Introduction

There is now widespread acceptance of the fact that economic competitiveness in the global marketplace will largely be determined by the stock of educational capital embodied in a nation's workforce. Based on this yardstick, simply put, the U.S. is losing its competitive edge. While still having the second most highly educated workforce in the world (after Canada), this advantage is the result of the nation's head start in mass higher education. The edge is a function of the baby boomers attaining much higher levels of education than their counterparts elsewhere in the world. Among younger workers (ages 25-34), the picture is much different, with the U.S. lagging nine other countries in the proportion of its young workforce possessing at least an associate's degree (see Figure 1). With the retirement of a highly educated portion of the workforce and their replacement with individuals who are, on average, less well educated, the U.S. will find itself in the unaccustomed position of lagging in the capital market that matters most: educational capital.
The magnitude of the challenge facing the U.S. is substantial. Estimates indicate that by 2025, 55 percent of the working-age population will need at least an associate’s degree. If the nation’s education enterprise continues to function as it does now – the same patterns of high school completion, college participation, and success – there will be a shortfall of about 16 million college graduates by 2025. The shortfall will be even greater if the current levels of in-migration of college graduates are not sustained. This in-flow of educated talent cannot be guaranteed given the increasing opportunities now available in the countries from which talent has historically flowed.

Most states will share the problem faced by the nation. The majority will not achieve the 55 percent threshold doing business as usual. The shortfalls in the states vary dramatically (see Figure 2), but few will hit the target without a substantially increased output of degree-holders from their colleges and universities.

The costs of closing the gap are enormous. A rough estimate is that the states’ collective support for higher education would have to increase by nearly 40 percent – an additional $32 billion on top of the $78 billion currently being invested. And this additional amount would have to be spent every year for the next 20 years; it is not a one-time infusion of operating funds that could be provided in a particularly robust economic environment. Given the health of the nation’s and states’ economies and the competing demands for state resources, it is impossible to envision a scenario in which this much money can be devoted to closing the education attainment gap.

The nation faces a dilemma – some would call it a crisis – regarding the demand for more graduates, and its institutions of higher education will be asked to respond to it. Since states, not the federal government, are responsible for higher education, the problem ultimately becomes one with which state legislatures must deal.

The task is vexing. States cannot reduce their expectations to meet the limitations of their budgets. Doing so would result in the equivalent of economic disarmament. Neither can they increase their budgets to meet their degree production requirements, given current institutional expenditure patterns. Taxpayers would revolt at the tax increases that would be required. If students were asked to foot the bill, so many would likely find college unaffordable that the required graduation numbers could not be achieved. So what is the solution?

Increasing Productivity

There is no single answer to this question. But a major part of the answer has to be increasing productivity – getting more output (degrees and certificates) produced for the resources being invested by states. Institutions will inevitably push back against this idea, arguing that they can’t increase productivity without sacrificing quality. The evidence belies the argument. Figure 3 indicates that most state systems of higher education would
have to produce many more degrees to be as cost-effective as those states that get the highest degree production for an equivalent investment (moving vertically on Figure 3 to a position on the “efficient leading edge”).

Figure 4 shows the relationships between degrees produced and college enrollments for the best performing state and the nation as a whole. The differences are substantial.

If state systems produced at the rate of the best-performing state, savings would be an estimated $38 billion, more than enough to cover the entire $32 billion needed. This level of performance by all states is unlikely; nevertheless, these calculations indicate that productivity improvement can make a large contribution to funding the output gap. In the end, achieving the globally competitive target will require additional investments, but it will also require legislatures to raise expectations regarding outcomes produced with the resources already in hand.

The Legislature’s Role

Institutions of higher education operate within a policy environment established primarily at the state level. Therefore, one can argue that underperformance is at least partially due to the state policies and the way they are implemented. They either allow underperformance to continue or limit the extent to which performance can be enhanced. Legislatures would do well to call for a “policy audit” to identify those aspects of existing policy that negatively affect the pursuit of high productivity.

It also behooves legislators to better understand the ways in which their actions affect productivity enhancement. Legislative actions affect the productivity of a state’s higher education system – both directly and indirectly.

Direct effects are most evident in decisions regarding the nature of the system of higher education created in the state. The most important contribution legislatures can make is to create a system of institutions that is inherently cost effective – investing in institutions that produce a lot of graduates relative to the investments made in them. This means investing in institutions that have instruction as their mission and that are encouraged to excel at this mission. This flies in the face of enormous pressure to invest in research universities, pressure from the institutions and their well-organized alumni groups, from communities that want their local campus to become one of the research university elite, and from legislators themselves who tend to perceive higher education through the lenses of the most prominent institutions in the state. The ability to resist such temptations and place a priority on funding institutions that can produce the most graduates for the money spent – not the institutions

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Figure 3. Undergraduate Credentials Awarded per 100 FTE Undergraduates, 2002-03

Figure 4. Undergraduate Degrees Awarded per 100 Full-Time Equivalent Students

with the best graduation rates but those with the best graduation rates per dollar – is ultimately the primary determinant of system productivity.

