that only two decades ago led the world in both tertiary access and degree attainment rates, but now ranks not even in the top ten in both categories among OECD nations.

Obama is elevating the discussion in the US regarding the national purpose of universities and colleges, and one can imagine the maturing of a policy agenda that thus far has been relegated to the backburner in light of intense debates over health care, the economy, and the outcome of mid-term elections. But for now, federal influence in higher education is best understood as an effort to stem the tide of huge and on-going cuts to public universities and colleges as part of a stimulus act.

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[12] 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/

[13] Although it should be noted that President Harry Truman's Higher Education Commission did outline national goals for college attendance in the early 1950s.

C. THE AMERICAN RECOVERY AND REINVESTMENT ACT

Passed in February 2009, the $787 billion American Recovery and Reinvestment Act package included $140 billion for states to help lessen spending cuts, service reductions, and budget-balancing actions such as tax increases. Federal and state agencies needed to spend the money quickly, before September 30, 2010, although already there appears to be some fudging on this requirement. In total, the ARRA is expected to provide states, on average, with about 40 percent of what they need to keep budgets balanced in the 2009, 2010, and 2011 fiscal years. ARRA's two main streams of operating funds to states include:

1. An estimated $87 billion in federal Medicaid funding for low-income individuals and their families. The primary purpose of these funds is to address the rising costs that come as more people lose employer-provided coverage and therefore qualify for Medicaid, a cost in part borne by each state and hyper inflation that characterizes the US's particular heavily market oriented brand of health care.

2. A new $48 billion State Fiscal Stabilization Fund administered by the federal Department of Education. Of this amount, $39.5 billion is to be used for ongoing operating support to public schools, colleges, and universities, mostly replacing state aid that otherwise will be cut due to insufficient revenue. The remaining $8.8 billion is in a flexible block grant that states can use to support general government services.

It is estimated that in the 2009 fiscal year, the ARRA dollars will close 31 percent of New York's budget gap and 37 percent of Virginia's. Other states, such as Georgia, Maryland, Utah, Washington, and West Virginia report similar outcomes. States are closing the remaining gaps with a mix of spending cuts, revenue increases in some states, withdrawals from reserve funds, and other measures.[14] As ARRA requires, states are using most of these dollars for health care and education. However, the availability of the federal funds also allows states to use available state money to protect other important programs not specifically supported through ARRA.

Yet despite the significant size of the ARRA, there is growing evidence that it is not enough to stem the tide of large reductions in state funded services and programs. As of September 2009, over 41 states reported major reductions in health care (27 states), services to the elderly and disabled (24 states and the District of Columbia), K-12 education (25 states), and higher education (34 states). Many states will have further cuts this fiscal year as they project their revenues.[15]

State Budgets and Higher Education 2009-10

Despite the significant size of the ARRA, there is growing evidence that it is not enough to stem the tide of large reductions in state funded services and programs. As of September of 2009, 43 states report major reductions in state operations, including cuts to:

- Health care (27 states)
- Services to the elderly and disabled (24 states and the District of Columbia)
- K-12 education (25 states)
- Major cuts in higher education (34 states).
- Many states will have further cuts this fiscal year as they project their revenues.

The budget cuts for public colleges and universities caused reductions in faculty and staff, pay cuts ranging from 2 to 10 percent in salaries, in addition to often large increases in tuition increases and cuts in financial aid. For example, tuition at all 11 public universities in Florida is increasing 15 percent for the 2009-2010 school year. The University of Florida has announced it will eliminate 150 faculty positions for the coming year, resulting in over 50 layoffs of staff and faculty. Florida State University plans to lay-off up to 200 faculty and staff members. The University of Washington is facing a 26 percent reduction in its state budget for the coming biennium. Washington State University is increasing tuition by almost 30 percent over two years. Illinois is making deep cuts to state financial aid programs; it expects to cancel for the spring 2010 semester a need-based financial aid program that serves 145,000 low and moderate income students.

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[14] Phil Oliff, Jon Shure, and Nicholas Johnson, "Federal Fiscal Relief Is Working As Intended," -, Center on Budget and Policy Priorities, June 29, 2009.

[15] Nicholas Johnson, Phil Oliff, and Erica Williams, "An Update on State Budget Cuts: At Least 43 States Have Imposed Cuts that Hurt Vulnerable Residents," Center for Budget and Policy Priorities, December 18 2009: http://www.cbpp.org/cms/index.cfm?fa=view&id=1214

At the State University of New York (SUNY), resident undergraduate tuition increased by 14 percent (over $600 per year) beginning with the Spring 2009 semester. New York's budgetary problems are so massive that the governor suggested at one time transferring a significant portion of tuition fees generated at public universities directly into state coffers to help reduce the state's budget deficit.

A similar story is occurring in the public schools. Recent data indicates that some 25 states are cutting aid to K-12 schools and early education programs, including large reductions in California and Florida where the populations are growing.

C.1. The Case of California

The dire situation for US higher education is most acute in the state of California, presenting an exaggerated yet common narrative. With some 35 million people, California is the largest state (nearly twice the size of New York in population) and has an economy that ranks among the top ten in the world if it were a country. The state also has the largest concentration of high technology companies in the American union.

> **UC and the Great Recession 2009-2010**
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> University of California (ten campus) system impact:
> - Cut of $813 million in state funded operating budget (or approximately 20% over UC's 2007-08 budget)
> - Cut of 2,400 freshmen positions
> - Salary cuts for academic and administrative staff of 4 to 10 percent
> - Hiring freeze
> - Restricted travel and equipment purchases
> - Laying-off 1,900 employees
> - Eliminating 3,800 faculty positions
> - Deferring the hiring of 1,600 academic positions
> - Student Fee increases of approximately 32 percent since 2008
>
> Berkeley Campus Example:
> - Cutting approximately $80 million to the campus' operating budget.
> - Increasing class size and reducing course offerings by 8 percent.
> - Freezing hiring of new faculty.
> - Increasing student-faculty ratios.
> - Cutting faculty lecturer and graduate student assistant positions by as much as 20 percent in some departments.
> - Cutting student services
> - Reducing hours of operation of the campus.
> - Planning to increase the number of international and out-of-state students from 11 to 20 percent of bachelor's degree students, generating some $60 million a year.

Yet California's famous public higher education system is undergoing a possibly significant redefinition, driven solely by severe budget cuts and without a long-term strategic plan. Before the onset of the Great Recession, the state's tripartite system (the University of California, the California State University, and a network of nearly 110 Community Colleges) had been slowly starved of public funding – a not so uncommon story. Over the past two decades, state funding for higher education on a per-student basis has plummeted while enrollment growth has steadily climbed as California's population has grown. But now the trend has accelerated mightily, and the policy implications are unprecedented.

The logic of the system, built around the concept of broad access and quality academic programs, is eroding quickly. In the past, even in bad budget years, California's public universities and colleges accepted all eligible state students applying for admission (those students who take required courses, get high grades, and do well on standardized tests). But those days are over. For the first time, the University of California (UC) and the California State University (CSU) have restricted enrollment. UC has refused some 2,300 UC eligible freshmen entrance to its campuses - equal to a 6 percent overall reduction in the university's system-wide undergraduate enrollment.[16] Adjusted for inflation and enrollment growth, state funding per student at UC has fallen nearly 40 percent since 1990 -- from $15,860 in 1990 to $9,560 today in current, inflation-adjusted dollars.

