

A BRIEF

US HIGHER EDUCATION AS AN EXPORT
It is about the money, but also much more

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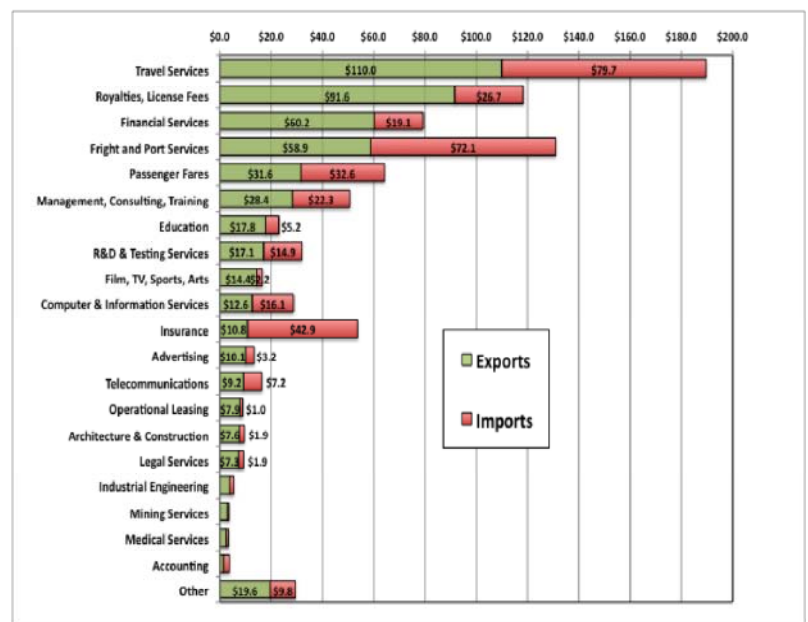
The following brief is part of a larger study by the authors on the economic impact of international students and is drawn from a pending proposal to create a California Global Higher Education Hub in the San Francisco/Bay Area. Here, the authors state, "Higher education is the best export, not only because it is profitable and meets labor market and growth needs. Higher education also fulfills a diplomatic and cultural mission like no other form of trade. It diffuses the best of the US's values across the world, strengthens the US's image and international position and creates personal relationships which are ever so important in stabilizing the world's global order."

In his first year of office, and facing the challenge of an economy in severe decline, President Obama identified a key element for future economic growth for the US: we need to "export more of our goods." The US trade deficit remains a source for other economic maladies, including huge personal and government borrowing to help buy goods and services from abroad that, in turn, has helped to sustain the quality of living for many Americans – or at least until the onset of the Great Recession. The Obama administration set a goal to double the exports of goods and services by 2015 – less than five years.

Is this an achievable goal? The fact is that the nation's ability to significantly grow the export of non-high-tech manufactured goods, or even natural resources, is fairly limited, even if the dollar declines in its value as many predict if US borrowing continues unabated. America's most significant growth potential is probably in the service sector. This includes financial services, patent royalties and licensing fees, management and consulting, entertainment, telecommunications, and education.

Among the top service sectors in which the US had a trade surplus in 2008, education ranks sixth -- more important than entertainment (Film, TV, Sports and the Arts), advertising and even communications. (See Figures 1 and 2)¹ Most of the "import" costs relate to US students going abroad for education programs.

Figure 1 - US Trade in Services 2008



Source: International Trade Administration. US Department of Commerce. 2009

From 1997 to 2008, there has been a continual increase in the trade balance for education services – some of which is due to increased tuition charges and the rest to real increases in the number of international students coming to the US, mostly at the graduate level so far.

Education, and specifically higher education, could play a much larger role in rebalancing the US balance of trade – although there are a number of key variables and reforms. The US is an underachiever in enrolling international students at the undergraduate level, and still strong at the graduate level but with signs that this strength is eroding as universities elsewhere in the world are improving their quality and marketing, and as governments expand programs intended to draw the world's pool of talented and increasingly mobile young people.ⁱⁱ

As we outlined in a previous paper, using OECD data, only about 3 percent of US undergraduates in accredited colleges and universities are international students; this is compared to over 10 percent in a comparative group of European nations.ⁱⁱⁱ And even in graduate education, top providers in Europe have a higher number and higher percentage of foreign students – some 28 percent versus 24 percent in the US. International student numbers continue to grow in US universities and colleges; it is just that they are growing faster in other parts of the world.

