

**A Higher Calling:
Higher Education's Responsibility to Address America's Needs
By
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Thank you for that wonderfully generous introduction, Michael.

And to all of you, let me say what a great pleasure it is to be with you. I'm deeply honored by the invitation to participate in a conference with such distinguished scholars. Truth be known, I'm also somewhat *intimidated* because the other speakers and panelists at this most impressive convening are true experts on the topic of the meeting. On the other hand, I'm a fallen mathematician turned administrator with no scholarly expertise on the critically important topic we have gathered to discuss.

I take some solace in the fact that you've just been wined and dined following a series of very intense and thought provoking sessions. So, you do need a little down time to relax before going to bed.

What I can offer tonight are my heartfelt perspectives on the topic of this meeting, which is of profound interest and concern to me and are drawn from a career that spans more than a half-century in academe. In talks on other occasions, I've said that greater higher education access and success for low-income students has become the social equity issue of our time. In my view, it is the greatest long-term challenge facing our nation, with the potential to disrupt the very fabric of our society if not addressed.

Let me begin with a story. In 1956, my wife Patty and I graduated from Henry Clay High School in Lexington, Ky. That fall we went off to college along with other classmates. Many others didn't and went straight into the workforce, to good jobs with good benefits, such as at the local IBM plant. In 2006, Patty and I went back to our 50th high school reunion. Now those of you facile with numbers, which I assume is everyone in this crowd, have no doubt already correctly calculated that our class has also had its 60th reunion, which we attended as well.

But at our 50th reunion I made an observation. Those who had graduated and gone straight into the workforce were mostly retired and many were living comfortably in Florida. And I, on the other hand, was still working! I think you'll agree it's inconceivable that a similar scenario could exist for today's high school graduates who don't go on to get a higher education degree.

The lack of more equitable access to higher education makes us a nation truly at risk. I say "truly" at risk because I'm sure all of you remember or are aware of the origin of the phrase...A Nation at Risk. Twenty –five years ago,

President Reagan's National Commission on Excellence in Education issued a report by that name. It sent a shock wave across the country, with impassioned calls for immediate action. While lots of good intentions and efforts came and went, sadly, the situation described in that report is - if anything - worse today than it was back then. Our status as the best education nation, borne in part out of the remarkable success of the GI Bill in post World War II America, has vanished. Not only have the problems in K-12 education identified in the Nation at Risk report persisted, they have in some ways been exacerbated.

In the years since that report was written, we in academe have smugly taken some solace in our self-proclaimed status of having the world's best system of higher education. But on closer inspection, those claims ring hollow. True our very best universities dominate the list of the world's best universities but they educate a tiny fraction of our nation's population. How is our total *system* of higher education serving our nation? Not nearly as well as we'd like to think.

First of all, according to OCED data, as I'll detail in a moment, we've dropped from having the highest proportion of adults with post-secondary education degrees in the 1960s and 70s to second tier status in this category today.

Nationally, forty percent of students who enter a four-year college or university have not received a degree six years later. As Sandy Baum has pointed out, what these students have done is incur crippling debt. These are the students with by far the highest loan default rates. And, according to a recent IHEP report, which I will discuss in some detail in a moment, low- and moderate-income students can only afford between 1 and 5 percent of the 2000 public and private colleges and universities in its study.

Does this sound like a system of higher education that is supposed to be the envy of the rest of the world?

So what's at risk for our nation because of this rather dismal performance by our system of higher education?

Two pretty fundamental things actually...our *economic vitality* and our *founding ethos* as the land of opportunity, the quintessential upwardly mobile society. As critically important as these risks are for our nation's future, I will not dwell on them with this audience because I know you are quite familiar with the issues. But I will say just a bit about each of these risks to reinforce what's at stake for our nation.

As has been well documented over the past 3 or 4 decades, our economy has experienced dramatic changes. In essence, we've gone from having an economy built on muscle power to one dependent upon brainpower.

There are many reports, such as a recent one from Anthony Carnevale and Georgetown University's Center for Education and the Workforce, or CEW,

pointing to the growing demand for college grads in the workforce. According to CEW's report, the US economy will grow 25 million new jobs by 2020 and 65% of these will require a two or four-year college degree. At current degree production rates, CEW estimates the US will fall short by 5 million workers with a postsecondary degree.