It is relatively easier to heed these admonitions in states that are growing rapidly. In such instances, it is possible to add necessary capacity by investing in those institutions that specialize in undergraduate education. This was the path taken by Nevada when it chose to create Nevada State rather than further expanding its research universities. The opposite strategy has been followed in California and Washington, where the capacity added has been in the highest cost systems and institutions in the state. Such decisions let local communities advertise the presence of the University of California or the University of Washington in their midst but do little to cost effectively serve a substantially larger number of students.

In states that are not growing, the strategies are more complicated – especially in light of political realities that make it nearly impossible to adjust capacity by closing institutions. The requirement is that all institutions be helped to enroll sufficient students so that they can operate at cost-effective levels. One approach is to engage in enrollment management at the system level – raise admissions standards at the most popular institutions to spread enrollments more evenly, for example. Another approach is to change the missions of one or more institutions so that they can serve audiences not currently being served (usually adults, but it could be high school students seeking courses that can’t be offered by local schools, employees of certain types of companies, etc.).

Perhaps most important, institutions need to grow enrollments by reducing dropouts. This can’t be directly affected by legislative action, but improvements in this arena can be assisted indirectly by the environment created by state policy.

The ways in which legislatures indirectly affect productivity are far too numerous to catalogue here. There are a limited number of tools that can be employed by state policymakers to influence the productivity equation (other than cutting funding and exhorting institutions to do more with less). The primary tool is financial – determining the rules by which funds are allocated to institutions. In almost all states, enrollments play a key role in determining funding levels; course and program completions seldom if ever become part of the equation. However, if degree attainment is the goal, then aligning all elements of financial policy – appropriations to institutions, tuition and fees, and financial aid – with this goal is obligatory. In funding institutions the emphasis on completion can be reinforced by funding on the basis of course completions rather than course enrollments or by putting a sizeable portion of the allocation into a performance pool that is distributed on the basis of degree completions. Tuition and fee policies can help to ensure affordability and create incentives for rapid progression through the system. The same is true for student financial aid policies.

Accountability mechanisms are another device for pushing the productivity agenda. For example, it is useful to track system productivity through use of such measures as:

- Degrees produced relative to enrollments benchmarked against best-performing states.
- Credits to a degree for transfer students versus native students (are there major inefficiencies in the transfer and articulation process?).
- Degrees produced relative to costs, for the system as a whole and for each of the sectors.

Asking the right questions is a critical legislative role. Asking questions not just about the money but about results obtained from the money spent is a necessary ingredient in enhancing productivity.

Regulatory mechanisms are the other major tool available to state policymakers. While as likely to be revealed by a policy audit as barriers to productivity (by mandating that funds be used in specified ways or establishing one-size-fits-all procedures), some regulatory actions can help enhance productivity. These include:

- Putting a cap on credits required for a degree.
- Supporting dual credit and other forms of acceleration programs.
- Mandating acceptance of an A.A./A.S. as the first two years of a baccalaureate program.

The list could go on.4 These regulatory actions represent examples, not recommendations for action in any particular state. The intended message is twofold:
1. The accumulation of policies creates a policy environment that can either promote or detract from efforts to improve productivity. A thorough review of existing policy with an eye toward removing those that are detrimental is a very worthwhile endeavor.

2. As part of each future policy action, the question should be asked, “Can we do this differently, in a way that would promote the productivity of the system?”

Productivity either happens or doesn’t happen at the campus level. But the actions of state policymakers play a critical role in determining whether institutions will (or can) rise to the occasion.

**Conclusion**

This brief document has sought to make three key points.

1. **Productivity improvement in higher education is a state and national imperative.** There is no way to reach competitive education attainment levels within the limits of constrained resources if a business-as-usual approach to higher education continues.

2. **Productivity improvements are possible.** Some state systems and sectors are much more productive than others. It’s a matter of doing rather than knowing what to do.

3. **Much depends on legislative actions and the policies they create.** Lack of productivity can’t be blamed solely on institutions.

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**About the Author**

Dennis Jones is president of the National Center for Higher Education Management Systems (NCHEMS), a nonprofit research and development center founded to improve strategic decision making in institutions and agencies of higher education. A member of the staff since 1969, Jones is widely recognized for his work in such areas as the changing environment for postsecondary education; the formulation of state and institutional policy in response to this change; and strategic planning for postsecondary education. Previously, Jones served as an administrator at Rensselaer Polytechnic Institute. He earned his graduate and undergraduate degrees from that institution in the field of engineering management.
Endnotes


References