World demand for higher education continues to climb, driven by the insatiable desires for socioeconomic mobility of individuals, and by governments who now widely recognize that broad access to higher education, and the production of degrees at the baccalaureate, professional, and doctoral level, is one of the primary factors for economic development.

One recent report estimates that world demand for international higher education will increase from 1.8 million in 2002 to some 7.2 million or more in 2025 as countries such as China, India, Indonesia, Brazil, Mexico, Chile, South Korea, Vietnam and Saudi Arabia grow economically and struggle to meet domestic demand for high quality advanced education.^{iv}

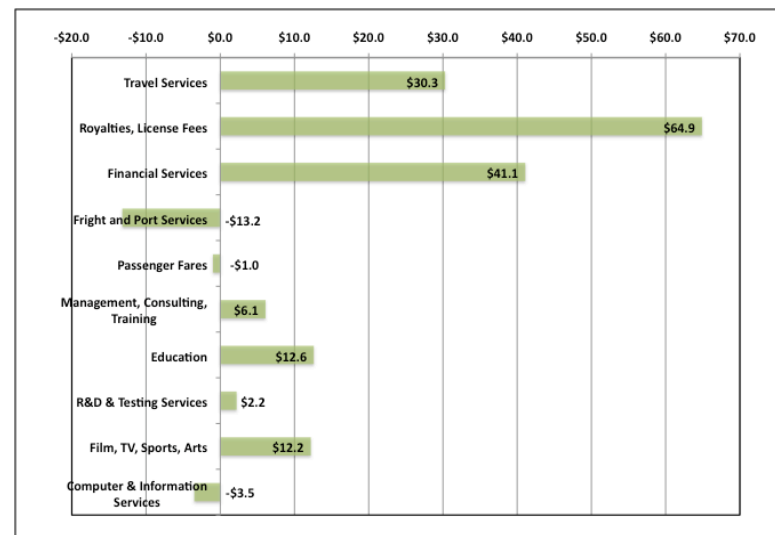
A MATTER OF ECONOMIC DEVELOPMENT

It is not beyond the realm of imagination to conceive of a national policy goal for the US to more than maintain its market share, but to actually increase it. The US could, and should, strategize to double its enrollment of international students by 2020. Currently, the US enrolls some 691,000 international students; these students pay tuition and fees estimated at a total of \$13 billion dollars during the 2009-10 academic year, according to a yearly study supported by the Association of International Educators (AIE). Discounting financial aid, and adding the cost-of-living expenses for students and their families, they estimate that the direct total economic impact of international students is nearly \$19 billion a year.^v

The real economic impact of these students is most likely much larger than this, as the current economic impact model could be extended to indirect impacts like job creation and additional potential for international business ventures.^{vi} The AIE study also is limited to accredited colleges and universities and relies on data supplied by higher education institutions (HEIs) that report their number of international students – and some do not respond.

With these caveats, the six main state destinations for international students, in descending order in enrollment size, include California, New York, Texas, Massachusetts, Illinois and Florida. These states alone represent nearly 50 percent of the US international student market. The top ten states, as shown in Table 1, enrolled just over 60% of all these students, and with an economic impact of nearly \$12 billion in their local economies – representing nearly 65% of the total US impact, and is disproportionately higher due, probably, to higher tuition rates and higher costs of living in most of these states.