CSU, which at 450,000 is more than twice the size of UC in total enrollment, turned away some 20,000 students in fall 2009 who would normally be eligible for admission, and another 20,000 the following academic year. Combined with reductions in course offerings, one estimate is that some 56,000 students will not gain access to CSU over a two-plus year period of budget cuts. CSU's planned limit on enrollment is in reaction to successive years of major

[16] "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

budget cuts, including a mid-year cut of some $66 million and probably larger cuts next academic year, on top of a $31.3 million cut earlier this year.[17]

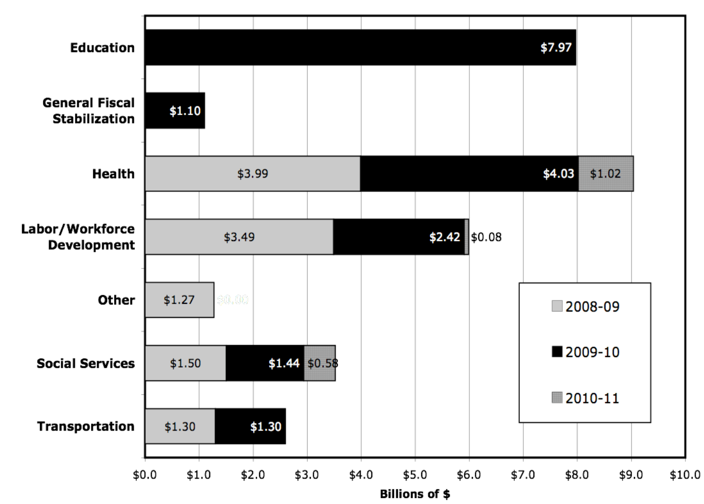
One hope was that California's community colleges could absorb some of those students refused admission to UC and CSU. But these local colleges have been swamped by increased demand for higher education. Before the economic crisis, these community colleges were already the most underfunded in the nation. A budget cut of $825 million has led to wholesale cutting of courses and shrinking enrollment capacity has translated into some 250,000 prospective community college students being denied access.

How did this unhappy scenario transpire? Beyond the current economic collapse there are a number of underlying macrostructural causes. On the one hand, rising costs for prisons and Medicaid, pensions for state workers, along with mandates for funding K-12, have squeezed out state support for higher education. Public universities, UC and CSU, have the relatively low status of "discretionary" funding because there are no constitutional mandates to keep higher education afloat as there are for the other educational segments.

On the other hand, the inability of lawmakers to manage the state has magnified the problem. Prudent budget cuts, along with marginal increases in state revenues in better economic times, would have mitigated the huge cuts faced today. In no small measure, the state budget process has been held hostage by right wing, anti-government ("starve the beast") conservatives empowered by the unusual requirement of a two-thirds vote to pass a budget in the State Assembly. There is blame to go around, that is for sure; but the fact remains that a small group of politicians in safe, heavily conservative districts have been running the budget show.

Raising fees and tuition has been one policy lever employed to mitigate the state budget cuts. The Obama administration's economic stimulus package has also funneled much-needed funds to education, including some $640 million to UC and CSU, and another $160 million to local community colleges. But neither income source is large enough to offset the dropping of courses, staff and faculty lay-offs, cuts in salaries, and ultimately reductions in enrollment.[18] (See box with example of the impact on UC). California's state government, and its public higher education system, was at the edge of a cliff of total fiscal collapse; the stimulus bill averted a complete implosion. But it remains largely a one-year fix. Figure 1 provides information on what ARRA funds California has received by spending sector, including some $7.97 billion for public education for this fiscal year (2009-10). But because of the severity of the budget problems for higher education, all available ARRA funds for education will have been spent this year, forming a substantial financial hole for the following year.[19]

Figure 1 California's $31 Billion in Federal Stimulus Funding 2009-2011



California is already ranked among the bottom states in the number of students who enter higher education and then attain a bachelor's degree. It seems evident that California will now have a significant, further decline in the educational attainment level of its population.

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17 Mallory Nelson, "Higher Education Budget Cuts: How are they Affecting Students?" California Postsecondary Education Commission, Report 09-27, December 2009: http://www.cpec.ca.gov/completereports/2009reports/09-27.pdf

18 California Legislative Analyst's Office, "LAO Federal Economic Stimulus Package: Fiscal Effect on California, March 10 2009: www.lao.ca.gov/2009/bud/fed_stimulus/fed_stimulus_031009.pdf

19 *Ibid.*

But beyond the immediate effects of educational aspirations denied, and the disproportional effects it will have on lower and middle-income students and their families, there is the real possibility of an unraveling of California's famed coherent approach to higher education. At the time of writing this essay, there appears no consensus, or political leadership, to think about the long-term consequences of this dramatic breakdown in California's famed higher education system.

This returns us to the observation of a disaggregated policy response by state governments, and by the public higher education segments as well. The size of the California's 2011 budget deficit, some $20 billion, will likely mean further cuts in higher education – unless the Obama administration chooses to mitigate cuts in California and other states through an extended version of the 2009 stimulus program (a topic returned to later in this paper).

The Obama administration's release of its proposed federal budget for 2011 does provide some extended relief for California and other states. But this budget proposal would provide only $1.2 billion in additional aid to California, well short of the $7 billion Governor Schwarzenegger has asked for and which is part of his plan to limit further cuts next year for the state's already beleaguered public higher education system. Indeed, the governor had proposed a slight increase in funding for the University of California and the California State University budgets for 2011, while doling out more cuts for various social services and making permanent wage cuts for state workers. That plan seems unlikely now, and already has stiff opposition in the state legislature.[20]

California's plight is perhaps the worst among the US states, but similar stories can be found throughout the nation, with a deleterious effect on access, time-to-degree, degree production, and the morale of faculty and staff at public universities and colleges.

C.2 Science Funding Meets the ARRA

On a more positive side, one component of the ARRA that may have a significant positive impact on states with high tech industries and robust research university systems is the allocation of $18.3 billion of additional funding for basic research. The main focus of the ARRA was to create jobs, but the Obama administration also emphasized the use of federal stimulus funds to make the US more economically competitive. Obama's presidential campaign advocated a surge in research funding after a number of years without increases in non-health related science fields. Democratic leaders, along with a few key Republicans in Congress, proposed increases well before the onset of the Great Recession – part of a robust expansion in federal science funding that was part of the Innovation Agenda proposed in 2005. But this component of the proposal did not get sufficient political support from the Bush White House and was never funded.

In total, the $18.3 billion allocation for science funding represents only a bit more than 2 percent of the ARRA's $787 billion total budget. But there is initial evidence that it is having a significant impact on national research productivity and employment in science and technology fields. Initially, the surge in funding was viewed as a one-time additional allocation, with no promises from the Obama administration that it would continue into future fiscal years. This influenced how the various funding agencies allocated their new dollars.

In the US, science funding and policymaking are much more disaggregated than in other developed economies. Reflecting post-World War II politics and policy, there emerged essentially five major agencies for funding basic (blue sky), development, and applied research: the Department of Defense (including DoD's Defense Advanced Research Projects Agency), the Department of Energy (DOE), the National Institutes of Health (NIH), the National Science Foundation (NSF) and the National Aeronautics and Space Administration (NASA). The science component of the ARRA is largely focused on funding for basic research at DOE, NIH and NSF – in part, I believe, because the Department of Defense and NASA have significant development components in their research portfolios and pose different political questions for Congress at the moment.

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[20] Anthony Wright, "Obama Releases His Federal Budget," California Progress Report, February 2, 2010: http://www.californiaprogressreport.com/site/?q=node/7409

The surge in science funding brings the opportunity to pursue programs and priorities previously identified by the various federal agencies and science community as well as a chance to introduce some new initiatives. But each agency, the NSF, DOE and NIH, has pursued somewhat different approaches briefly summarized in the following.[21]

- National Science Foundation – The NSF received a boost of $3 billion, adding to its regular budget of $6.5 billion, and mostly chose to fund a backlog of highly rated funding proposals largely from US research universities, but also from not-for-profit research foundations and institutes. $2 billion has gone into increasing the success rate of meritorious proposals to the NSF, while $90 million has gone toward funding infrastructure (buildings and equipment), and $10 million toward education programs (including scholarships for science teachers and various Math-Science activities largely at the pre-tertiary level.

  Among the problems faced by the American science community has been a generally stagnant investment rate in the physical sciences over the last decade and more, while also in the midst of an expanding number of proposals and an expanding number of scientists. This has been accompanied by a quickly rising average age for those who get NSF and other federal grants – from an average age of about 35 some thirty years ago, to the of age 50 today. There is also concern that more risky, blue sky research is not being funded, or avoided especially by younger scientists who need early grant success in order to advance, or in some cases retain, their academic positions. A significant portion, some 45 percent, of the new funding to NSF is targeted toward first-time and generally younger scientists. There is also an effort to target research in a number of strategic areas, with 10 percent of funding going to energy-related research, and 17 percent toward climate based research. More money means that the NSF-wide average of awards granted relative to proposals jumped from 25 percent in 2008 to 32 percent in 2009.