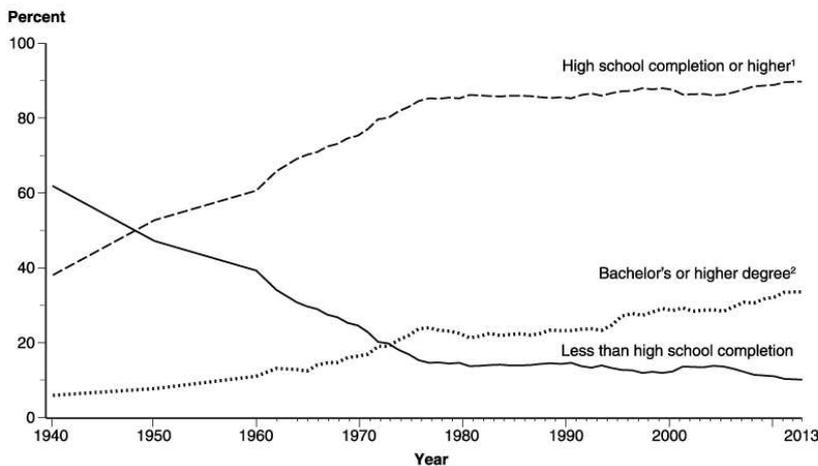
Already we are seeing massive employment shortfalls in areas critical to our nation's future economic growth, such as in data science. A recent McKinsey report cites a shortage of 200,000 data scientists in the workforce and 1.5 million managers and analysts capable of reaping actionable insights from the big data.

Given the Russian hacking of the DNC, Cybersecurity is much in the news and on our minds these days. The US Bureau of Labor Statistics says there were 200,000 cyber security jobs that went unfilled in 2016. The shortage is projected to grow to 1.5 million by the end of the decade.

While US college degree production rose sharply during the 1960s and 70s, as this slide shows,

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Figure 4. Percentage of persons 25 through 29 years old, by highest level of educational attainment: Selected years, 1940 through 2013



it flatten out from then and stayed so into the 1990s. True there have been modest gains since then but they have not occurred at the pace our economy needs. This does not bode well for our economic growth in the coming decades.

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The problem is compounded for the US in the global economy because other industrialized nations are ramping up their rates of college completion.

As I mentioned a moment ago, in the span of a few decades, we've dropped from the top rank in possessing the most educated adult population, as measured by the percent of adults with at least a bachelor's degree, to second tier status in this regard. According to BLS data, in 1999 the US had the world's highest proportion of 24-65 year olds and was tied with Norway for the highest proportion of 25 to 34 year olds with a bachelor's degree. Fast forward to today. OECD's 2016 Education at a Glance Report places the US tied for 6th with two others in the proportion of 25-64 year olds and tied for 12th with three others in the proportion of 25 to 34 year olds with a four-year degree.

The data on 25 to 34 year olds shows other nations are rapidly passing us by and strongly suggests that our standing in college degree completion is not likely to reverse in coming years but instead will continue to fall. Moreover, the countries that are now outpacing us in educational attainment tend to have centralized higher educational structures. I strongly suspect that they are not only providing postsecondary higher education to greater proportions of their citizens but the rigor of the completion standards are on average higher than ours.

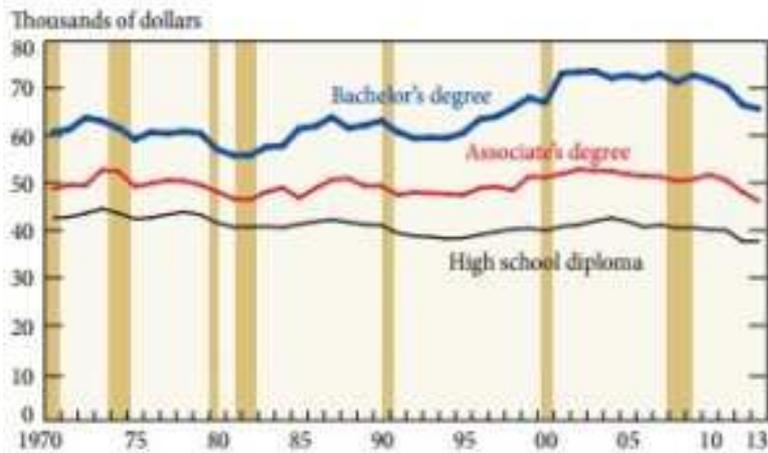
What about more advanced degrees? I naively thought that this is an area where the US must surely still be dominant. So, I was very surprised to learn from this OCED report that we rank 16th in proportion of adults with an MS and 10th in proportion of adults with a PhD.

