

# Let's Not Waste a Perfectly Good Learning Productivity Crisis

## Do What Obama Did

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Recently asked about the impact of the global economic recession on tertiary education, one university president in the U.S. succinctly replied, "HOLY SHIFT." It may be too early in the crisis to give a firm analytical reply, but the data points, observations, and recommendations offered here might help education and its investors navigate, to their mutual benefit, the shifting economic sands that are amplifying public policy pressures to develop new, more productive practices and service models.

Is there politics in the subtitle, "Do What Obama Did?" No; the reference is not meant to be political. It is a reference to what Candidate Obama did and continues to do today as President Obama. His campaign team utilized the latest collaboration and social networking tools, data tracking tools, and "business intelligence" tools to:

- Mobilize an engaging, fluid dialogue about national policy and the nation's future.
- Inform *and* listen to the electorate.
- Continue (as part of his governance model) to mobilize and involve "ordinary people" in support of the policies and politics of his administration.

The campaign used the leverage of technology. Its "business model" depended on the scalability and efficiencies enabled by the "**cloud**"—the web-accessible mesh of individuals and organizations, all functioning virtually through nodes on the Internet network of networks to offer software-as-service applications, convenient communication and provider/receiver transactions, or other connections. In the opt-in/opt-out cloud, basic human communication and resource exchanges can be broadly affordable and optimized for self-service backed up by individualized high-touch assistance from a "crowd" of like-minded collaborators. The connection to education lies in the current economic crisis, which presents a set of difficult challenges – identified and summarized in Section 5 as the need to improve learning productivity in order to improve the productivity of both individual educational institutions and the collective education enterprise. Just as "team Obama" is using the cloud as leverage for enabling engaged citizenship at scale, so should "team higher education" learn to use the cloud as leverage for engaged learning and, in this moment of crisis, for earning the active involvement of the myriad constituencies whose critical support for tertiary education for several years now has waned as tuitions waxed and performance waned. Let's build a **learning cloud** to support a **learning crowd**!

The information and observations that follow are higher education-specific and U.S.-specific, but the summary description in Section 5 of the resulting new realities in the education market are not specific to the U.S. and need not be specific to higher education. They are frequently stated more generically because there are more similarities, than not, in the difficulties facing not only tertiary education around the world, but also facing education at all levels in all "places." Indeed, the **learning productivity crisis** described in Section 5 is not only a challenge to tertiary education, but, as stated, is more broadly a challenge at every level of life-long learning pathways and their transitional bridges – such as the bridge from the secondary level to the tertiary level of education.

## 1. Public Revenues

Mostly ignored before the meltdown, but now recognized as a near certainty, is that public funding for higher education on a per-student basis will be under heavy downward pressure for the foreseeable future. Indeed, public funding may move from a per-student (per-FTE) basis to a per-credential basis, a trend that is in the nascent stage and that would be a natural consequence of the trends projected in Section 5. Consider some of the evidence, past and projected, for trends in per-student public funding.