- Department of Energy – The DOE, which funds and manages a number of national laboratories in collaboration with various non-profits, including universities, received a net increase of $2 billion. Unlike the allocation to NSF, a majority of DOE new funds are going to “shovel-ready” capital expenses. Some $400 million is funding a new research entity, the Advanced Research Projects Agency – Energy (ARPA-E), a project heavily promoted by DOE Secretary and Nobel Laureate Steven Chu. Smaller amounts of funding are going to support existing Energy Frontier Research Centers initiated in 2008 with 46 centers at various universities, but with thus far inadequate funding; some $85 million is also targeted to funding early-career scientists focused on energy – a program similar to the NSF’s - and $12.5 million will fund graduate fellowships which will be a first for the DOE.

  At least part of the thinking by DOE leaders is that the ARRA likely represented a one-time surge in funding, and that investment in infrastructure offers a significant impact on research without raising expectations of future grant funds for researchers. This approach also appeared expedient, with the ability to move quickly on the backlog of projects largely in the various national laboratories, including the National Accelerator Laboratory at Stanford ($90 million), and Oak Ridge National Laboratory (expanding laboratory space at $65 million).

- National Institutes of Health – The NIH has had the largest growth in funding over the last two decades, with an overall regular budget of $30.5 billion in 2009 for biomedical research. The ARRA provides an additional $10 billion for peer-reviewed research projects, some $1.5 billion for infrastructure and new facilities, and $300 million for shared instrumentation. In part, the success of the NIH in the budget battle in Congress over allocating the ARRA funds relates to the very strong support of key Senators and Congressman – some of whom have benefited directly by recent discoveries and new treatments in diseases such as cancer.

  Senator Arlen Specter (once a moderate Republican now turned Democrat from Pennsylvania, and a cancer survivor), along with former NIH director Harold Varmus and others, made arguments to provide additional funding for NIH projects such as the National Cancer Institute. Biomedical research continues to energize public support in part because it is viewed as the route toward applicable solutions over chronic and fatal diseases.

[21] For a synopsis of the ARRA and science funding, see a series of articles under “Science and the Stimulus,” in *Science,* vol. 326, November 27, 2009.

> The surge in funding initially drew worries that the NIH could not efficiently spend the money, or that the assumed one-time windfall would create too large expectations for robust funding in future years in which many scientists will ask for funding renewals – worries that have somewhat dissipated in the wake of a relative consensus on spending the funds and the psychological boost it has given the biomedical community.
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> Unlike the NSF, the NIH has allocated a larger portion of its new funds for accepting new proposals, as opposed to its backlog of high quality but unfunded projects. By the end of the summer of 2009, the total number of applications from researchers topped 26,000 and NIH officials managed to give out $4.35 billion in grants and another $279 million in contracts. The spectacle and opportunity of the funding surge caused a significant strain among researchers and universities that spent time and energy under a very short timeline to compete for the money. Further, the NIH set a goal of creating or preserving some 50,000 jobs via the ARRA funding surge, placing pressure on investigators to pursue projects that are, in the end, job creators.

In summary, while the ARRA did provide funding for new science initiatives, much of the funding appears to be going to on-the-shelf infrastructure projects and a backlog of research grants that had been denied funding previously. Perhaps just as importantly, the ARRA mitigated the lay-off of research staff and gave a jump-start to university based science activity and employment.

The science community just recently received welcomed news. The surge in funding, it now appears, will not be a one-time event. In the February release of the Obama administration's proposed 2011 federal budget, the president plans for a freeze on many domestic programs – excluding potentially controversial limits on entitlements such as Social Security and Medicare, and Homeland Security programs. But funding for non-defense science and technology research is slated for a 5.6 percent increase over 2010. So while most of the ARRA funds will have been spent, the NSF, DOE, and the NIH will get an increase in their operating budgets as part of the long-term plan to double support for a number of federal science agencies.

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Under the proposal, the NSF would gain an additional $485 million over its total 2010 allocation (including one-time ARRA funds), the DOE's Office of Science would get an additional 738 million, and NASA would get a little more than $1 billion over its 2010 budget.[22] The proposed budget also includes $3.71 billion for science, technology, engineering and mathematics (STEM) education - $30 million more than in 2010.

The ultimate budget for science, and any funds from Washington debt relief for states in 2010-2011, will have to wait the outcome of a significant debate in Congress. In that debate, there needs to be a continued focus on the limited opportunities for talented younger scientists to fund their nascent efforts, and what effect of increased competition for research funds may have on the vitality of the US science community. Like much of the western world, foreign nationals heavily populate the science community. The increased scarcity of funding for science, relative to the number of scientists and engineers in research universities, and the growing global competition for talent and improved quality of the research environment in nations such as China, Brazil, and Europe, means the potential for more and more talent to seek employment elsewhere.

Many nations, such as China, are providing generous salary and start-up funds to recruit Chinese-nationals – to in essence, reverse the brain drain toward a strategic policy of "brain gain." Increased global competition for talent is inevitable as nations invest in their higher education systems and research capabilities, and one variable will be access to research grants and funds for quality laboratories and graduate students.

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[22] Jennifer Epstein, "Science Funding Gets a Boost," Inside Higher Education, February 2, 2010: http://www.insidehighered.com/news/2010/02/02/scibudget

D. A GLOBAL GLANCE

Looking over ones shoulder at the rest of the world, there appears to be a different set of national government approaches to funding and supporting higher education during the Great Recession than what we find in the US. Because higher education has emerged in most nation-states as a key and widely recognized driver for both economic development and socio-economic mobility, we see indicators that many governments are protecting their higher education sectors from large cuts in this fiscal year.

As noted previously, the role of higher education as a mitigation and salve in what appears to be the end of the recession, led Moody's to predict that public universities internationally will fare rather well in their revenue streams when compared to many other economic sectors. They predicted that universities would be able to increase enrollments during the recession, receive strong financial support from their governments, "and offer long-term potential for increasing revenue diversity." Further, they stated that public universities, with their dependence on public investment, would have more stable funding futures when compared to private institutions with their greater reliance on tuition and fees and, in the case of the US, endowments.[23]

Indeed, a preliminary glance at OECD nations indicates, with a number of exceptions, relative stability in public funding for this academic year (2009-2010), and, in turn, the ability of public sector universities to maintain their levels of access, and in some instances to expand enrollment and maintain faculty staffing. In addition, special initiatives, including competitions for building high-ranking universities in Germany, Taiwan, South Korea, China, and in other countries, continue to receive funding from supportive ministries.

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In 2005, Taiwan allocated $1.6 billion for the development of "elite universities," aiming to have 10 of Asia's top universities or departments by 2010. At the moment, there are no signs that the Taiwanese government will cut or reduce funding for this program. Most OECD countries, and a number of others such as China, have maintained initiatives to increase international students and in the case of China, to attract current or former citizens with doctoral degrees and often highly accomplished academics to return to their home country – so called "brain gain" programs.[24]

But there is also the prospect that some budget cuts will come into effect in much of the world, and in particular in Europe, if not this year, during the next academic year. The following analysis provides a scan of the funding and support for higher education systems and universities in Europe, Asia/Oceania, and the situation in Brazil, with a focus on budgets and the role of HEIs (Higher Education Institutions) in economic recovery.[25]

D.1 EUROPE

According to the EU's current president, Spanish education minister Angel Gabilondo, education is "at the heart" of a current effort to create the European Union's new 2020 Strategy which will supersede the Lisbon Agenda that expires this year. But the worsening economic situation in Europe will test the will of EU members in setting new goals and policies for higher education, and more generally fiscal policy. Like in the US, there are emerging different responses by different national governments, and depending on the extent of their financial decline. But I sense that the breadth

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[23] Many of the brand name private institutions in the US lost some 30 percent or more of the value of their endowments, with a corresponding decline in revenue for academic programs. But while they are suffering – laying off temporary faculty and some staff in most cases – they still have a relatively good demand for access, generating much of their income from relatively high tuition rates, and, in the end, represent a modest provider of higher education in the US.

[24] Alex Usher & Ryan Dunn "On the Brink: How the Recession of 2009 Will Affect Post-Secondary Education," Educational Policy Institute - Canadian Higher Education Report Series, February 2009.