I think most economists would agree that a major reason the US became the dominate economic superpower over the course of the past 50 to 60 years is that we had the most highly educated workforce. Clearly, we are on the verge of losing that competitive advantage, which I fear places our nation at grave risk, especially in an economy dependent on brainpower and a highly skilled workforce.

Let me turn briefly to the second of our "nation at risk" elements, the American Dream, which we surely all agree is a fundamental element of our national ethos. In sum, the American Dream is the proposition that the economic stratum of a person's birth does not determine his or station at death. Fundamental to our national values is the ingrained belief that ability and hard work are all that are needed in America to enjoy a successful career and a high quality of life.

In today's economy, where brainpower has replaced muscle power, with rare exceptions, higher education has become the portal through which one must pass to have a chance at the American Dream. Let's see just how much that has become the case.

Average Annual Wages, by Education 1970-2013



Sources: U.S. Census Bureau and U.S. Bureau of Labor Statistics, Current Population Survey, March Supplement; U.S. Bureau of Labor Statistics, consumer price index.

Notes: Dollar figures are expressed in constant 2013 dollars. Wages are adjusted to control for differences in worker characteristics. The shaded areas indicate periods designated recessions by the National Bureau of Economic Research.

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While the slide shows the education premium has leveled a bit in recent years, the premium is still clear, present and significant. It's risen 80% since 1970 in constant dollars.

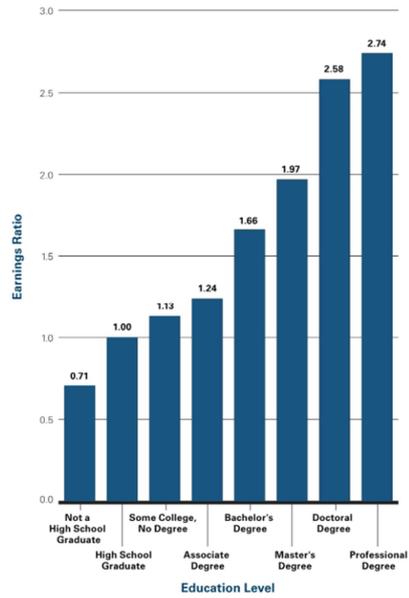
As Professor Arcibald noted this afternoon the education premium in the US is the highest within the OECD.

The stability of the education premium is all the more remarkable because, according to CEW, something like 95% of all new jobs since the Great Recession have gone to people with at least some college education. Incidentally, I found that number 95% of new jobs hard to believe but I trust the work of CEW.

An economist friend told me that with such a sharp infusion of college graduates into the workforce in recent years, it is remarkable that the college premium has not abated.

Of course, the annual education premium has a dramatic impact on lifetime earnings, as this slide shows:

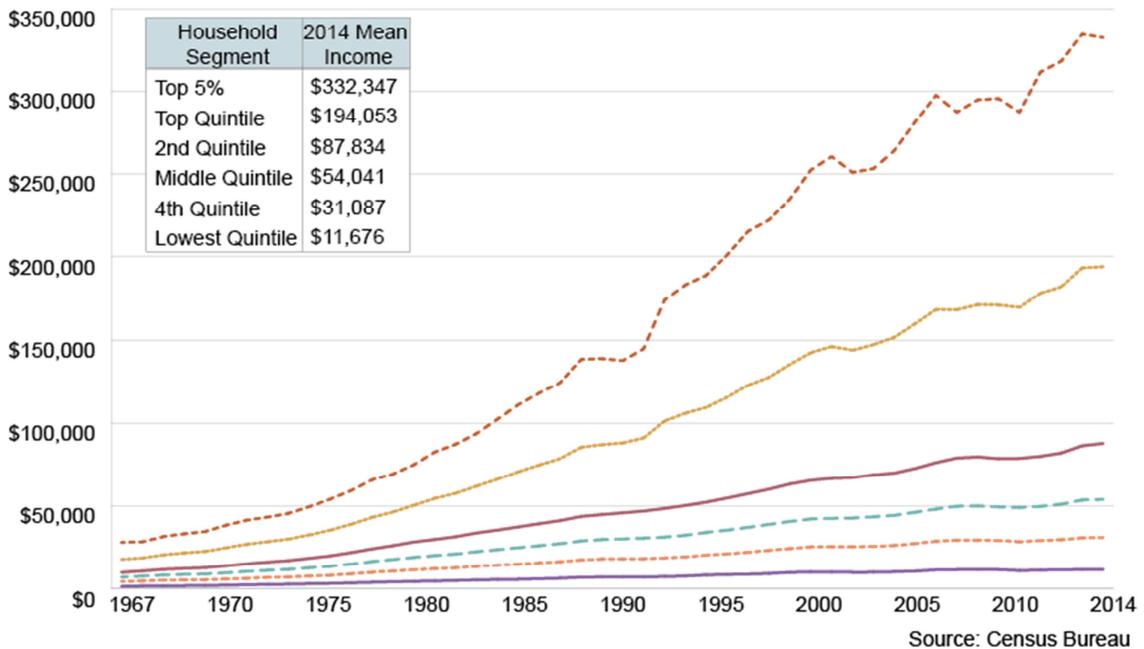
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The compounding effect of the “education premium” has been a major factor in the alarming income disparity we now witness in America.

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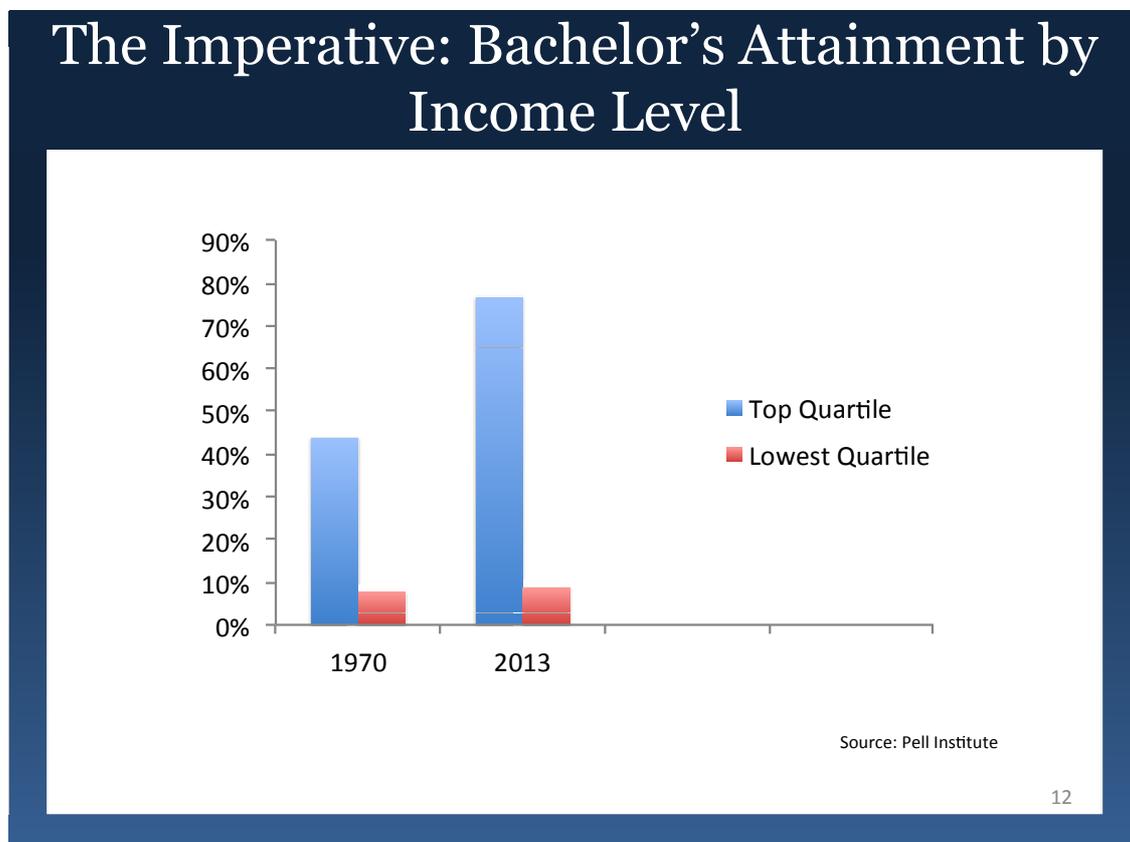
Mean (Average) Household Income by Quintile and Top 5%



