

# **Economic Factors Impacting Workforce Preparation**

**Sandra A. Suran**

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There are greater implications to the economic impact of higher education operations and programs than just the increasingly huge debt load on current and future generations.

Economists are voicing concern about whether higher education will ever provide the value to the younger generations (and to the macro economy of the United States) that the education is intended to provide. Currently, many believe that the costs of higher education have a net negative effect on the lifetime financial strength of students and of their future families.

Worse, the U.S. economy and average wage of U.S. workers is dropping in comparison with other countries, specifically Canada, the U.K. and India. Trends indicate that unless higher ed makes up for lost ground in their programs and instruction quickly, the trend and the gap in average wages between the U.S. and other countries will increase. Highest wage workers are being recruited from other countries in greatly increasing numbers because the number of high-value degreed workers graduating from U.S. colleges and universities is only a small fraction of the demand by employers. That also means potential U.S. graduates are insufficiently informed about the newer, higher value jobs by secondary and higher education programs.

Complaints are also coming from the industries that provide the higher wage jobs and the future learning environments sought by next generations of the workforce: insufficient practical knowledge (vs theoretical principles). A generation ago, employers complained that most graduates were not ready to be productive contributors in their workplaces. Higher education graduates had basic technical knowledge in their chosen fields but insufficient knowledge to function effectively in an increasingly complex workplace and with customers (both internal and external) who demand more and greater services at every level.

Most U.S. colleges and universities have moved to satisfy those employer needs with expanded, improved intern programs for both students and their instructors, in both public and private organizations. Higher education institutions have also begun to develop more multi-discipline programs to provide a broader range of education across all disciplines. They have also moved to partner with secondary education to move industry awareness and basic principles in many disciplines down so that students have more basic knowledge when they enter higher education.

Those expanded efforts have not, however, kept pace with changes occurring in the workplace and in society. The complaint is that new U.S. graduates are being prepared for yesterday's workplace. Recent assessment of the reasons why is that higher education instructors are not sufficiently expanding and updating their own knowledge of the workplace and of the multi-dimensional, increased complexity of all occupations and industries. Therefore, instructors can't transfer adequate knowledge to their students.

An example is the CPA exam, which is designed to test the business knowledge of CPA candidates. The knowledge tested is increasingly broad, complex and very current, to reflect the needs of today's public and private organizations as well as in the CPA firms which will provide business consulting and attest services to them. Assuring candidates have the most current knowledge is obviously critical to assuring public confidence in the companies and in the health and growth of the U.S. economy. Those responsible for the efficacy of the CPA exam have seen a consistent and significant recent drop in the Pass rate across the U.S. In researching reasons for the drop, CPA leaders who specialize in the education industry learned that professors in business schools have not kept their knowledge current, as required by verbal and contractual commitments to their employers and by state law requirements for their CPA re-licensing.

Another related issue, heard from employers of all types and sizes, is that employers are increasingly gearing up to develop specialized training internally. Employers are developing specialized courses for their unique needs but also because of the gap in knowledge of graduates with "older world" skills and the newer, more highly valued skills and knowledge levels which are available in graduates from other countries. Higher paid jobs in the U.S. are being filled mostly by non-U.S. graduates. American industry employers lament their inability to find sufficient U.S. higher education graduates with basic knowledge of the newest areas of high technology and other major emerging occupations. Companies increasingly have to go outside the U.S. to fill most of their needs in new, high-demand and high value, occupations. The result is that real wages of American graduates are continuing to drop, as higher value occupations are added above them.

At a conference last year, Mary Daly, new President of the Federal Reserve Bank of San Francisco, gave one dramatic example of the need. Over the last six months in the state of Washington, an average of roughly 1,750 new job openings were posted **each month** in software development for applications (i.e. app development). However, the University of Washington's program in computer science and engineering, which offers a specialization in this area due to the many high technology companies there, graduated only 231 students **in total in 2017** (most recent data). Washington companies have been forced to go outside the U. S. to fill their needs for new workers in this and related fields or they have gone without.

The Federal Reserve Bank is concerned because this situation adversely affects the economic strength and success of U.S. industry, both currently and into the long term future. As a result of the insufficient supply of new graduates from U.S. universities for these high demand occupations, the productivity and innovation of U.S. companies is jeopardized, compared to other countries, both developed and developing. This situation is the most worrisome problem for the Fed. It is a big issue and they do not have the tools or the ability to impact it.

Both of these examples show the critical need for change in U.S. higher education because of its effect on the macro economy and, at a micro level, also to the economic health of households in the future. The solutions to these issues are within the authority and responsibility of the higher education and accreditation systems. This need for change and the solution should be of great interest to students, their families, and communities.

Another related area in which the U.S. Federal Reserve Bank is concerned with the U.S. higher education system is the lack of general knowledge by all graduates of macro-economic principles. Greater knowledge of these principles would provide more aware citizens and workers, and more informed students of the principles of supply and demand. This knowledge would enable more informed decision making in students' selection of careers and better matching of students with high demand jobs for their future career growth and stability of their families. This economic knowledge will also provide better informed future leaders in the community and in the workplace.

Of course, these issues create a dual responsibility for students and universities. And it is circular. It is the student's responsibility to research and learn, on their own, about their chosen industry or alternative industries. For example, is it a mature or declining industry? Are there new directions within the industry that might "morph" into new dimensions? Or is it a new, developing industry with challenges and unmapped directions that may impact their careers? It is students' responsibility to question and push appropriate instructors to, in turn, lead and push their students to learn and question uncharted areas.

Responding to changing needs and skills desired of graduates by the greater community will simultaneously provide greater assurance of more well-paying, more satisfying jobs in the future for those graduates. That result, in turn, will simultaneously enable faster payoff of student debt and increased health of the U.S. economy.