Figure 2 - US Trade in Services Surplus and Deficits – Top Ten in Total Dollars 2008



Source: International Trade Administration, US Department of Commerce, 2009

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Table 1 - International Student Numbers and Economic Impact in Top Ten States – 2009-10

Top States for International Students	# of Students	Tuition and Fee (000,000)	Est Total Economic Impact (000,000)	% of Total Students	% Tuition and Fee of US Total	% Est Total Economic Impact US Total
California	94,279	\$1,611	\$2,834	13.65%	12.30%	15.09%
New York	76,146	\$1,598	\$2,296	11.02%	12.20%	12.23%
Texas	58,934	\$774	\$1,259	8.53%	5.91%	6.71%
Massachusetts	35,313	\$980	\$1,253	5.11%	7.48%	6.67%
Illinois	31,093	\$694	\$869	4.50%	5.30%	4.63%
Florida	29,708	\$555	\$827	4.30%	4.24%	4.40%
Pennsylvania	28,097	\$736	\$888	4.07%	5.62%	4.73%
Michigan	24,214	\$546	\$658	3.50%	4.17%	3.50%
Ohio	22,370	\$447	\$584	3.24%	3.41%	3.11%
Indiana	18,569	\$419	\$514	2.69%	3.20%	2.74%
Total US	690,923	\$13,095	\$18,776	100.00%	100.00%	100.00%
Top Ten Totals	418,723	\$8,360	\$11,982	60.60%	60.60%	63.82%
Top Five Totals	325,473	\$6,212	\$9,338	47.11%	47.44%	49.73%

Source: Association of International Educators 2010

All of the top five states are relatively large in their total population, with the exception of Massachusetts. Of all the major urban areas in the US, Boston has the closest environment to what we might call a US higher education hub. But that is largely a default position and not part of any overt effort by government or the HEIs in the area.

Boston is, indeed, a one-off – an unusual co-location of high-profile private institutions, all of which have proportionately very large graduate school populations. We also surmise that there is limited growth potential in the Boston area, in part because the primary providers of higher education are private and with limited interest in enrollment growth.

There is growth potential in both the top ten states, and the forty other states in the Union. But we do think that urban areas, where prestige institutions already exist, and where there is a network of quality public universities and colleges, are the primary locations for significant increases. HEIs in rural areas can increase their profile and recruitment of students, but we think this will be a marginal additional draw, and would lack the potential collaborative and joint programs possible in larger urban areas with the right mix of institutional types – in essence, the concept of a hub that we are promoting and explain in further details in a following publication.

With a proper strategy at the national level with regard to visa reforms, some targeting of funding by HEIs to grow their overall enrollment capacity, and possibly financial aid for specific sub-groups of desirable international students, we think the US could double its number of international students – with larger growth at the undergraduate level, but still some growth at the graduate level. This would mean the US would have a total of 1.38 million international students enrolled in accredited institutions by 2020. The total “export” value in terms of the increase in tuition and fees would be about \$26.2 billion – depending on tuition rates and financial aid at the federal, state and institutional, or perhaps regional, levels. The total input to the nation’s economy would be some \$37.5 billion.

Admittedly, this is a very basic analysis. But it does give a sense of the range of possibilities and potential economic benefits – that is, if the US expands the enrollment capacity of its institutions, and does not displace native students. This is an important premise for our proposal that would need further analysis.

The effort here is to scope the potential and prescribe a way to move toward attracting foreign students, and, in that effort, reshape and reinforce the role of universities in driving regional and national economic development.

If indeed the future for US economic growth is greater knowledge production, including in high-tech areas such as developing alternative energy sources – technologies that depend in large part on the nation’s R&D capabilities and in a highly professional workforce – then states and regions need to think creatively on how to nurture an appropriate talent and labor pool.

A MATTER OF COMPETITIVENESS

Higher education brings additional benefits, including helping to meet another goal of the Obama administration and increasingly state governments: significantly increasing the number of bachelor’s and higher degrees thought a vital ingredient for an economy increasingly focused on knowledge production, and less on raw manufacturing and natural resources.

Early in his presidency, Obama stated that the US must once again have the “best educated, most competitive workforce in the world” by 2020. In short, this means the US would have to seriously ramp up access and graduation rates at the bachelors and graduate levels to compete with our top-performing economic competitors. What is more, the trajectory of foreign competitors,

most of who are continuing to invest in higher education including China, Brazil, and many countries of the EU, is rapidly moving upward.