- a. State and local public subsidies: Even as the meltdown accelerates higher education's state funding problems, those problems have been transparently in the making for several years. For example, the State Higher Education Executive Officers (SHEEO) published a report in 2006 noting that the national average of inflation-adjusted per-FTE state subsidies for public institutions had reached a 25-year low in 2005. The National Center for Higher Education Management Systems (NCHEMS) also issued a report in 2006 projecting that by 2013 every state will be suffering a structural shortfall in tax revenues, which will not be sufficient to cover ongoing financial obligations (mandates) – such as Medicaid, K-12, and prisons – while also maintaining inflation-adjusted levels of then current spending on other priorities, such as higher education. The 2013 projection from NCHEMS now appears to be coming to fruition early – possibly in 2009! Local tax support, which applies to numerous community colleges, is similarly stressed and likely only to deteriorate for the foreseeable future.
- b. Federal subsidies: The Pell grant program, tuition tax credits, and a few other less significant federal programs provide important financial subsidies to higher education and its neediest and middle-class students. These programs, however, are stressed. The stresses on Pell grants, for example, are two-fold: 1) the cap on individual grants has not kept pace with spiraling tuition increases for some years now, and 2) the supply (the number of students being served by the program) does not meet the need-based demand (from students eligible for the program). After lobbying by higher education through the American Council on Education and a number of sector-specific presidential associations, these issues have been addressed in the Congressional response to President Obama's "stimulus proposal." Stimulus funding also will help states offset reductions in their public allocations to higher education forced by the economic downturn and statutory requirements to balance budgets. Increased federal funding, however, is not likely to offset the continuing long-term deterioration of state per-FTE funding.
- c. Student loans: Though student loans are not public revenues to higher education, many are guaranteed by the federal government (from public funds). More important, student loans are a major component of net-tuition revenues for most schools. Several recent reports have noted considerable consolidation in the student-loan market, but have nevertheless claimed that there is no shortage of credit in the market. Qualifying for that credit and maintaining the resources necessary to repay it are the main issues facing students and their families and, therefore, also facing colleges and universities. No patterns have yet emerged, but schools, especially those that are tuition dependent, fear that credit may become

unavailable or unaffordable to their neediest recruits and also eventually unaffordable to some enrolled students whose financial circumstances are deteriorating in the heat of the meltdown. Further exacerbating the loan problem for students and their schools is an average debt load in excess of \$20,000 carried by the borrowing student upon completing a credential.

## 2. Endowments

According to "[Fortunes Falling](#)" from Inside Higher Ed, "After a year of riding high, educational endowment investments began a downward spiral in the 2008 fiscal year, and the first half of 2009 was particularly brutal, according to two new reports ..." The new reports are based on two surveys. The most recent survey was conducted jointly by the Commonfund Institute and NACUBO, and the earlier one by NACUBO and TIAA/CREF. Some highlights include:

- a. FY 2009 (July 1, 2008 – June 30, 2009): There was over 20% average loss in endowment values during the first 6 months of FY 2009. While suffering significant losses at this point, the 60 or so "well-endowed" schools are faring better on a percentage basis than the thousands of other schools.
- b. FY 2008 (July 1, 2007 – June 30, 2008): Suffering was real, but not as bad as in the first six months of FY 2009. Indeed, many of the schools having endowment values among the top 20 experienced gains during FY 2008. Schools with endowment assets of greater than \$1 billion averaged investment returns of 0.6%. Those with endowments below \$50 million had the largest losses, -4.3% on average.
- c. The rich get relatively richer: One long-standing disparity is persisting. On average, the larger the endowment the greater the percentage return – or the smaller the percentage decline.
- d. Managing the ups and downs: Many institutions draw annual earnings from their endowments based on a "trailing" average of returns – averaged over some number (four, for example) of immediately preceding years. This practice will help those institutions weather FY 2009.
- e. Pity the tuition-dependent private nonprofits: The tuition discounting practices of the tuition-dependent independent colleges are imperiled. These institutions equate closely to the membership of the Council of Independent Colleges (CIC), and they have meager endowment earnings relative to their annual operating expenses. Their recruiting, by choice or not, is increasingly weighted toward first-generation, underprepared, needy students, and they accordingly rely heavily on tuition discounting – taking from modest endowment earnings and wealthier students' tuition payments to discount needier students' tuition rates, and even discounting tuition for non-needy, academically well-prepared students in the form of "merit scholarships" in order to raise institutional profiles in the U.S. News and World Report's annual college rankings. Tuition-dependent independent schools are more at the mercy of the still evolving economic difficulties than most other institutions.

- f. It's tough for some publics, as well: Non-flagship public universities and public community colleges are not unlike tuition-dependent independent institutions in that enrollments are weighted towards first-generation, underprepared, needy students and endowment earnings are meager. They differ from tuition-dependent independents, however, in that 1) they are much less deeply into the “merit-scholarship” business and 2) they are more dependent on state (and local) public subsidies – even in states, such as NC, that subsidize their private, as well public, institutions. Instead, they have increased tuitions to cover more of their expenses – as Section 3 will reveal.