[25] I would like to thank the following colleagues for their observations on their home nations, including Renato Pedrosa (Brazil), Saito Takahiro (Japan), Wang Hsiou-Huai and Lee Yen-Yi (Taiwan), Ma Wan-hua and Xu Dan (China), Grant Harman (Australia), Christiaan van den Berg and Marijk van der Wende (Netherlands), Christine Musselin and Bernard Belloc (France), Pedro Nuno Teixeira (Portugal), Chris Curran and Maria Slowey (Ireland), Roger Brown and Gareth Parry (England/UK).

of social services in a more established welfare state, including national health care, national pension systems, and more extensive unemployment benefits, has thus softened the blow in most European nations when compared to the US – at least, thus far. While there have been extensive higher budget cuts in many US states last and this fiscal year, and with more to likely come, most European nations seem to be just now entering a discussion as to what budget priorities will be emphasized for next fiscal year, and what the potential impact on higher education will be.

Limits on national debt under the EU, set at a goal of no more than 3 percent of GDP for all members, have also placed many national governments in a comparatively stronger position to fund stimulus programs similar to those of the US. A number of countries, particularly England, Ireland, and much of southern Europe (Greece, Italy, Spain, and Portugal) and Eastern Europe (Latvia, Hungary, Lithuania and Poland), have greatly exceeded the 3 percent goal during the world financial downturn, which has recently caused worries among financial markets in and outside the euro zone, and discussion of possible financial bailouts by the European Union. While Germany and France have relatively low national deficit to GDP ratios, Greece has reached 12.7 percent, although with a contested commitment to lower that to 3 percent by 2012, Spain is at 11.4 percent, Portugal is at 9.3 percent, and Ireland 10.8 percent. (The US's government's deficit as a percentage of GDP is estimated at 10.64)[26]

But even in these countries, there has been a delay in large cuts to education in 2008-09 and continued protection to some degree of the university sector.[27] That appears to now be changing. Austerity plans for these countries are now being debated or are taking effect this fiscal year and shaping plans for next year – often including pay cuts for government employees, which usually includes academic and other staff at universities. As in other parts of the world, the Global Recession appears to have accelerated discussion of a more prominent role for tuition and fees in funding the future of EU higher education, under the rubric of gaining a more diverse funding portfolio. The following provides a few and very brief unfolding scenarios in Europe.

Netherlands

Thus far, higher education has not been part of an economic stimulus program. Political support is strong for protecting the education sector for short-term mitigation of the impact of the economic downturn, and for long-term economic goals. For example, the Dutch parliament has stated that it wants the Netherlands to be one of the top five nations in the world in the quality of its universities and in its ability to attract international students.

Seemingly reflecting the high priority on higher education, the Dutch government made no major cuts to its higher education sector in the 2009-10 fiscal year. In preparation for the anticipated decline in revenues and to accelerate planned reforms in Dutch higher education, the national government created a fund for mitigating budgets cuts, enhancing selectively existing university programs, and for attracting talented foreign students. This year, enrollments in the university sector grew by about ten percent over last year.

But it is assumed that the 2010-2011 year will be very different and cuts will be required for most government agencies. To help in that process, twenty special commissions are charged with finding ways for a potential 20 percent cut in funding (€35 billion a year) among different sectors of government spending. One focuses on higher education and student financial aid. But the government has chosen to protect funding for basic scientific research. Expected cost-savings measures may include a reorganization of a large portion of the existing financial aid system proposed by Dutch Education Minister Ronald Plasterk, including shifting study grants to a student loan system – a transition pursed by other European nation's over the past decade. This shift would end student grants, creating a €1 billion saving fund that would be used to further higher education reforms. The proposal led to student protests in February 2010 that might grow in their ferocity. Over 1,000 students occupied lecture halls and university buildings in Amsterdam, Nijmegen, Utrecht and Rotterdam. There are also plans for higher tuition fees in select programs (especially at masters level). Although Dutch universities are anticipating possible budget cuts for 2010-11, they do not expect a drop in student enrollment rates.

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[26] See http://www.usgovernmentspending.com/federal_deficit_chart.html

[27] Most EU countries, including other large economies such as France and Germany, are also well above the 3 percent threshold. The European Commission has decided to suspend sanctions on those countries in view of the financial crisis. There is an expectation that pressure from the EU will grow to restrain excessive deficits as the global economy improves.

In parallel, but disconnected from the financial concerns, a new commission (the Veerman Commission) has been established to advise the Ministry on creating a more differentiated higher education system and with some attention on the "Californian Model."

Germany

German universities have long suffered from declining funding on a per-student basis under the Landers (regional state) governments, while shouldering the responsibility to accept any and all qualified students in an era of increased enrollment demand. With Germany now facing an economic crisis as great as any since World War II, and with large bail-outs for banks and corporations, the federal and state governments still agreed in June 2009 to spend 18 billion Euros on higher education institutions and research in 2009-10. This is considerably more than in the previous fiscal year.[28] How to pay for this and other programs is still under debate, with many political leaders in the Landers stipulating that additional research funds only be provided in full if tax revenue allows over the next few years.

Long-term plans for funding and expanding German higher education appear to still be in place, including an enrollment expansion to include an additional 275,000 students by 2015 as part of a plan to increase educational attainment levels and national competitiveness. This includes a provision of €26,000 for every additional student going to their respective institution, conditional on degree completion, with an estimated €3.75 billion in new funding from the federal government matched by state governments.

But the emerging finance model also includes a possible increasing role for student tuition and fees, first legislated in 2002, but not implemented until 2005 after a lengthy court battle. The relatively new fees system, along with consternation on how the Bologna Declaration has been implemented in Germany and throughout the EU, including the restructuring of degree programs in Germany, caused more that 80,000 students to take part in protests in November 2009. "The student protest has met with at least a partial response by government officials who are now considering restructuring of new courses and better financial support," explained Michael Gardner. "All sides involved stress, however, they are not opposed in principle to the Bologna process."

England

Similar to many other EU members, England made no substantial cuts in its higher education budget for the current 2009-10 fiscal year. Prime Minister Gordon Brown's Labour government launched a stimulus package focused on relieving credit markets and maintaining public services. But there was considerable speculation of deeper cuts to come. The government revised its economic forecast and is now predicting that the UK economy will have contracted by 3.5 per cent in 2009 and will grow again by 1.25 per cent in 2010 - a forecast far more optimistic than that made by the International Monetary Fund (IMF) which has predicted the UK economy will decline by 0.4 per cent. "Some institutions were preparing for 20% revenue cuts," notes one source on UK higher education.

In May 2009, the Department for Innovation, Universities and Skills was told to make savings of £400 million in 2010-11, representing a 10 percent cut to university operating budgets, and that further would come at the end of the 2009-10 academic year. At the same time, Prime Minister Brown's government stated it would not cut funding for university research.[29]

But with the worsening fiscal position, and worries over large government debt levels, Chancellor of the Exchequer Alistair Darling announced on December 9, 2009 a total budget cut to higher education and UK's Research Council of some £600 billion for 2010-11. Shortly after, Secretary Peter Mandelson announced in December 2009 that cuts to the Higher Education Funding Council of England (HEFCE), and hence for British universities and the Further Education sector, would be £518 million (approximately $827 billion) – substantially larger than earlier government announcements. Over three years, total cuts will amount to £950 million, a figure that has prompted university

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[28] "Germany: Record funding for higher education," Michael Gardner, University World News, 21 June 2009, Issue: 0081

[29] BBC World News, "Universities Warn that Budget Cuts Will Be Challenging," December 10, 2009: http://news.bbc.co.uk/2/hi/uk_news/education/8405680.stm

leaders to warn that the government is bringing higher education to its knees. University chiefs have warned that up to 300,000 young people could be turned away this year because the government has capped university places.

This has led to some confusion of how the cuts will be handed out. The cut to HEFCE would represent a 7 percent reduction for England's higher education institutions over the previous year. In part, the further cuts came in response to an unanticipated jump in government costs for student financial aid and an increase in student places (enrollment) beyond government targets – an increase reflecting increased enrollment of approximately 10,000 students for higher education during the economic downturn. In essence, the government will not fund these students, and universities will need to make decisions to reduce enrollment if they are over their target, or find ways to fund them. To help universities cope with these large cuts, the Confederation of British Industry has proposed tuition fees of £5,000, up from the current £3,225 a year.

