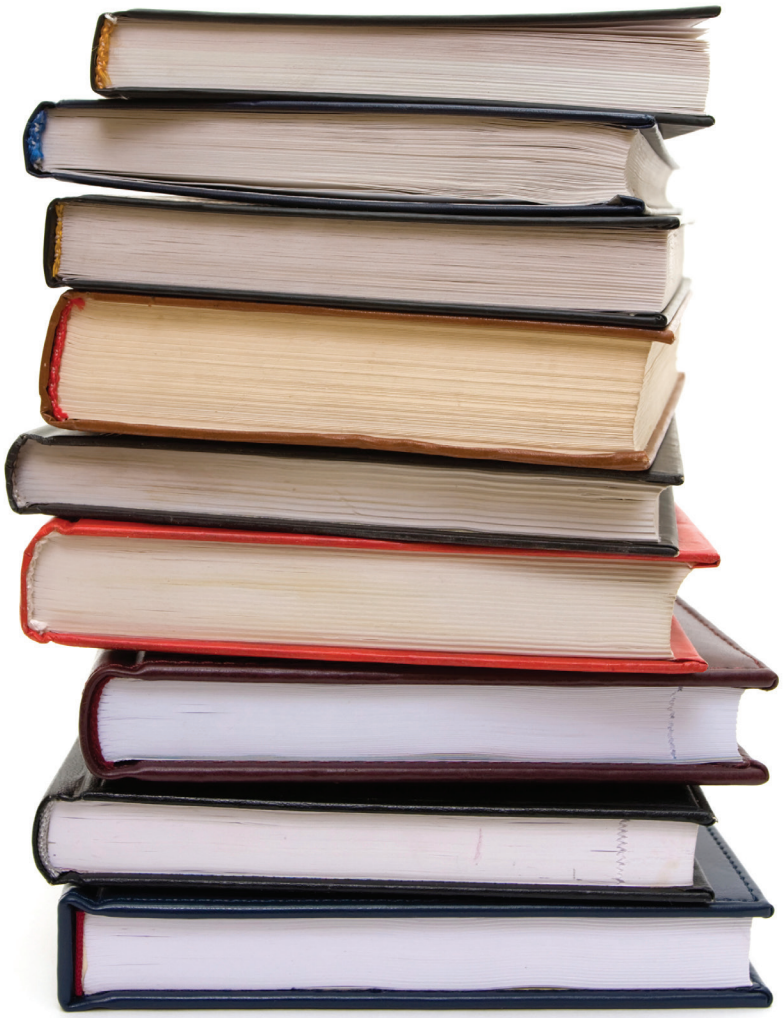
EDUCATION POLICY Center
at American Institutes for Research

Measuring the Economic Success of College Graduates

Lessons From the Field

By Mark Schneider

JUNE 2014



AIR®
American Institutes for Research®

EDUCATION POLICY Center
at American Institutes for Research

Measuring the Economic Success of College Graduates

Lessons From the Field

JUNE 2014

By Mark Schneider

How much recent graduates earn after completing their degree is an increasingly popular way for policymakers to begin to assess the return on state and federal investments in higher education. It's also an important consideration for students and families, who want at least some assurance that the burden of student loan debt taken on today will be offset by higher earnings in the future. Although the Obama Administration's focus on improving accountability and transparency concerning the cost of higher education has brought the advent of federal consumer information tools such as the Financial Aid Shopping Sheet and the College Scorecard,[1] states are leading the way on collecting earnings data about their college and university graduates.

American Institutes for Research (AIR), through CollegeMeasures™, has partnered with seven states to give policymakers and consumers access to data documenting the labor market success of their graduates. Along the way, we've learned several lessons about how to turn complex data about education and wages into useful information that can improve the lives of students and families.

A TRILLION DOLLAR PROBLEM

According to the Federal Reserve Bank of New York, cumulative student debt now tops $1 trillion, with more than 11 percent of loans being delinquent 90 or more days.[2] Students need sound information about where their educational choices are likely to lead—information that could save them money, keep them from making bad choices, and eliminate future financial headaches. The problem is that too few students know their potential earnings *before* they enroll in a postsecondary institution or choose a field of study, and *before* they take out loans to pay for that education.