The US now ranks only about 16th among similar developed economies in the percentage of students who enter and then complete a tertiary degree. If indeed the future for US economic growth is greater knowledge production, including in high tech areas such as developing alternative energy sources – technologies that depend in large part on the nation's R&D capabilities and in a highly professional workforce – then states and regions need to think creatively on how to nurture an appropriate talent and labor pool. If current trends persist, the Public Policy Institute of California (PPIC)^{vi} estimates that California will fall short of what it needs by over one million college graduates than it needs for its economy by 2025. Depending on in-migration patterns of highly educated professionals, only about 35 percent of California's population will have some sort of post-secondary degree. PPIC projects that the state will need at least 41 percent with a college or university degree.

Multiple other studies point to an expanding disjuncture in the educated talent pool and the needs of a modern US economy. By 2015, 60 percent of the new U.S. jobs created will require skills held by only 20 percent of the work force according to the American Society for Training and Development.^{viii} In 1991, less than half of the American jobs required skilled workers. By 2015, more than three-quarters of the new jobs created in the U.S. will require highly skilled workers, particularly in STEM subjects (science, technology, engineering and math). A recent study by the Georgetown University Center on Education and Work Force reports that the demand for college-educated workers will exceed supply by 300,000 per year for the next decade. That means a shortage of 3 million college-educated workers in America over the next 10 years.^{ix}

The Great Recession has accelerated the trajectory of more and more jobs requiring a postsecondary education. "The implications of this shift represent a sea change in American society," explains the Georgetown study. "Essentially, postsecondary education or training has become the threshold requirement for access to middle-class status and earnings in good times and in bad. It is no longer the preferred pathway to middle-class jobs—it is, increasingly, the *only* pathway."

The US, and California in particular, must significantly increase the number of domestic students who graduate from high school and attain a tertiary degree. But the US, and California, must also seek to aggressively draw foreign talent as part of a larger strategy. As we have stated previously, these are not mutually exclusive goals. The key is to build both the enrollment capacity and program quality of America's existing network of universities and colleges to accommodate both strategies.^x The fact is that even the most optimistic forecasts regarding graduation figures of California natives still show a shortfall in the number of university graduates required to match labor market needs.

A MATTER OF BEING A RESPONSIBLE GLOBAL PLAYER

There are other ways to assess the demand and supply side of global higher education markets, and why the US, and potential hubs like the Bay Area, should think expansively.

A recent UNESCO report found that there is escalating demand for engineers throughout the world that is not being met. Looking at some 50 different fields of engineering, the report notes the invaluable contribution of engineering and technological advances and an increase in the engineering workforce as crucial to sustainable human, social and economic development. But much of these improvements have been unevenly distributed for a great many reasons, one being the lack of engineering programs and graduates in developing economies such as Sub-Saharan Africa and India.^{xi}

The report stresses "the critical role of engineering in addressing the large-scale pressing challenges facing our societies worldwide, such as: tackling the coupled issues of energy, transportation and climate change; natural and man-made disaster mitigation; environmental protection; and natural resource management." But it's a supply and demand gap that extends to developed economies as well.

Germany reports a serious shortage of engineers in most sectors; by 2020 Denmark will be lacking 14,000 engineers. "And although in absolute numbers the population of engineering students is multiplying worldwide, percentages are dropping compared to enrollment in other disciplines. In Japan, the Netherlands, Norway and the Republic of Korea, for example, enrollment decreases of 5% to 10% have been recorded since the late 1990s," states the report.^{xii}

And the supply and demand needs of the US and California? A number of reports have projected large-scale deficits in science, engineering math, and technology baccalaureates and graduate degrees in the US. As we argue in "The Global Competition for Talent," there are significant problems with the educational pipeline into STEM fields in the US, and in California, including low high school graduation rates and low interest in these fields.

Our view is that one needs to attempt to both increase native students entering STEM fields, while also aggressively looking to increase the US's market share of international students in these fields, along with various improvements in visa policies and financial aid to encourage this talent pool to stay and participate in local economies. The US and California-based policy regimes related to international students should encompass the idea that US universities and colleges are an important source for meeting world demand and needs. Training the world's new generation of scientists, thinkers and leaders strongly benefits the US and its position in the world in terms of improved business and diplomatic ties.