The UK Research Council spent some £3 billion last year. Earlier government pronouncements were that there would be no cuts to university research funding, in large part built on the argument that science and innovation would help lead England out of the recession and the need to compete for growing research funding from the EU. "In difficult economic times, science and innovation is not a luxury but a necessity for the recovery,' stated president of the Royal Society, Martin Rees. "In a year where the Obama administration delivered a 'stimulus package' for science, it is regrettable that the UK's competitiveness is being reduced by the lack of an impetus equivalent to what we have seen not only in the US but in China, Germany and Australia as well."[30] It appears that, with large cuts coming to higher education, research funding may be preserved or have only marginal cuts.[31]

Yet there continues to be uncertainty with the prospect of the upcoming election of Parliament and who will be Prime Minister. There is of yet no clear policy alternative outlined by the Conservative Party, but earlier Tory plans were for even larger cuts to higher education, in part to be offset by substantial increases in university fees, and the idea of establishing government initiated endowments intended to encourage greater private giving. But if cuts lead to large decreases in access to higher education, the Tory leadership, ignoring previous draconian calls for budget reductions, will likely use the issue to promote discontent with Prime Minister Brown.

Ireland

With some 4.2 million people, Ireland prospered greatly in the 1990s and early 2000s from an export-led boom supported by an overt government development policy that increased educational attainment, and pursued an open-market and low corporate tax initiative that has led to a surge in mainly high-tech companies from around the world. The success of this strategy reflected the competitive strengths of a young and generally university-educated work force; later reinforced by substantial government investment in infrastructure and support for research and development activity. Education, and in particular higher education, continues to be seen as a critical part of that development strategy.

But over the last two years, Ireland's economic decline has been one of the worst in the EU. Government finances are in disarray due to the bursting of the housing bubble similar to the US and England, an excessive reliance on temporary sources of taxation (like VAT and taxes on new housing), rather than on less volatile taxes (like property and commercial taxes), and exacerbated by growing government spending during better economic times - including significant salary increases - for government employees. Unemployment in Ireland has doubled in a year and emigration is outstripping immigration. Ireland is now borrowing heavily from international sources and is making large reductions in public spending. As of September 2009, there was a €20 billion shortfall in tax revenues that the government is now desperately trying to fill.[32]

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[30] "Hundreds of Millions to be Slashed from UK Science Budget," *Chemistry World,* Royal Society of Chemistry, December 11 2009: http://www.rsc.org/chemistryworld/News/2009/December/11120902.asp

[31] "Budget cuts could herald a price war for students," Times Higher Education, 7 May 2009, By Melanie Newman: http://www.timeshighereducation.co.uk/story.asp?storycode=406437

[32] John Walshe, "Ireland: No Voluntary Pay Cut for University Leaders," University World News, September 7 2009: http://www.universityworldnews.com/article.php?story=20090925025131469

Not surprisingly, the higher education sector is now facing large cuts for the upcoming fiscal year – mirroring the delayed response we are seeing in much of Europe. The government of Ireland recently instituted salary reductions ranging from 4 to 10 percent for all government employees, including university faculty and staff, and seeks other means of reducing costs in tertiary institutions. There already is an embargo on recruitment of new academic staff. Tuition was at one time charged for Irish students, but ended with the dramatic rise in economic activity and interest of government to shift rising revenues to the higher education sector – a popular move in an era of largess. A government-sanctioned study of the nation's higher education system over three years ago proposed the reintroduction of tuition to create a more stable financial base for the university sector. But that met stiff political opposition and was rejected by the Parliament. Now the deep cuts have prompted another effort to reintroduce tuition, but it appears that the junior partner in the government, the Greens, have successfully ended this proposal. This will likely mean significant additional cuts next academic year.

Like other governments, one partial solution to the decline in government funding support is to seek more international students – in particular non-EU students. At present, one in twelve of the Irish Republic's 150,000 full-time undergraduates and postgraduates are from outside the country. Education Minister Batt O'Keeffe proposes to increase that percentage significantly. At the same time, the government has launched an effort to produce a "National Strategy for Higher Education" for Ireland, with attention to greater mission differentiation and funding, possible mergers, and statements by some business leaders that the nation cannot properly maintain seven universities at world class research, education and training levels.[33] This strategy document is scheduled for publication later in 2010.

France

The university system in France is undergoing significant reform efforts under President Sarkozy, with resulting debates over autonomy and the possible redistribution of research funding and a reorganization of the CNRS (institute of research) and the role of the *Grandes Écoles*. Sarkozy and his advisers have realized the importance of improving the university sector, which is uneven in quality with many institutions and extremely high student attrition rates.

In the midst of these reforms and continued debate over the role of the state in French society, higher education funding is increasing in accord with Sarkozy's promise during his presidential campaign, with no immediate plans for budget cuts for this fiscal year, but for actual increases in investment and greater autonomy. As part of the plan, on January 1 of 2010 nearly a quarter of France's 83 universities gained significant new powers over their budgets, staff recruitment and salaries, and other areas including management of their facilities and property formerly controlled by the centralized French government. Over the past year, governing boards for each of the participating universities have been restructured to provide representation from the private sector and limited to 30 members, and each university has received grants of €250,000 to help with the transition. By 2012, all French universities will have this level of autonomy.[34]

While in the midst of these reforms, a number of special initiatives remain in place, including Operation Campus, an effort to create regional alliances of French universities with other local higher education institutions (e.g., vocational and technical institutions). Sarkozy announced in November 2007 a plan to allocate over time some €5 billion for Operation Campus, with the hope of collaborations and eventually the flow of students and faculty between institutions. That has evolved now to include ten regional areas and reflecting the government's resolve to reposition France in the evolving European area for higher education and research.

In December 2009, Sarkozy outlined a plan to pay for part of that larger funding commitment with a new €35 billion stimulus package for promoting research, with some €11 billion to help further support reforms in the university sector – including Operation Campus. How can he pay for this added investment? Sarkozy's government plans on using

[33] Sean Flynn, "Sutherland Says Number of Universities Must be Cut," Irish Times, January 28, 2010: http://www.irishtimes.com/newspaper/ireland/2010/0123/1224262926822.html

[34] See Operation Campus, Office of Science and Technology: http://www.france-science.org/spip.php?article1142; Jane Marchall, "Universities Begin Move to Autonomy, *University World News, January 11 2009: http://www.universityworldnews.com/article.php?story=20090108185421313*

some €13 billion in loans made to banks at the peak of the financial crisis and since repaid, and by deficit financing for the rest via a bond initiative – a source of controversy among those increasingly concerned with France's growing budget imbalance that is among the highest in Europe.[35] Reflecting a decided change from distributing funds in the past evenly among some 83 universities, Sarkozy stated his aim is to selectively distribute funds to innovative and productive institutions that could eventually form the "best universities in the world" – the shared mantra of many national leaders throughout the globe. "We are going to invest massively," he noted.[36]

As one government official noted, the increase in funding for higher education, and other national programs, in part reflects the inflexibility of the national government's funding. Any cuts to higher education, especially after promises by Sarkozy prior to the Great Recession to increase investment in universities, also poses perhaps a larger political problem in France than in other parts of Europe.

At the same time, the difficult process of reframing, in some form, France's higher education system, and in particular its university sector and its uneasy relationship with the *Grandes Écoles*, was reiterated in a recent OECD report published in May 2009. The move toward greater university autonomy was hailed by the report, but it also argued for letting institutions fix their own tuition fees and select their students – two reforms not yet openly discussed by the government and a possible source of great consternation.[37] The government's Universities Freedom and Responsibility Act (LRU) is viewed, "as an important step towards autonomy in French universities" for promoting greater quality and efficiency of France's higher education network; but the OECD's report concludes that more management authority at the institutional level is key, including budgeting and hiring and remuneration.

Portugal

Like other parts of southern Europe, Portugal has experienced one of the steepest declines in economic activity, burdened also with a relatively high level of national debt. The previous years had already been tough on university operating funds from the state, starting with the fiscal crisis in 2002 and large cuts in overall public funding of higher education in the years leading up to the current Great Recession.

But like many other parts of the world, the national government has expanded funding for academic research, particularly in science and engineering fields. These funds go directly to research faculty and research units, however, with little of it coming to central university administration in the form of overhead. In the current fiscal year (2009-10), the higher education sector has experienced budget cuts. Those universities with the ability to raise funds via the private sector remain fairly stable in their financial position; but weaker institutions often have received special funds from the Ministry of Science, Technology and Higher Education to keep them afloat.

Like other parts of Europe, Portugal just had a general election, and this has delayed discussion on important budget issues. However, the new government is weaker because they recently lost the majority of seats in parliament. As a result, the role of higher education as a part of any stimulus program has, thus far, not been well defined. In January 2010, the government signed an agreement with representatives of public universities and polytechnics that could translate into additional funding. However, the ultimate outcome is dependent on additional negotiations between the ministry and university leaders and may be very difficult.