Here we can see how the gaps are widening and at an accelerating rate over time. The upper curve is the top 5% of earners and the other curves are average household incomes by quintiles. Incidentally, relative economic mobility in America, the probability of moving from one income strata to a higher one over a lifetime is now at or near the bottom among all OCED nations.

Put all this together...the need for education to be successful in today's economy...and this next slide tells why, for too many, the American Dream is turning into the American Nightmare.

Slide 5



In 1970, someone without a college degree could still be upwardly mobile economically, as my anecdote about my high school graduating class suggests. Not so today. What this slide tells us is that, in America today with the huge higher ed premium, we are basically assigning a life of poverty to the vast majority of children born into low-income families. This is most definitely not consistent with our national rhetoric about American as the land of opportunity, the shining example of an upwardly mobile society.

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Quite appropriately, in my view, higher education is now coming under increasing scrutiny for how well, or should I say poorly, it is serving low-income students.

I suspect most if not all of you have seen the recently released National Bureau of Economic Research report, *The Role of Colleges in Intergenerational Mobility*.

The authors collected voluminous data from IRS and elsewhere on measures of college access for students born in 1991, roughly the class of 2013, and measures of economic mobility for individuals born between 1980 and 1982, roughly those in their mid-thirties today. The report is very compelling and user friendly. Type in almost any institution and you can get data on how well that school compares to its peers in serving low-income students and the relative success that school has in imparting economic mobility to its graduates.

There are two take-aways from this report. First, high ability, low income students are grossly under represented at highly selective institutions ...more on that in a moment. The second is that college really is an income leveler. Fifteen years into their careers, low-income students who graduate from college do essentially as well as their wealthier classmates.

There is strong evidence that reports with this kind of data will have an impact. A few years ago, another report on this general topic showed Washington University in St Louis to have the lowest number of Pell eligible students, 7%, of any highly selective institution in America. Guess what? The next year the university announced an initiative to greatly increase its enrollment of Pell eligible students.

This brings me back to the recent report from IHEP, which I briefly referenced earlier. I suspect many if not all of you have studied this report in some depth and so I'm both out of my element and on shaky ground in drawing any conclusions about it in front of this audience but, as that old song says, "fools rush in..."

The report claims that of 2000 two and four-year public and private colleges and universities used in its study, only between 1 and 5% are affordable for students from families with incomes less than \$70K annually. "Affordable" is defined in the study to mean that the cost to the student would be covered by grants, savings or the loan equivalent of 10% of a family's discretionary income over a ten year period and a student working 10 hours a week while in school. Some might argue that, given the economic benefit of a college degree, affordability should include a student's willingness to assume more debt. I can understand that point of view in a theoretical sense. But, think about that

prospect for a family in the lower quartiles of income. I can only imagine how daunting it must be to take on debt that exceeds or is a significant fraction of total annual family income when there is no guarantee of a degree and unmanageable debt if a degree is not achieved.

My take is that, even discounting the findings of the IHEP report somewhat, it is a pretty damning indictment of our nation's and higher education's commitment to providing college access to low income students.

What I find especially intriguing in the report are the policy options offered for addressing this situation.

There are three. The first is to double the Pell grant, which I think we can all agree is a highly unlikely occurrence in the world we live in today. But even if this were to happen, the result would only mean that 20% of the 2000 colleges would be affordable for students with family incomes under \$70K.