THE ARCHITECTURE OF WAGE DATA

Measuring the labor market success of college graduates depends on successfully merging two state data systems. The first is student-level data, often called student unit records, recording each student's year of graduation, college, degree, and field of study. The second is the unemployment insurance (UI) wage data reported by employers to the state each quarter.

Momentum to understand how recent graduates are faring in the labor market is building. According to the Data Quality Campaign, in 2013, about two dozen states linked student-level data with in-state employment outcomes, seven more than in 2012.[3] And more than 30 states have joined the U.S. Department of Labor's Wage Record Interchange System 2 (WRIS 2), which allows participating states to track graduates' wages in any of the consortium states.

---

1 For examples, visit http://www.whitehouse.gov/issues/education/higher-education/

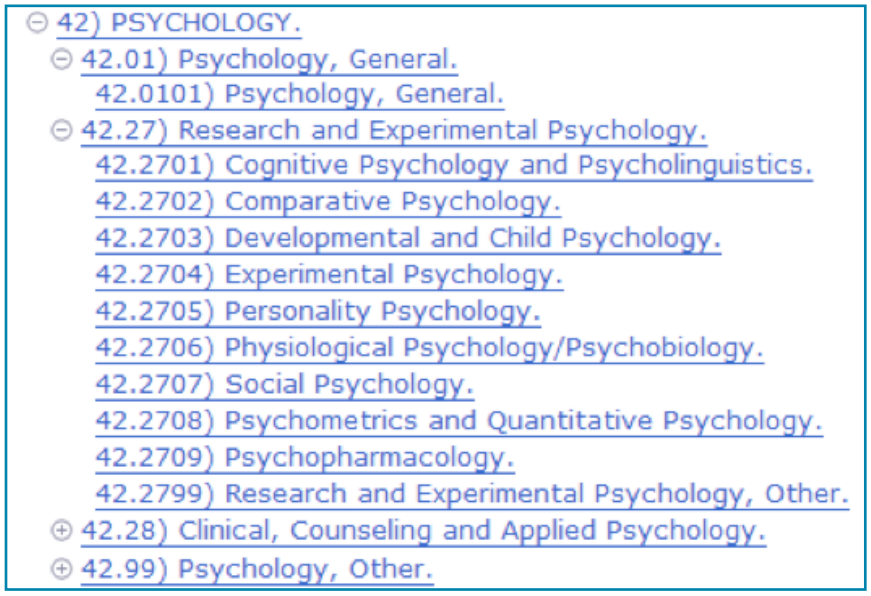
2 See http://www.newyorkfed.org/newsevents/news/research/2014/rp140218.html

3 See their annual report at http://www.dataqualitycampaign.org/files/DataForAction2013.pdf

1 School-level reporting isn't enough.

Although it might be interesting to learn that graduates from "State University" make more, on average, than those from "Small State College," this type of reporting isn't necessarily useful to stakeholders. Students graduating from different academic programs within the same university can have widely different levels of success in the labor market. English majors, for example, are almost always paid less than economics graduates from the same university. However, there also can be substantial variation in the wage outcomes of students in the same program across institutions. The best reporting schemes are those that permit wage outcomes to be evaluated at the program level *within* a given institution.

A national standard for coding students' academic programs already exists: the U.S. Department of Education's Classification of Instructional Programs (CIP). CIP codes are hierarchical, with each broad field (represented by a two-digit code) being broken down into a subfield (represented by a four-digit code), and each subfield being broken down into a specific program of study (represented by a six-digit code). Below, you can see an excerpt of the CIP codes related to psychology, one of the nation's largest majors.



When possible, reporting should be done at the six-digit level (that is, "Social Psychology" rather than "Research and Experimental Psychology" or simply "Psychology"). When the number of graduates at the six-digit level is deemed too small to report, having data at the finest level of detail makes it possible to aggregate reports to either the four- or two-digit level.