### 3. Revenues, Expenses, and Tuitions

[Trends in College Spending](#) is the latest report from Jane Wellman and her associates at the [Delta Cost Project](#). The report clarifies the sources of higher education revenues and identifies how revenues are expended in various categories of annual operating expenses. ***The report deserves careful analysis, both from higher education and the companies serving higher education.*** The report confirms what many already knew – or thought they knew – and offers valuable insights at this moment of extreme financial distress for higher education. The report is based on an analysis of the latest IPEDS data – up to FY 2006 with an emphasis on the period 2002 – 2006 and some references back to 1995 data. While the data are slightly dated, the trends generally point to and correlate to today’s context. The report uses two familiar annual operating expense categories: ***Total Operating Expenses*** (including auxiliaries) and ***Education and General Expenses (E&G)***, which are total operating expenses less auxiliary expenses. The report focuses heavily, however, on a third category of spending: ***Education and Related Expenses (E&R)***, which are those that best define the full cost of educating students – by subtracting from E&G expenses the portion that should be attributed to sponsored research and public service. Another way to describe E&R is that it includes all expenses for instruction and student services, while also including a fairly apportioned share of admin, facilities (including infrastructure), and maintenance support. For-profit institutions are not included in the analysis, even though they are, along with public community colleges, fastest growing in terms of compounded annual enrollment growth rates. The analysis is sliced and diced by six sectors explained below.

- a. Enrollment headcounts: Putting the six sectors in descending order of total headcount enrollments, they are

public community college sector > public research sector > public master’s sector >  
private master’s sector > private research sector > private bachelor’s sector

- b. Spending on instruction: Ordering the sectors in descending order of average per-FTE E&R expenses affects the above order dramatically, which is a public/private difference transparently revealed in the table below :

<i>Descending Numerical Order</i>	
<b>Enrollments Headcounts</b>	<b>Average Per-FTE E&amp;R Expenses</b>
Public community college sector	Private research sector
Public research sector	Private bachelor's sector
Public master's sector	Private master's sector
Private master's sector	Public research sector
Private research sector	Public master's sector
Private bachelor's sector	Public community college sector

- c. First highlight: Public community colleges enrolled more students (~ 6 million) in 2006 than any other sector but had the lowest average per-FTE E&R expenses at \$9,184. More generally, the three public-sector groups collectively serve the vast majority of students in the nation but rank below all of the three private-sector groups in average per-FTE E&R expenses.
- d. Growth in tuition dependence: In 2006 dollars, the trend in each of the sectors over the period 2002-2006 was increased dependence on net tuition as a source of revenue growth.
- e. Expenses and net tuitions rose in tandem in private institutions: E&R expenses rose over the five-year period in all three private sectors, and net tuition rose roughly proportionately to cover a percentage of E&R expenses that varies dramatically across the three private sectors. In the private research sector, that proportion was at 56% in 2006. Excluding the well-endowed private research sector schools that enroll about a million students, the bottom-line analysis pointed to degrees of tuition dependence (among the other private nonprofits) that required net tuition to cover 60% - 85% of E&R expenses in 2006.
- f. Expense shifting in the public institutions: The proportion of E&R expenses borne by net tuition in the three public sectors increased over the five year period of analysis, while total E&R expenses remained relatively stable. The proportion of E&R expenses going directly to instruction declined a bit in the same period. The sound-bite result has been that students are increasingly “paying more for less” – their net tuition covering an increasing proportion of E&R expenses, while their institutions expend less on instruction. This trend was most exaggerated in the public research sector.
- g. Variations by state: E&R expenses and students’ shares (net tuition) of E&R in the three public sectors varied enormously from state to state. For example, average E&R in 2006 in the public research sector ranged from over \$20,000 per FTE in Minnesota, Pennsylvania, and Connecticut to a bit under \$9,000 in Montana. Subsidies supporting these same expenses varied in proportion to the total E&R expense from a low of 17% (of ~ \$18,300 E&R) in VT to highs of 89% (of ~ \$12,700 E&R) in PR and 76% (of ~ \$18,200) in AK. The national averages are ~ \$14,100 in E&R subsidized at 49%. Public research universities are, well, more public in AK than in VT. These variations are part of the reason that the recent