For 2010-11, there are not many options for mitigating anticipated further cuts to higher education. Tuition fees already exist in Portugal, with a set range that can be changed only by the government. Most universities are already at the upper bound of that range and it appears that the government will allow for a steep rise to help mitigate cuts. There is the likelihood of across the board cuts in salaries for all government employees as part of an austerity program intended to avoid the budget crisis now found in Greece.

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35 Lizzy Davies, "Sarkozy Unvails 35bn 'Big Loan' Boost for French Universities and Museums," *The Guardian,* December 14, 2009: http://www.guardian.co.uk/world/2009/dec/14/spending-boost-for-french-universities/print

36 "Sarkozy to French Universities: "We're Going to Invest Massively," *ScienceInsider,* December 9, 2010: http://blogs.sciencemag.org/scienceinsider/2009/12/sarkozy-to-fren.html

37 Organisation for Economic Development and Cooperation, *Economic Survey of France 2009,* Paris, May 2009: www.oecd.org/eco/surveys/france

D.2 ASIA/OCEANIA

Across East Asia, governments are funneling resources into elite universities, financing basic research, and expanding access to vocational and junior colleges, all with the goal of driving economic development. Asia's approach to higher education contrasts markedly with that of the United States, where, even before the global recession hit, the percentages of state budgets dedicated to higher education have been in steady decline.[38]

It appears that most Asian countries are not planning large budget cuts to their higher education sectors, and are using the economic recession to increase efforts at reform and increase investments to create "world class" universities.

China

With more than 27 million students, China's current higher education system is the largest in the world. Some 24 percent of all 18-22 year olds now in a tertiary institution, and hundreds of new universities have been established over the past decade.

Like other leading economies only at a scale and speed that is unique, and with some $1.95 trillion in foreign reserves, China's national government launched an economic stimulus package of some 4-trillion Yuan (nearly $600 billion) over two years beginning in November 2009. Since then, the focus has been on replenishing credit markets, expanding an inadequate health care system (an additional $125 billion) with the target of covering 90 percent of the population, and with an allocation for infrastructure projects, including new and improved airports, railways and power plants.[39] One result is yet another construction frenzy that has helped soften the economic downturn that lowered GDP to about 6.1 percent. But there has been no special allocation for higher education, beyond possibly national and regional universities gaining access to infrastructure funding.

Thanks in part to this economic program, and although various economic sectors focused on exports have had significant declines in business activity, China has not technically experienced a recession. Already, there are signs that the Keynesian approach of China to bolster its economy is paying off, with an estimate of a return to a GDP of around 12 percent predicted for 2010.

While no national largess has thus far gone to higher education, at the same time national and regional universities and vocational and technical colleges have not received any mandated cuts in their operating budgets. This means that various national reform efforts remain in place, including continued expansion of access, new efforts at improving the quality of academic teaching programs and research activity, special initiatives such as the 211 Project that has the aim of creating 100 top research universities in the coming decades and, more recently, the 985 Project focused on targeting funding to a small number of major Chinese universities. These last two initiatives are part of the on-going concentration of resources on a number of national universities to make them more productive and competitive in the international market place. The 982 Project is focused on a shift from quantity growth to quality enhancement.[40]

But as some observers of China's burgeoning higher education sector note, the rapid expansion of access has led to a chronic underfunding, with student to faculty ratios steadily climbing, low faculty salaries, and a new tuition system that includes higher fees at less prestigious institutions that has created problematic debt burdens for students and

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[38] "Asia Rising: Countries Funnel Billions Into Universities," By Mara Hvistendahl, *Chronicle of Higher Education*, Oct 5 2009: http://chronicle.com/article/Asia-Rising-Countries-Funnel/48682/; "China Stimulus Package Lifts Recovery Hope," MSNBC World Business, March 4 2009: http://www.msnbc.msn.com/id/29509780/

[39] "China's Stimulus Package Pie Chart," China Environmental Law Blog, http://www.chinaenvironmentallaw.com/2009/03/07/chinas-stimulus-package-pie-chart/

[40] Kai Jiang, "Undergraduate Teaching Evaluation in China: Progress and Debate," *International Higher Education*,

their families. Despite the rising tuition income, many regional universities are struggling with their finances and going into debt.[41] There remains, notes Ma Wanhua, "an alarming gap in quality between elite and mass institutions."

The net conclusion is that the Great Recession has not altered the path of China's national and regional efforts to reform and expand its higher education system, and there is increased acknowledgement by the Ministry of Education that the next step is to address funding and quality issues – including a plan to increase overall spending on education to an internationally competitive 4 percent or more of national GDP. Currently, it is approximately 3.5 percent of a growing GDP according to the Ministry of Finance, significantly below the average of developed economies of about 5.46 percent.[42]

South Korea

South Korea, Asia's fourth-largest economy, grew in every quarter of 2009 after shrinking 5.1 percent in the final three months of 2008, and currently has an unemployment rate of approximately 3.5 percent. In a November report, the Organisation for Economic Cooperation and Development lauded South Korea's recovery as "one of the earliest and strongest" in the 31-member group and predicted that a "sustained pick up in exports" would bolster growth in 2010 and 2011.[43]

It is in this context that the national government continues its investment in higher education, where higher education access rates are already among the highest in the world. The 2009 budget for the Ministry of Education, Science, and Technology was 41.581 trillion Korean won, up 8.2 percent from the previous year, and the budget for higher education grew by 2.5 percent increase.

There remain problems similar to Japan's – a declining population, a oversupply of private institutions, worries over the quality of degree programs, and the question of whether universities can produce the economic labor for a growing technology based companies. Key state-funded projects include the World Class University project, which will operate with a budget of 165 billion won. Launched in 2008, the purpose is for Korean universities to recruit top-notch researchers from abroad who will collaborate with Korean scholars in key growth-generating fields and contribute to enhancing the international standing and competence of Korean universities.

The New University for Regional Innovation project, with an investment of 245.2 billion won, is part of an effort to develop local economies outside of Seoul. A total of 548.5 billion won has been allocated to provide more university students with loan programs.[44] The Brain Korea 21 project continues to get significant funding, with its focus on improving graduate education (including incorporating English into key programs to attract talent), and strengthening industry-university partnerships. And the government initiated a higher education evaluation and accreditation system on January 1, 2009, in a bid to reinforce the autonomy and accountability of higher education institutions and refurbish the sector with a quality assurance framework of international standards.

Japan

It appears likely that the economic downturn, and Japan's long-term economic problems, may accelerate higher education reforms, but not reshape them in any significant way. Prior to the Great Recession, Japan was already in the process of significant reform of its higher education system, conditioned by a long-term decline in population and the prevalence of a large number of public and private institutions. Reforms include a plan to reduce government funding for national and city controlled universities and subsidization of private institutions, a series of targeted programs – including a university excellence initiative, an evolving quality assurance program, and an effort to recruit

[41] Borrowing by public universities in China is currently at 28.17 billion US dollars, a dangerous level for some universities. According to a study by Fengshou Sun and Armando Barrientos, "The Equity Challenge in China's Higher Education Finance Policy," *Higher Education Policy*, no 22 (2009); 191-2007. (CASS, 2007).

[42] See Xiaozhou Xu and Weihui Mei, Educational Policies and Legislation in China, Homa & Sekey Books (NJ: Paramus 2009); Ministry of Finance: http://news.sciencenet.cn/htmlnews/2009/11/225382.shtm

[43] "South Korea's Economic Growth Slowed in Quarter," New York Times, January 25, 2010: http://www.nytimes.com/aponline/2010/01/25/business/AP-AS-SKorea-Economy.html

[44] South Korean Ministry of Education, Science and Technology, "2009 budget for Education Ministry set at 45.6 trillion Won," October 15, 2008

foreign students. These reforms are accompanied by a 2004 policy of “incorporation” of the government controlled university sector to provide greater autonomy, including greater financial management authority and a restricted ability to raise tuition and fees on students. The Ministry of Education, Culture, Sports, Science and Technology (known as MEXT) is also pushing for growth in graduate and professional programs.