2 Consider combining several cohorts of graduates, not just the most recent year's.

Reports on small numbers of graduates may pose privacy concerns. Most states will not (and should not) report data based on fewer than 10 graduates. Moreover, when wage reports are based on a small number of graduates, they are more sensitive to a variety of possible anomalies, including fluctuations in general economic conditions and individual graduates who do exceptionally well (or poorly) in the labor market. As a result, it often makes sense to combine several cohorts of recent graduates as opposed to relying only on the data from graduates from the most recent year. For example, a campus might only have five "Personality Psychology" graduates each year, too small a cohort to report. However, if the last five cohorts were combined, the first-year earnings of 25 graduates would be large enough to report, making the wage data more complete and also more immune to statistical anomalies that might emerge in a small cohort.

3 Be transparent about who is and isn't included in recent graduates' wage reports.

Although UI data on average covers about 90 percent of the civilian workforce, significant numbers of workers are not included. Not covered, for example, are graduates who work for religious organizations or who are paid primarily on commission.[4] Similarly, graduates in the military or working for federal agencies are not covered by state UI systems. Some states, like Texas, do gather data for large classes of federal workers and collect wage data through national databases from the Office of Personnel Management, U.S. Postal Service, and Department of Defense (military service records). But other states do not have such arrangements.

In other cases, states have chosen not to include certain groups of workers in their wage reports. For example, data recently released by Florida excluded graduates earning less than $16,203, the annual salary one might expect after working full time (40 hours/week) at that state's minimum wage ($7.79/hour). California's Salary Surfer, which reports the earnings of students who've earned a certificate or associate's degree in one of the state's 112 community colleges, excludes completers who had no wages during the calculation year.[5] Not reporting earnings for students who have wage records but do not meet other reporting rules is an important choice with meaningful consequences. For a host of reasons, including maintaining credibility and promoting comparability, disclosing that choice (along with other key decisions that substantively affect the results of wage reporting) is critical.

---

[4] See http://www.policyalmanac.org/social_welfare/archive/unemployment_compensation.shtml

[5] The Salary Surfer uses the aggregated earnings of completers receiving a credential during a five-year period who (1) had not transferred to a four-year institution, (2) were not enrolled anywhere in the California Community Colleges System after receiving a credential, and (3) were older than 21 at the time of award. (Completers younger than 22 were excluded as they were likely to be in high school two years before they received their award.)

4 When possible, report both short-term and long-term wage outcomes.

Particularly in states where the process of matching student unit records with UI records is relatively new, it is common to report on graduates' economic success in the year immediately following their college completion. However, states such as Florida, Texas, and Virginia have been matching these two data sources for several years, providing information about graduates' wage outcomes five—or even 10—years after completion.

Both kinds of data can be useful. For states new to this effort, the priority should typically be first-year wages: Most graduates' loans enter repayment six months after leaving college, and their early career earnings will affect their ability to meet those financial obligations. But a longer view can provide important information about fields of study where conventional wisdom dictates that economic returns may take longer to develop, such as philosophy or the performing arts.

5 In addition to reporting on wages, report on students' loan debt at completion.

Mounting student debt is a national concern. However, how debt affects a *specific* graduate can only be understood within the context of her or his earnings. A graduate with $25,000 in debt and $65,000 in earnings is in a far different situation than a graduate with $65,000 in debt and $25,000 in earnings. As is currently done in Virginia and Texas, states should gather program-level debt per graduate, presenting data about indebtedness alongside information about wage outcomes.

6 Capture data on graduates employed out of state.

Each state's UI system only contains wage information from employers located in that state. This means that graduates who have left the state to find employment will not have wage data to match to their education records. Variation in match rates is relatively predictable, and relates to both type of institution attended and program of study. Graduates of community colleges are typically more likely to be found in a state's UI system than are graduates from four-year colleges, and graduates from "regional" campuses are more likely to be found working in the state than their peers who completed at state "flagship" institutions. Similarly, many more graduates with teaching degrees will be found working in the state in which they earned their degrees, while science and engineering programs will typically have low in-state match rates.

States can overcome these data limitations by joining WRIS 2. Currently, more than 30 states belong to the WRIS 2 consortium and share their UI data with partner states. For example, Tennessee can query WRIS 2 by submitting a list of Social Security numbers of graduates who could not be found in its own UI system. The WRIS 2 clearinghouse will return the wage data for any of these graduates found to be working in a participating state. Subject to confidentiality constraints, Tennessee can compare the wages of graduates who stayed in state with wages of graduates working in any of the other WRIS 2 states to give a more complete picture of the economic success of graduates.