reauthorization of the Higher Education Act includes provisions for holding states' feet to the fire in terms of the consistency of state subsidies to higher education.

- h. Tricky questions: Variations in the state-by-state data (sampled above) raise interesting questions and comparisons. For example, should Montana's two research universities be proud of average per-FTE E&R expenses in the \$9,000 range (subsidized at a 26% rate). State policy makers likely would be proud, while the two universities might use the two figures to argue both for a higher level of E&R spending and a higher rate of subsidization by the state. How would Pennsylvania be viewed at over \$20,000 in average E&R subsidized at 65%, or Minnesota at over \$20,000 in average E&R subsidized at 56%?
- i. Outcomes: The report acknowledges that many community college students are more interested in *completing* 60 credits of academic work than in getting a two-year associate's *degree*. It accordingly uses both degrees and completions as key outcomes. This difference that makes a difference in community colleges makes hardly any difference in any of the 4-year sectors and thereby levels the comparison of 2- and 4-year playing fields when using completions. Completions in 2006 as a percentage of FTEs in the three public sectors range from 23% - 25%, with the research sector at the top and the master's sector at the bottom. The private research and private master's sectors were at 32% and 31%, respectively, while the private bachelor's sector was at 24%.
- j. The costs of outcomes: E&R expenses per completion are also reported, with the private research and private bachelor's sectors logging, respectively, the highest and next highest spending rates. Indeed, the spending rates per completion follow the order of spending rates in 3.b above – as is to be expected.

#### 4. **Evidence of changing attitudes within and around higher education**

The economic meltdown appears to be driving a degree of willingness on the part of the academic culture to consider changes that have heretofore been externally promoted but broadly resisted internally. "Willingness" may describe only a strategy for staying a step ahead of the public policy posse that controls so many of higher education's critical revenue flows in this time of financial stress – see the first item below. Following the first item, however, are some points of evidence suggesting otherwise.

- a. First, think about the Big Three in Detroit: A colleague, Julie Curtis, commented that the "bail-out of domestic automobile companies" came to mind when she learned of recent requests from higher education to participate in the federal "stimulus package." After years of ignoring the risks of stasis, the Big Three recently sought to prop up their prevailing, but arguably failing business models. Are higher education's recent pleas to participate in the "stimulus package" similar evidence of tone deafness in the face of pressures (from the Spellings Commission report and a host of more recent reports from other national commissions) to change fundamental academic practices to serve more students at more affordable tuition rates and improved completion rates? See, for example, the [Higher](#)

[Education Investment Act: An Open Letter to President-Elect Obama and His](#)

[Administrations](#) from a group of higher education leaders convened by the Carnegie Corporation of New York. See also the ACE's [letter to the Senate](#) on behalf of other higher education organizations. In contrast to these justified pleas for support, the items that follow may signal changing attitudes that are moving away from “doing more only for more” and towards, of necessity, learning how to “do more for less” to earn broader and deeper policy support and public support.