A second policy option considered is free tuition, again a highly unlikely prospect on any kind of national scale. Surprisingly, under this option, the report claims there would be no gain for students from families earning less than \$70K. This seems counterintuitive to me and I must confess I don't fully follow the report's explanation of why this is so. But, as I said, the option is moot because there is little or no prospect it could be adopted on a national scale.

The one policy option that really moves the needle, raises the number of affordable schools to almost 50%, is to lower the cost of college for low income students by \$10K through a combination of reduced institutional costs, increased state and federal financial aid and greater state investment in colleges and universities. This concept of sharing responsibility among multiple parties for what is clearly in our national interest has real merit in my opinion. While getting to the \$10K figure would take time and might never be reached, progress toward that goal would scale up options for low-income students.

Obviously, gaining increases to financial aid support at the state and federal level has been and will continue to be a huge lift. However, one could at least imagine that a major campaign, with higher education's strong support, to better inform the public about what is at risk for our nation if we don't increase college participation rates for low-income students, might build political will for action on aid. We also have superb researchers like Sandy Baum and Sarah Turner thinking very hard about how to get more aid to low-income students. So, progress on this front definitely seems possible to me. Sustaining increases in state investment in higher education is also an enormous challenge in today's economy but states would be much more likely to do so if governors and legislators were convinced that higher education was

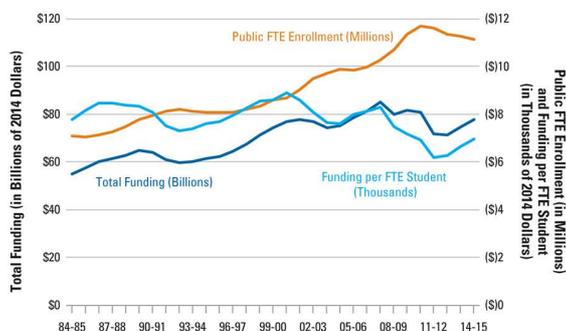
committed to serious efforts and innovations aimed at holding down the overall cost of education delivery.

So, what about academe finding ways to flatten or reduce the cost of education to the consumer? In my view this is the biggest lift of all. We in higher education have come to believe that cost and quality are inextricable. Within academe, it is almost blasphemous to talk about lower cost means of delivering high quality education, even when there is a clear national and sociological need to do so. Economist William Baumol described this dynamic well some years ago with his concept of the “cost disease.” This is the notion that in certain industries dependent on human interaction productive gains are not possible and, therefore, costs inevitably rise. His classic example is taken from music. When Mozart wrote one of his string quartets he noted, it took four players, say, 40 minutes to play it. Today, it still takes four players and 40 minutes. Many argue that this “reality” is at the heart of why the cost of delivering education must continue to rise. However, in an interesting article, the economist Tyler Cowen points out that, thanks to technology, there has actually been a huge productivity gain in performing Mozart’s string quartets. In 1790, four players could reach a very limited audience. Today, with CDs and music streaming, four players can reach the world. Purists would say the quality of the listening experience from a digital recording is not as good as sitting in an acoustically perfect concert hall. But obviously it is good enough to bring great joy and enrichment to millions of people. Is there an analogy for higher education?

In any case, with so much at stake for our nation, I fault higher education leaders for not taking more seriously the responsibility for exploring new means, doing more research and investing in new strategies for delivering high quality higher education at lower costs.

Ironically, for all but a relative few institutions, the need to be doing so should be apparent because the traditional financial model for higher education is breaking down and is certainly not capable of educating the millions of additional students we need to reach for the future well being of our nation.

As this slide shows,
(Slide 6)



since 2000, public funding for higher education on a per FTE basis has had ups and downs but the overall trend is steep decline. I see no dynamic in the political environment that could reverse this trend in the foreseeable future. A striking take away from this graph is that even with the massive tuition increases over the past decade or so, the gap between total funding per FTE and total enrollment has never been larger. Moreover, the most common strategy institutions have relied upon to mitigate public underfunding of higher education, massive tuition increases, is not sustainable. Tuition increases significantly above cost-of-living increments have become a third rail with the public. The bottom line is that, sadly, too few institutions are taking a long-term view of the need to rethink their fiscal and education delivery models. Hiring adjuncts to replace tenured faculty and continue trying to do business as usual is not a viable long-term business model for higher education.