7 Report information about rates of in-state employment.

As noted earlier, recent graduates who do not match to state UI systems may be absent because they are not in the labor market, they are in a job that does not report to a UI system (e.g., those paid on commission), or they are employed out of state. Reporting the in-state "match" rate (that is, what percentage of graduates are found working in the state) provides students information about the likelihood they will find employment in their home state, which, for some, can matter greatly. Moreover, these data can give policymakers some idea about which institutions, and programs of study within those institutions, contribute most to the creation of human capital within the state by feeding the state's labor market.

8 Use medians, not averages, when reporting wages and student debt.

In general, it is preferable to report *median* wage or indebtedness rather than the average. A distribution's median, which reflects the point in that distribution where half of the observations fall above it and half of the observation fall below, is not sensitive to extreme values. Averages, on the other hand, can be highly sensitive to so-called "outliers." One highly successful graduate will inflate the average, especially of a small program, while having little effect on the median.

DISPLAYING INFORMATION ABOUT THE DISTRIBUTION OF STARTING WAGES

It also can be useful to consider the variation in graduates' earnings by reporting not only the median, but also the lowest quartile (that is, the point below which 25 percent of wage earners are found) and the highest quartile (that is, the point below which 75 percent of wage earners are found). In the table on the following page, we summarize data on the earnings of psychology graduates from 11 public Florida universities.

Institutional Setting and Median, 25th Percentile, and 75th Percentile Starting Wages of Recent Bachelor's Degree Graduates in Psychology From Public Universities in Florida

University	Setting	Starting Wage		
		Median	Lowest 25%	Highest 25%
Florida Agricultural & Mechanical University	City, midsize	$21,120	$17,956	$32,580
The University of West Florida	City, small	$22,854	$17,893	$26,526
Florida Gulf Coast University	Suburb, large	$24,136	$21,300	$30,933
Florida State University	City, midsize	$24,334	$20,306	$29,914
University of Central Florida	Suburb, large	$25,174	$20,091	$33,652
Florida Atlantic University	City, small	$25,390	$20,825	$31,151
University of North Florida	City, large	$26,142	$20,861	$33,483
Florida statewide median	—	$26,156	$20,606	$33,268
University of Florida	City, midsize	$26,232	$19,962	$35,436
University of South Florida	City, large	$28,140	$22,424	$34,720
Florida International University	Suburb, large	$28,300	$21,166	$36,029

— Not applicable

9 Discuss regional variations in wages.

Many states have wide disparities in wages due to regional economic differences In general, graduates from campuses near major metropolitan areas benefit from access to stronger regional labor markets where wages are higher than in more remote areas. Any discussion of variation in wages must remind students, parents, and policymakers of this effect. States also may elect to present both actual median wages as well as median wages adjusted by regional cost of living.

10 | Remind readers that wage reports alone can't measure added value.

By itself, the process of merging student unit records and UI wage data does not answer the "value-added" question—that is, how much the education and training provided by specific programs added value to the student. It may, however, represent an important first step toward describing the added value. Conventional wisdom suggests that, given their starting credentials, graduates from highly selective colleges *should* be more successful than graduates from less selective ones. When data indicate that graduates from less selective campuses earn as much (or more) than graduates from more selective ones, it provides an opportunity to explore this elusive construct.

Conclusion

Measuring what happens to college students after they graduate and enter the labor market is a task that more and more states are taking on. According to the Data Quality Campaign, about two dozen states now have linked the data sets that can begin this measurement process. Although most of these data now sit in data warehouses unused by the public and policymakers, a number of states, most of them working with AIR's College Measures™, have made the decision to make these data public—and many more states will do so in the future.

In the process, AIR has learned some valuable lessons. Failing to consider them can waste state resources and frustrate policymakers. Worse, though, is the lost opportunity for students and families, thousands of whom are making consequential decisions about their higher education uninformed about what they are likely to encounter in the labor market after they graduate.

EDUCATION POLICY Center

at American Institutes for Research

1000 Thomas Jefferson Street NW
Washington, DC 20007-3835
877.322.8700

www.edupolicycenter.org

AIR®
AMERICAN INSTITUTES FOR RESEARCH®

www.air.org

1935_06/14