- b. [Assessment of learning](#): Consider the recent announcements within higher education of a research-based National Institute for Learning Outcomes Assessment and a loosely related Alliance for New Leadership for Student Learning and Accountability, which is to be designed as the public policy voice for higher education’s internal efforts to assess learning. There are no indications that these efforts will encourage comparisons – benchmarking based on independent, normative assessments. More about these efforts is available in [Assessing Assessment](#) from Inside Higher Ed.
- c. [Overall accountability with benchmarks](#): See [Ready to Assemble](#), a “model state higher education accountability system” developed by Education Sector with support from the Lumina Foundation for Education.
- d. [Admitting the need for meaningful change in higher education](#): Such efforts include the Lumina Foundation’s recent [Memo to the Presidential Transition Team](#), which advocates, among other goals, increasing the percentage of the adult population holding a higher education credential from 39% to 60% by 2025. Another effort is from deep inside higher education: a report, [Coming to Our Senses: Education and the American Future](#), from a commission of higher education leaders sponsored by the College Board. The report’s recommendations include a goal of “ensuring that by the year 2025 fully 55 percent of young Americans (age 25 -34) are completing their schooling with a community college degree or higher.” These two reports include expectations that higher education will contain expenses in the interest of affordable access for all citizens. Bringing together expenses and completion rates begins to move the goal towards one of improving productivity in higher education.
- e. [Productivity in Higher Education](#): Two opinion pieces in a recent issue of the Chronicle of Higher Education, [Colleges Must Face Reality and Recognize Opportunity in the Economic Downturn](#) by Ron Knecht and [It’s Time to Improve Academic, Not Just Administrative, Productivity](#) by William Massy, advocate for a productivity agenda in higher education, one that is similar to the one supported by the [eleven statewide planning grants](#) already awarded through the Lumina Foundation’s [Making Opportunity Affordable Program](#). A number of posts and articles, from me and others, directly addressing productivity in higher education have accumulated since 2006 on my [blog on measurable performance improvement](#).

5. **A Big-Picture Summary: Higher Education’s Learning Productivity Crisis**

Of all the signals of change cited in Section 4, only the recommendations in 4.e from Ron Knecht, William Massy, and me seriously address the core reality at hand: ***that productivity is the universal issue and that higher education will be able to improve productivity at scale only by harnessing IT to redesign or eliminate key processes in its “business” model – especially its learning model.*** Let this educational notion of productivity be known as ***learning productivity***, as outlined in context below.

- a. The objectives of most public and private investments in formal education are challenged by funding, articulation, and academic performance issues in educational practices at all levels, from primary to secondary to tertiary education. For example, inflation-adjusted state and local per-student subsidies in the U.S. have been under downward pressure for years, and the resulting reductions are becoming extreme as economies at all levels fall deeper into the global recession (see 1.a).
- b. The education enterprise views the decrease in per-student public funding as a primary issue, but the challenges facing public education and, indeed, all of education are broad and complex. Policy makers, for example, are demanding both improvements in credential completion rates at all levels and increases in the proportion of the adult population holding a tertiary credential. Indeed, affordable growth in education’s capacity and growth in its output – intellectual capital – are broadly viewed as necessary to economic competitiveness and to the sustainability of civilization in its ecological and socio-political dimensions.
- c. Confounding the challenge to credential a greater proportion of the adult population are demographic trends (in most geo-political contexts) toward increased diversity in both cultural and economic variables. These trends imply the need to enroll, retain, and credential a tertiary student body that must be increasingly weighted by first-generation, underprepared, needy students.
- d. The above funding issues, affordability requirements, and demographic and academic performance and accountability challenges combine into education’s ***“learning productivity crisis,”*** which can be defined as the pressing need to address simultaneously these goals:
  - i. Improve the competitiveness of the workforce – by increasing the percentage of tertiary credential holders in the overall adult population.
  - ii. Improve credential attainment rates – by increasing the annual ratio of credentials granted to total FTE enrollments.
  - iii. Account for the validity of credentials – by selectively using independent, normative assessments to account for the effectiveness of the articulation between secondary and tertiary education and to account for the effectiveness of the tertiary education enterprise in its general education (learning-to-learn) and professional/workforce dimensions.