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The basic problem is that in our highly decentralized system of higher education, we sub-optimize the public's investments in our college and universities through state appropriations and tuition. Narrow and short term institutional priorities overwhelm national needs.

We desperately need higher education leaders who see a *higher calling* for their institutions, one that places much greater need on national priorities, in concert with, not to the exclusion of institutional priorities.

Fortunately, we have such leaders emerging on the scene but we need many, many more. I'll conclude my remarks this evening by offering some examples of exceptional leaders who are responding to this urgent need for a higher calling in higher education.

In January, the *American Talent Initiative* was announced. I was part of a small group of that developed ATI. It is based on three realities. First, low-income students are grossly under represented at our nation's most selective colleges and universities. Second, scholars such as Bill Bowen, Michael McPherson and Matt Chingos and, independently, Caroline Hoxby, and Sarah Turner have rigorously documented the pernicious impact of "under matching," the phenomenon of high ability, low-income students attending less selective schools. Caroline Hoxby and Christopher Avery have also shown there are substantial numbers of high ability low-income students fully capable of succeeding at selective institutions but who are not attending them. Indeed, in their seminal research Hoxby and Avery estimate that there are some 35,000 students, perhaps even more, each year who are Pell eligible, with 3.5 GPAs and test scores in the top 10% of all ACT/SAT test takers who do not apply, nor are they recruited by selective institutions.

Starting with 30 highly selective private institutions and flagship public universities, ATI's goal is to scale-up to some 200 highly selective institutions and serve roughly 50,000 more low-income high ability students.

I recognize that serving 35,000 low-income students is, so to speak, a drop in the bucket given the enormity of the challenge we face. But, this needs to be an "all hands on deck" effort by higher education. To date, our selective institutions have for the most part been missing in action, as the Equality of Opportunity report documents, and have left the responsibility for serving more low-income students largely to more open admission institutions.

I want to add that the ATI initiative was inspired in significant part by the examples of several courageous leaders who saw their responsibilities as serving a higher calling, not just the narrower priorities of their individual institution.

One such leader is Dan Porterfield at Franklin and Marshall who made access and success for low-income students a top institutional priority. Over the period of from 2008 to 2014, F&M increased the proportion of Pell eligible students from 7% to 19%. They did this by shifting merit aid to need-based aid and by partnering with the Posse Foundation, an entity dedicated to placing low income students in high performing institutions.

Another is Catherine Hill at Vassar who did something similar. Through her commitment, Vassar increased the percentage of Pell eligible students at the institution from 7% in 2007 to 22% in 2014.

What makes Franklin & Marshall's and Vassar's accomplishments all the more remarkable is that they were achieved during the Great Recession and only because the presidents were willing to make budget cuts in other areas to meet this higher calling.

I also want to single out for special attention an action recently taken at my undergraduate alma mater, the University of Kentucky and reported on in Inside Higher Education. Last year, 1200 undergraduate students left UK without a degree. The president – Eli Capilouto – asked a simple question, why did they leave? Everyone naturally assumed these students were struggling academically. What they learned was a surprise...30% of them had a 3.0 GPA. But, these students had something else in common too. They all had \$6000 or more of unmet need. When the university looked at the rest of the institutions 3.0 students, they found these students had little or no unmet need. In fact, quite a few had been allocated funds in excess of their cost of attendance. Further analysis showed that once a student's unmet need reached \$5000, he or she was at significant risk of dropping out.

To his great credit, Eli said that this was unacceptable and immediately instituted a new need-based aid program, UK LEADs. Previously, UK had

allocated 90% of its institutional student aid based on merit. Going forward, with the UK LEADS Program, 65% of this aid will be allocated based on need. This is a courageous step. I say courageous because, sadly, ranking systems like US News have perverted, among other things, the allocation of institutional aid. In order to look good in these rankings, too many intuitions seek to “buy” high ability students, almost all of whom would be going to college without the aid. This means institutions underfund aid for those that truly need it. Honestly, if a foreign power had wanted to diminish America and its role in the world, to create the dire risks we now face, they could hardly have done better than invent US News.

President Capiluto acknowledges that UK’s ranking will probably drop because of this move but he’s willing to do it anyway. I can only hope that UK’s action will catalyze a movement and many other institutions will have the courage to follow Eli Capiluto’s lead and respond similarly to this higher calling.