For example, Japan’s national universities are in the midst of a 1percent annual reduction of governmental subsidies since 2005. If this ministry-driven plan continues, it will mean that the subsidy to national universities for 2015 will be less than 90 percent of that for 2005. Government subsidies for private universities have also been reduced by 1 percent annually beginning in 2007. Government subsidies cover about 80percent of operating costs for national universities, and about 10 percent for private universities. In the case of public universities established by the prefecture or city government, it appears that budget cuts will be much more significant. Hence, prior to the economic downturn, Japan’s university sector was already experiencing a reduction in classes taught by part-time lecturers and the restructuring of clerical work and cuts in educational and research activities for faculty.

Japan’s endemic economic problems (growing government debt and long-term meager economic growth) have caused further budget cuts in higher education. During this academic year, the government initiated cuts in academic and staff salaries in the national universities, and proposed cuts in science funding. For next year, there will likely be further increases in tuition. MEXT has also revised its strategy to attract international students from a target of 30 institutions (the “Global 30 Project”) gaining support to recruit internationally, to 13.

In contrast to many of the country profiles offered in this essay, there appears to be no specific policy initiative or plan to use higher education as part of Japan’s national economic recovery. The new ruling political party, the Democratic Party of Japan, is concerned that public expenditure for education per GDP is among the lowest of the OECD countries, but new policies are expected to focus only on primary and secondary education, not on higher education.

As noted by Saito Takahiro at Osaka University, “I think the impact in Japan is limited when compared with the US and many other countries.” Yet the overall policy framework over the past eight or more years was already aimed toward market solutions and government cost-cutting, and toward some form of shrinkage in the number of institutions – while preserving, indeed enhancing, the quality of a number of select largely national universities. A new government sanctioned commission will review the difficult issue of the proper size of Japan’s system.

Taiwan

The impact of the Great Recession has not been as severe in Taiwan, and seemingly throughout Asia, as it is in the US and other nations. Higher education in Taiwan appears to be a protected sector, viewed broadly as a component to both short-term mitigation of the economic crisis and for long-term competitiveness – although conditioned by a population whose younger age cohort is shrinking, like Japan’s. But another factor may be that higher education and research funding by the national government has certain protections under the law, with a guarantee of a certain proportion of all central government funding going to the education sector of the economy.

The new government claims to have increased the overall education budget by a small percentage since coming into office in early 2009. As a result, there are no plans for increasing tuition and fees. The government has provided a large number of "short-term" positions including postdoctoral fellowships, research assistantships, and contract positions for faculty members to universities and research institutes as part of a national economic stimulus policy.

While there is no announced budget cuts for universities, the Ministry of Education has cut 25 percent of the funding for the "Pursuit of Excellence Project" awarded to several top universities. The reason for this cut has not been because of some larger plan for higher education, but simply to divert funds for reconstruction and emergency relief for victims of the devastating August 2009 hurricane in Southern Taiwan.

The major problem facing Taiwanese higher education continues to be declining student demand and a need to reduce via mergers and attrition the existing number of institutions (again, like Japan). The government is implementing strict evaluation schemes, attempting to screen those "weak" institutions and programs out of the market, while also looking at the possibility of providing greater autonomy to the best national universities.

The national government, observes Wang Hsiou-Huai at National Taiwan University, is "trying very hard to boost the economy and employment rate by funding and creating many 'short-term' employment positions. Budget cuts, cuts in personnel, and a tuition hike would make the weak economy worse," she notes, "and thus is unconceivable for this government as the remedy for the economic crisis."

Australia

Australia has avoided officially going into a recession, and the national economy appears to be well into the recovery stage. The Australian Reserve Bank is sufficiently concerned with inflation and in October 2009 increased the lending rate by 0.25 percent. Unemployment is down as well, running at 5.7 percent in October. As a result, there have been no significant cuts so far to higher education but it is possible that additional money promised for 2010 may not be allocated. So far general budget cuts in federal and state government budgets have not been large.

Thus far, higher education funding has not been part of any national economic stimulus policy. Substantial funds have been allocated for infrastructure, including to primary (elementary) schools to build assembly halls or other facilities. But there has been no funding for capital costs to universities. Student enrollment and costs have remained stable, with some part-time students from lower income families likely to have received the payment of AUD$1,000 per person as part of a stimulus program passed last year.

A number of major reforms of the higher education system were announced late in 2008. It is possible that some of these may happen, although there are signs that some reforms are being implemented on track. "One major factor that will impact the Australian economy and in turn what happens to higher education," notes Grant Harman at the University of New England, "is what happens with the Chinese economy. China is continuing to buy large amounts of iron ore and gas and this has kept Australia out of recession. But any major new directions in the Chinese economy could have a major impact on Australia."

D.3 South American Example – Brazil

Brazil has not been hit as hard as most countries by the current recession. In fact, Brazil's GDP is estimated to have grown a modest 1 percent at the depth of the Great Recession. As a result, in 2009-2010t the federal system of universities and technical colleges suffered no significant budget cuts but an actual growth in expenditures.

All public education in Brazil is free for students and the federal government has kept the level of grants for poor students going to the private system steady. There may be a reduction in overall student registration at private HEI's due to some loss in employment and the higher costs of private institutions, but with unemployment now in decline it is expected that their enrollment numbers will go up. The national government is continuing efforts to invest in the expansion of higher education as a key component in economic competitiveness. In the federal system, both universities and technical colleges are on track to double their number of students between 2005 and 2010. At the state level, the push has been mostly in the technical college system, which has grown four-fold in the last 8 years.

There are indicators that the federal government may run a deficit of 2 percent for 2010, or about 30-40 billion reais (~$18-24 billion USD). There is some discussion that higher education might face a cut next fiscal year. "But policy on this is still under discussion in Congress," explains Renato Pedrosa at the University of Campinas in the state of São Paulo. "And I doubt, given that it is a general election year, that education and health will be hurt. Brazil is still lagging behind in HE enrollment figures compared to other emerging economies, so there's a sense that more has to be done before one changes the system." 2010 is an election year and both of the main parties (Partido dos Trabalhadores/Workers Party-PT and the Social Democrats-PSDB), one leading the federal government and the other dominant in the state of Sao Paulo, have been dueling to see which has invested more in higher education.

E. PROEJECTING TREND LINES

Throughout the world, it appears that the most significant cuts in operating budgets for higher education by governments will likely take place in the coming fiscal year. Government budgets tend to lag economic downturns, readjusting to declining revenues and dealing with large budget cuts even in the midst of possible signs of an economic recovery.

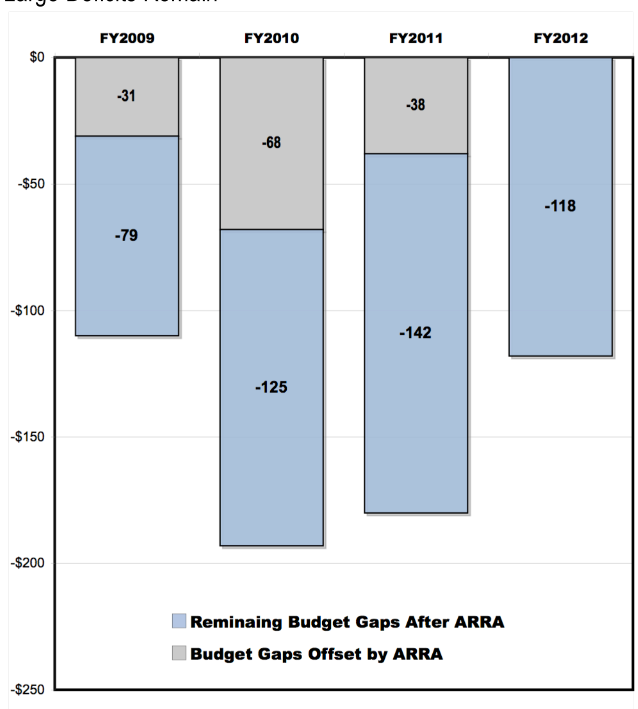
In much of Europe and parts of Asia, there appears to be great reluctance to make substantial cuts in what are major and long-term efforts to reform and reshape public higher education systems. They have, in most cases, been a protected part of national budgets. But this preliminary scan indicates that the really difficult choices on public funding are now taking place.

The Prospect in the US 2011

In contrast, the US has already made large cuts in higher education, and with equally difficult budget problems likely for next year for state governments – still the primary funding source for public colleges and universities. To reiterate, *how the states go, so goes US higher education*. At present, the only means for universities to make up for large budget reductions is to raise additional revenue, principally tuition and fees, or make significant cuts in programs, course offerings and, often, faculty to student ratios. Most universities and colleges are doing both.