Moreover, efforts to expand international students is a matter of both helping to meet domestic and global needs, and should be viewed as part of the US's efforts to support and meet the United Nation's Millennium Development Goals. This includes a broad range of issues, largely focused on improving developing economies, to reduce poverty in the world, and promote sustainable social and economic development and address the other UN Millennium Development Goals (MDGs); globalization and the need to bridge the digital and broader technological and knowledge divides. Specific emerging issues and challenges include climate-change mitigation and adaptation and the urgent need to move to a low-carbon future.

Higher education is the best export, not only because of it is profitable and meets labor market and growth needs. Higher education also fulfills a diplomatic and cultural mission like no other form of trade. It diffuses the best of the US's values across the world, strengthens the US's image and international position and creates personal relationships which are ever so important in stabilizing the world's global order.

A FINAL THOUGHT

Higher education is the best export, not only because it is profitable and meets labor market and growth needs. Higher education also fulfills a diplomatic and cultural mission like no other form of trade. It diffuses the best of the US's values across the world, strengthens the US's image and international position, and creates personal relationships which are ever so important in stabilizing the world's global order.

Pursuing such a beneficial economic and diplomatic venture is conditional on higher education institutions, and the business and public sectors, seizing such opportunities. In a paper due to be published soon, we suggest that a sustainable strategy would be to set up a higher education hub, a cooperative effort to enhance a region's international attractiveness.

ⁱ W. M. Cox, "An Order of Prosperity, To Go," *New York Times*, February 17, 2010: <http://www.nytimes.com/2010/02/17/opinion/17cox.html>; see also John Sigmund, "Higher Education Shows a Big Trade Surplus for the United States," International Trade Administration, US Department of Commerce, 2009: http://trade.gov/press/publications/newsletters/ita_0909/higher_0909.asp

ⁱⁱ Sanchez, Francisco "No better export", *The Chronicle of higher education*, April 3 2011: <http://www.chroniclereports.com/article/No-Better-Export-Higher/126989/>

ⁱⁱⁱ See J.A. Douglass and R. Edelstein, "The Global Competition for Talent: The Rapidly Changing Market for International Students and the Need for a Strategic Approach in the US," CSHE Research and Occasional Paper Series (ROPS), CSHE.8.2009, December 2009; On recent data regarding international graduate students in the US, see Sarah King Head, "US: Chinese help spur modest graduate increase," *University World News*, Nov 10, 2010: <http://www.universityworldnews.com/article.php?story=20101110133853841>

^{iv} A. Bohm; D. Davis, D. Meares and D. Pearce, *The Global Student Mobility 2025 Report: Forecasts of the Global Demand for International Education*, Canberra, Australia, 2002.

^v Association of International Educators, "The Economic Benefits of International Education to the United States for the 2009-10 Academic Year: A Statistical Analysis, NFSA: New York, November 2010: <http://www.nafsa.org/publicpolicy/default.aspx?id=23158>; see also: Wildasky, B. (2011) "Econ 101 and the value of foreign students", in *The Chronicle of Higher Education*, February, 14, 2011: <http://chronicle.com/blogs/worldwise/econ-101-and-the-value-of-foreign-students/27868>

^{vi} See A. Ruby, "Not So Open Door," *Inside Higher Education*, Nov. 18, 2010: <http://www.insidehighered.com/views/2010/11/18/ruby>

^{vii} Public Policy Institute of California, "California's Education Skills Gap: Modest Improvements Could Yield Big Gains," April 16, 2009: <http://www.ppic.org/main/pressrelease.asp?p=938>

^{viii} T. Munroe; M. Walshok, H. DeVries and R. Li *Closing America's Job Gap*, El Monte: W Business book, 2011.

^{ix} A. P. Carnevale, N. Smith, and J. Strohl, *Help Wanted: Projections of Jobs and Education Requirements Through 2018*, Center on Education and the Workforce, Georgetown University, June 2010.

^x Douglass and Edelstein, *op cit*.

^{xi} Engineering Shortage Threatens Development, *University World News*, Nov. 7 2010: <http://www.universityworldnews.com/article.php?story=20101105221936787>

^{xii} UNESCO, *Engineering: Issues, Challenges and Opportunities for Development*, Nov 2010: see <http://climate-l.org/news/unesco-releases-report-on-engineering-and-development/>