- iv. Reduce per-credential “production” expenses – by decreasing the annual ratio of total E&R expenses to total credentials granted.
- e. Increasing the proportion of the adult population holding a tertiary credential will require redesigning **enrollment management strategies** – from recruiting strategies to student-success strategies – in order to realign the demographics of the student body more closely with overall diversity trends along dimensions of race, ethnicity, culture, national origin, educational preparation, age, and income. In particular, this means recruiting, enrolling, retaining, and credentialing a student body increasingly weighted by first-generation, underprepared, needy students.
- f. **Affordable, successful access** will require reductions in credential production expenses in order not to increase tuition excessively on the growing proportion of needy students or not to squeeze institutions with unreasonable tuition-discounting rates. (The proportion of public subsidies allocated on a per-credential or per-student basis likely will continue to decline, thereby putting the public focus on net tuition.)
- g. Meeting the learning productivity crisis at scale will prove impossible, however, unless IT-enabled service process redesign and innovation strategies are broadly adopted. In education, these productivity strategies translate into some combination of IT-enabled **universal curriculum redesign, flex program and service redesign**, and **external sourcing/partnering redesign**. Thomas Friedman’s “flat-world” book is a highly readable account of the IT-driven conflation of globalization, innovation, and productivity and of new **IT-enabled external sourcing redesign strategies and examples**.
- h. Taken as a whole, the above pressures and strategies can lead education to assume more of the characteristics of an **“open market”** – a market that grows and thrives in response to public and policy demands for convenient and affordable access to life-long credentialing opportunities that are transferrable and verifiable. Here the **“learning cloud”**– software as a service (SaaS) in an educational context – enters the picture to become additional IT-enabled leverage for transforming the prevailing service models (business models) of the education enterprise (via the above redesign strategies).

## 6. More about Resolving the Learning Productivity Crisis

The highest aspirations **of** tertiary education (internal) and **for** tertiary education (external) may be converging – as they should, but haven’t yet – into a renewed compact between tertiary education and the public. A speaker at the 2009 CIC Presidents Institute, perhaps in an attempt to bridge “of” and “for,” noted that almost every tertiary institution speaks of its vision in terms of becoming “best **in** the world” – best **in** its peer category. The speaker went on to add that the time is right to think instead about what it would mean to be “best **for** the world.” This line of thought has a parallel in U.S. President John F. Kennedy’s famously revered plea to “ask not what your country can do for you – ask what you can do for your country.” The answer, in the higher education parallel, is to increase learning productivity – an answer that can bridge “of” and “for” by focusing opportunistic

planning not only within tertiary education, but in collaboration with its multiple public and private sponsors and corporate partners.

In a world increasingly plagued by complex, inter-connected issues of ecology, economy, and equality (of opportunity), tertiary education has become the best (only?) hope for sustaining civilization – by supplying the intellectual capital for solving these complex problems to the benefit of both the individual and the larger economically viable, equal-opportunity, increasingly global society. This is a fair proxy for tertiary education’s common-good aspirations. For this vision to be realized, tertiary education will have to meet the **learning productivity** crisis, which is also the highest universal aspiration for tertiary education practices from an external perspective. Below are some ideas for tertiary education to become better for the world.