In states like California, large numbers of students cannot gain access to higher education, while those that can face steep tuition increases and difficulty getting the classes they need. To varying degrees, similar stories are occurring throughout much of the US. There are other market effects that are emerging. There are declines in foreign students enrolling in American institutions, particularly at the graduate level, in part influenced probably by shifting demand with strategic efforts by competitors to attract foreign students and by pricing differentials; the US has some of the highest tuition fees and relatively low financial aid for international talent, and lacks a national strategic approach to attracting non-US citizens.[45] The economic downturn has also diminished the interest of American students to go on education abroad programs: Sixty-six percent of 165 organizations that participated in the survey noted downturns in the number of students going abroad for their studies.[46]

Figure 2: ARRA Reduces US State Budget Gaps, But Projected Large Deficits Remain



For US higher education, 2010 and 2011 may be equally troubling as state fiscal woes continue. In 2009, state governments, experienced a drop of about 12 percent in overall revenues. As noted, states used the Obama stimulus package to help partially mitigate large cuts to universities and colleges. That money will be gone for 2010, unless Congress and the White House attempt to renew some form of stimulus program to help states cope with their budget gaps.

According to one estimate, without a new initiative from Washington, states will need to eliminate deficits in late 2010 and into 2011 that will reach $142 million, “likely take nearly a full percentage point off the Gross Domestic Product,” and leading to a loss of some 900,000 jobs next year. (See Figure 2) [47] Some 36 states, including the bigger states such as New York, California, Michigan, and Florida, will be struggling to fill large projected budget deficits, often in the range of some 20 percent of their normal operating budget. California has an estimated $20 billion projected deficit, even with the prospect of a modest

[45] See 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

[46] Forum on Education Abroad, “Survey on the Impact of the Global Economic Crisis on Education Abroad, September 15, 2009: see www.FORUMEA.ORG

[47] Iris J. Lav, Nicholas Johnson and Elizabeth McNichol, “Additional Federal Fiscal Relief Needed to Help States Address Recession’s Impact,” Center on Budget and Policy Priorities, December 18 2009: http://www.cbpp.org/cms/index.cfm?fa=view&id=2988

economic recovery and expected increase in revenues. Michigan's beleaguered economy has resulted in a 45-year low in revenues – when adjusted for inflation. Oklahoma has the largest decline since the Great Depression.

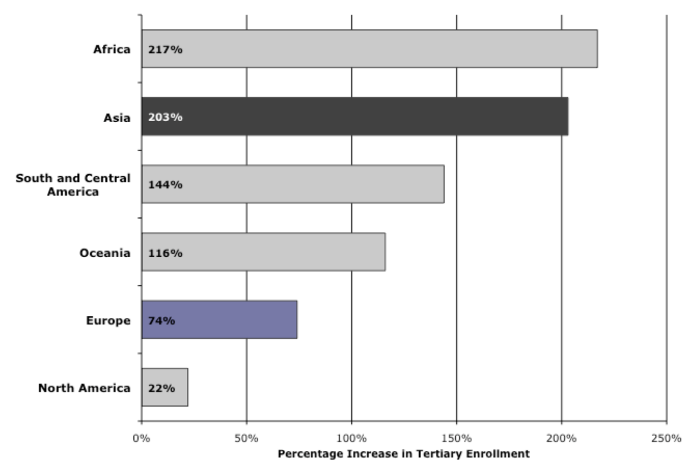
The example of California indicates that most states have already made large scale cuts in public services, and in higher education already, with universities and colleges laying off faculty and staff, reducing salaries and benefits, and often reducing access or course offerings that slow student progress towards a degree. If the next round of budgets cuts -is similar, the room for further cuts in services is much more limited.

. . . the Obama administration unveiled in February 2010 its proposed $3.8 trillion budget for 2011 that includes $25 billion in state aid to help with projected budget deficits. But this is a modest contribution to states that face projected cumulative budget deficits, leaving states an estimated shortfall in revenues of $117 billion in 2011.

As of this writing, the push is now on by state governors and some in Congress to get some form of a renewal of federal funds for state operations, including public schools, tertiary education, and public safety including police and fire services. This could come in the form of additional direct funding of state governments, or possibly as loans from the federal government.

Largely because of concerns over the weak economic recovery and the blight of states that could further drive up unemployment, the Obama administration did unveiled in February 2010 its proposed $3.8 trillion budget for 2011 that includes $25 billion in state aid to help with projected budget deficits.[48] But this is would be a modest contribution to states that face projected cumulative budget deficits, leaving states an estimated shortfall in revenues of $117 billion in 2011 (see Figure 2), and with uncertainty about the final outcome in light of the pending debate in Congress that is increasingly focused on stemming the tide of large budget deficits.

Figure 3: Percentage Increase in Tertiary Enrollment 1990 – 2007



Without substantially more federal aid to state governments, public colleges and universities will face another major round of budget cuts. There is a prospect that higher education degree rates in the US will dip in the near term, particular in states like California that have reduced access to higher education even as enrollment demand has gone up substantially.[49] A substantial portion of this $25 billion will go to education, but how much to higher education is not clear.

There is much consternation and political opposition from Republicans in Congress for any further federal debt and a growing cadre of disgruntled voters who accept the claim of an increasingly intrusive and ineffectual federal government. These and other political interest groups, including increasingly powerful lobbyists, will undoubtedly reshape the final budget.

Meanwhile the World?

The world has embraced this Keynesian moment, when greater government intervention in the economy has proven crucial. In the US, the link between highly desired public services, such as education or health care, with government

[48] There is also a separate "Jobs Bill" under discussion in Congress that would provide some additional relief to states, and that might help give a slight bump-up in state revenues; "Obama Budget Includes Aids for States," Stateline.org, February 1, 2010: http://www.stateline.org/live/details/story?contentId=456538

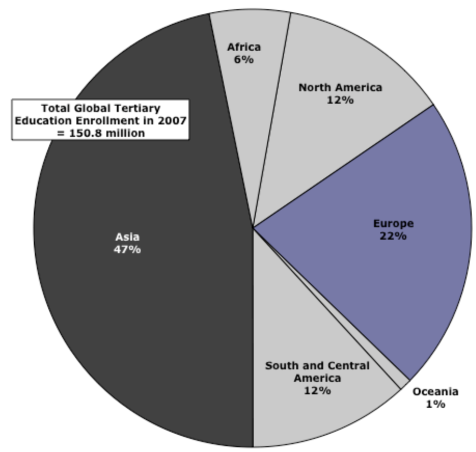
[49] Beyond stimulus funding, direct federal grants in aid to states and local governments will reach $645.7 billion, with nearly one-half directed at healthcare, in 2011. Lisa Lambert, "Obama Budget Sends More Help to States and Cities," Reuters, Februrary 1, 2010: http://www.reuters.com/article/idUSTRE60T1VJ20100201

initiative and finance, remains a source of confusion for many Americans. Any additional allocation, essentially what appears a life-line for access to higher education, will likely not be decided on until much later in the fiscal year, after the likely passage of a federal health bill, and after states make their own initial budget cuts. One result is that states, and universities and colleges, do not have time to properly assess and plan how to cut further their operating and capital costs.

With the context of global trends in funding for higher education, I sense that this is a pivotal period in which current trends will be accelerated. Figures 3 and 4 provide evidence of the dramatic increase in tertiary enrollment since 1990, and the large shift in market share to Asia and Europe.

Investment rates in higher education may ebb a bit in these growth areas of the globe, but most policy responses by national governments, it appears, are to keep growth rates and to enhance quality of the HE sector. In the case of places such as Europe, investment rates in higher education remain strong despite the recession – although with many problems and difficulties associated with reforms such as the Bologna Declaration, and with uncertainties as we enter a prolonged economic recovery.

Figure 4: Total Worldwide Distribution of Enrollment 2007 = 150.6 million



In the US, where educational attainment rates have largely remained stable or are declining, the severity of the economic problems, along with the growing gap between the rich and the poor, will likely mean a short-term decline in access and perhaps a long-term decline in graduation rates. The Great Recession is further exposing and reinforcing a trend in which the educational attainment rates of a nation, along with the quality of its higher education sectors, will determine the fate of not only its economic competitiveness, but also its socioeconomic health.

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