Another encouraging development is the extent to which technology is – finally - beginning to have an impact on the student success and completion agenda. Until now, technology interventions and disruptions have been more promise than reality. But, advances in the learning sciences, the power of intelligent software and the information gleaned from big data are beginning to make inroads. Let me mention just a few examples.

To the best of my knowledge, under the leadership of Mark Becker, Georgia State University was the first institution to use “big data” and data analytics to improve completion rates. I suspect most of you are familiar with the story.

Very briefly, Georgia State is a large metropolitan campus in Atlanta, serving predominantly low income and under represented minorities. Graduation rates were in the low 30s leaving many dropouts with no degree and substantial debt. Working with a big data firm, EAB, GSU compiled 10 years of data, tracking dropouts from day of enrollment to their departures. From this data, they determined that there were a few critical moments when an intervention by an experienced advisor could make made a huge difference in retention. They invested significantly in hiring such advisors, increased their completion rates by 20 percentage points over just a 4 year period and eliminated achievement gaps based on race, ethnicity and income. In fact, Pell eligible students now graduate at rates higher than the general student body. They also increased their bottom line revenues by \$4M due to improved retention rates. Quite naturally, with these kinds of results, other schools are jumping on this big data bandwagon. While use of big data with student records raises legitimate privacy and other concerns, properly safeguarded, it appears to be a viable tool for improving retention and graduation rates.

An important unanswered question as yet is whether technology can actually be used as one tool to flatten or drive down the cost of educational delivery, while continuing to provide high quality degrees. This latter point, “high

quality degrees,” must be a sine qua non as we explore this medium. Put me in the camp of those who believe technology properly utilized has real promise. Let me give just a few examples.

As I’m sure you are aware, a few years ago Georgia Tech introduced an online MS degree in Computer Science. Georgia Tech’s fulltime faculty teaches the course interactively with the cyberspace students. The cost of the degree is \$10,000 vs \$46,000 for out of state students resident on the campus. Over 4000 students are now enrolled in the program and it’s revenue positive for the institution. In fact, it’s so successful, that Georgia Tech is developing a second low cost MS program for this delivery system.

Of course, lots of schools offer online degree programs but they do so at the same or even higher cost as the on campus face-to-face degree. What makes Georgia Tech’s effort so special is the conscious effort to offer the degree at a much lower cost. Bud Peterson, the president, tells me he is convinced that within 10 years Georgia Tech will be offering lower cost undergraduate degrees through this medium. Clearly, Bud Peterson is responding to a higher calling.

MIT and the University of Michigan recently announce a hybrid version of the Georgia Tech low cost degree programs.

I am also intrigued by an initiative at Arizona State University. ASU has developed a set of MOOCs covering the institutions General Education requirements. In partnership with EdX, ASU offers the option for an entering student to take his or her first year of courses through MOOCs at a greatly reduced cost. The students then come to campus for their final three years, potentially saving in effect one fourth of their college costs.

Interestingly, Anant Agarwal, president of Edx, thinks what ASU is doing could become a much more common model in higher education. He predicts that in the future, many students will take their first year of work at home through MOOCs like those offered at ASU, come to a residential campus for two years, and then go off to an internship and complete their degrees online with their institutions.

Who knows if this will come to pass. What’s very encouraging to me, however, is the innovative thinking about course delivery some universities are engaging in to make high quality degrees available to more students at reduced costs.

Let me sum up my thoughts on our nation truly at risk this way. While I think higher education has been way too slow to respond to the crises we face resulting from the under education of our population, especially our low income citizens, I remain hopeful that through collective efforts we can mount a successful response. It won’t be easy and it won’t be with a single silver bullet. It will come because of a growing number of university leaders who have the courage to respond to a higher calling. It will come through the

extraordinary creativity of our faculty and staff. But, it will require our university communities to be open to new ways of doing things, to support innovation, and to scale-up successful strategies even if they go against some of our long held traditions and even if they were developed at other institutions. And, finally, it will require that we continue to shine a spotlight, as this conference is doing, on the existential crisis our nation will face if we do not provide far more equitable access to high quality higher education degrees in America. Thank you.