- a. The necessary roles of IT in improving productivity: The analysis presented in Sections 1-5 suggests economic duress is driving tertiary education to be receptive to transformational changes that will require IT-enabled “solutions.” Few tertiary education leaders and governing boards, however, understand the necessary role of IT in advancing transformational change. That’s not to say that they don’t partially understand the value of IT. They understand, for example, that IT enables improvements in two of three primary areas of improvement – the first two improvement areas below.
  - i. Individual productivity: Tertiary chief executives understand the role of IT in the individual productivity of their constituents – students, professors, staff members, alums, board members, and so on. Of course, Web 2.0 is changing the nature of the professional productivity tools available to individual option – Epsilon, Facebook, Linked-In, etc. Improving individuals’ academic productivity is nevertheless a well-established IT-enabled goal for most chief executives, a goal reflected in baseline application and infrastructure investments and added-value faculty development services and student-satisfaction services.
  - ii. Access to, and accuracy of, institutional information: Tertiary education chief executives recognize the need to improve access to and the accuracy of institutional information as a key to creating a culture of evidence and accountability. They know that cultural resistance typically stymies the effective use of new reporting and analytics systems, but seldom have they and their executive colleagues been able to synchronize tools and culture in the interest of improved accountability.
  - iii. Institutional productivity: Tertiary education chief executives seldom consider the productivity analogy inherent in the globalization of the commercial world – an analogy in which IT-enabled process redesign and IT-enabled external sourcing have proven to be the only tool sets available to improve productivity and competitiveness at scale. Pressures on chief executives to improve upon and account for both admin and academic productivity are mounting, but too few connect these problems to solutions crafted from IT-enabled service process redesigns and innovations in both

admin and academic functions. Too few accordingly see the relationship between institutional productivity and the IT-enabled productivity strategies cited in item 5.g.

- b. Treat the learning productivity assessment issue thoughtfully, but treat it: Accounting for the validity of credentials (item 5.d.iii) is the most controversial of the four goals listed under item 5.d. Learning accountability is primarily a faculty responsibility, and faculty members are wary of the idea that some learning can be independently assessed through normative but constructivist assessment instruments. The issue tends to be argued as an “all-or-nothing issue.” My recent blog post – [If not all learning can be benchmarked, do we benchmark none?](#) – argues otherwise, and may be useful in engaging this important issue.
- c. The learning productivity crisis in the context of public institutions: In the case of what the Delta Cost Project labeled the public sector (3.a), all three public sectors directly face 5.d.i, 5.d.ii, and 5.d.iv in their contexts. These institutions are under mission pressure to improve performance in the three areas:
- Improve the competitiveness of the workforce. Increase the percentage of tertiary credential holders in the overall adult population.
  - Improve credential attainment rates. Increase the average rate of credential attainment (annual credentials granted per 100 FTE students).
  - Reduce per-credential “production” expenses. Decrease the overall average of per-credential-granted annual E&R expenses.

Because their trend is to rely on net-tuition revenues to cover an expanding proportion of E&R expenses (3.f), public-sector institutions are threatening the affordability of access for students and families on the lower rungs of the economic ladder. The affordability squeeze, in turn, increases public-policy pressure on institutions to reduce average per-credential E&R expenses – even as they simultaneously address workforce and credential attainment-rate issues.

- d. State-by-state strategies: The data from the Delta Cost Project are [available on a state-by-state basis](#) for all three of the project’s public nonprofit sectors. As noted in 3.g and 3.h, expenditures and the sources of revenue to cover them vary widely from state to state. Public education leaders and policy makers should compare their data to data from other states to help determine where to probe and where not to probe – and with what attitude/mindset in terms of the learning productivity challenge and their states’ revenues and revenue allocations.
- e. The learning productivity challenge in the context of independent nonprofit institutions: Unlike public institutions, independent institutions have no *a priori* obligation to improve the competitiveness of the workforce or to improve credential attainment. Most, however, are committed to these common-good goals. Indeed, they already boast credential

attainment rates greater on the average than those of public institutions. Improving the proportion of the adult population holding a credential is, moreover, an opportunity for revenue growth in independent institutions, especially when undertaken to meet market demands in the workforce and the professions and also to enroll students in convenient, flexible programs (5.g) that can increase profit margins through expense avoidance and new pedagogies – and, thereby, reduce per-credential production expenses to avoid spiraling increases to net tuition (3.e).

- f. Higher education is counter-cyclical: It's by now clear that the historical counter-cyclical trend is operating in this economic downturn, at least within public community colleges and private for-profit higher education. The time is right for all sectors to look to improved productivity as a means to serve more students while creating a more stable financial model for learning that will be best *for* the world – and an affordable imperative for students, families, donors, employers, and governments.