

Losing Its Minds? Evaluating “Brain Drain” in Ohio

by Shadya Yazback

When data from the 2001 Baccalaureate and Beyond survey showed that 35 percent of the students receiving a college degree from Ohio institutions left the state, the figure was touted as cause for concern. Ohio was well below the national average, ranking 35th among states in retaining students educated by its colleges and universities. Media and state government officials alike lamented the “brain drain” that resulted in the loss of nearly 17,000 graduates from Ohio schools in 2001. The headlines across the state ranged from statements of perceived facts, such as “Cincinnati Suffers Brain Drain” (*Cincinnati Post*, November 5, 2003) and “Ohio Ranked 35th in College Grads” (*Cincinnati Post*, June 2, 2002), to the dramatic: “Losing Our Minds: Grads with Advanced Degrees are Flowing out of Ohio” (*The Plain Dealer*, February 23, 2003) and “Ohio Loses Young, Educated in Droves” (*The Plain Dealer*, November 4, 2003).

Ohio is not the only state concerned with “brain drain,” the term used to describe the choice college graduates make to live outside the state in which their degree-granting college is located. The incentive for maintaining a large stock of graduates is fairly obvious: College graduates enjoy higher levels of income than those who do not have a college degree. A July 2002 report from the U.S. Census Bureau found that, on average, a person who graduates with a bachelor’s degree will earn roughly \$2.1 million during his or her working life, nearly double the income of an individual who has only a high school degree.

Many states, including Ohio, try to monitor their progress in developing a well-educated workforce by examining the

percentage of state-educated college students who remain in the state after graduation. Currently, one of the most useful sources of information about graduates available is the Baccalaureate and Beyond survey, which is conducted by the U.S. Department of Education. The survey, is a longitudinal study that follows students who obtained their bachelor’s degree in either 1993 or 2000. Survey participants are interviewed the year they graduate and again one, four, and 10 years after graduation. Information available from the survey includes the degree earned, characteristics of the educational institution, use and repayment of financial aid, educational attainment beyond the bachelor’s degree, status of employment, intensity and length of the undergraduate experience, and the student’s reasons for attending undergraduate school.

The Baccalaureate and Beyond survey is useful, but relying on its retention rates to determine effective policies for maintaining a well-educated workforce may be unwise. Gross retention rates give an incomplete—and sometimes misleading—indication of a state’s ability to keep a well-educated workforce. When Ohio’s retention rates are considered on a net, rather than a gross basis, the state’s experience does not seem all that different from other traditional midwestern industrial states. Moreover, the data may contain a downward bias because they do not properly consider the behavior of Ohio graduates headed for graduate or professional school and because recent retention surveys were conducted in recession years. For these reasons, the caution one should use in evaluating the importance of the Baccalaureate and Beyond retention numbers applies not only to the figures that have been

Is Ohio losing its best and brightest minds? That’s what is often implied by some well-publicized data on college graduates who move to other states after graduation. But what do these data actually tell us? This Commentary shows that they do not paint a complete picture of the emerging class of graduates, much less the state’s workforce. States interested in attracting and retaining college graduates as part of their overall economic development plans should look to other sources of data for a more complete picture. But they also need to consider the drive to improve graduate retention rates in the context of the larger goal—maintaining a well-educated workforce.

released, but also to the 2003 figures that will be released later this year.

■ The Numbers at First Glance

According to the Baccalaureate and Beyond data, an estimated 60,200 students graduated from Ohio colleges and universities with a bachelor’s degree in 1993, making Ohio the fourth-largest producer of college graduates that year. Only California, New York, and Texas produced more graduates than did Ohio; rounding out the top five was Pennsylvania. These five states produced nearly one-third of all the college graduates in the United States in 1993. A year later, about 72 percent of all 1993 graduates nationwide were still living in the state in which they had graduated. By 1997, the proportion of 1993 graduates remaining in the same state had fallen to

TABLE 1 COLLEGE-EDUCATED OUT-MIGRANTS FROM OHIO, MARCH 1, 2003

Primary reason for departure	Number (thousands)	Percent
Family-related	26.6	14.6
Employment-related	81.7	44.8
Housing-related	50.6	27.7
Attend or leave college	14.9	8.1
Other	8.8	4.8

SOURCES: Current Population Survey, 2001, 2002, and 2003; and Federal Reserve Bank of Cleveland calculations.

about 67 percent. Ohio's retention rates were better than the nationwide figures: The state retained 75.9 percent of its 1993 graduates in 1994 and 73.1 percent of its 1993 graduates in 1997.

By 2000, Ohio public college tuition costs had risen at a rate considerably above national averages (42 percent from 1993 to 2000, compared with the national average of 28 percent), enrollment levels had fallen in Ohio, and 20 percent fewer students were graduating from Ohio schools. With 47,940 bachelor's degree recipients in 2000, Ohio had fallen to the sixth-largest producer of graduates, surpassed by Pennsylvania and Illinois, states that produced notably more graduates in 2000 than in 1993.

While fewer students graduated from Ohio schools in 2000, those that did showed themselves more willing to relocate after graduation than their older cohort. Roughly 65 percent of students graduating from Ohio schools in 2000 still lived in Ohio in 2001, a considerable drop from the nearly 76 percent that remained in state one year after graduating in 1993. The phenomenon of increasingly mobile graduates was not confined to Ohio. Nationwide, 69 percent of students lived in the same state as the school from which they graduated in 2000, compared with 72 percent in 1993.

■ Putting 35 Percent in Context

It is true that 35 percent of students graduating in 2000 from an Ohio college or university chose to make their 2001 residence in a state other than Ohio, but this figure alone does not paint an accurate picture of the local labor force and economic environment. Although the rates might be indicative, in part, of conditions in the state, considered alone, single-year retention

rates for graduates do not provide much information about a state's labor force and economic conditions.

Even the rankings among states are not sufficient to evaluate the relative health of a state's workforce and economy. Consider Massachusetts and Indiana, which tied for 38th in the retention rankings of 2000 graduates in 2001. In both states, 60 percent of the students graduating from colleges and universities in the state remained in the state one year after graduation. Yet one could hardly argue that Massachusetts and Indiana face similar labor force and economic issues, given their identical retention rates: In 2001, Massachusetts was home to the third-most educated workforce in the country, with 32.5 percent of its workforce holding a bachelor's degree, while Indiana ranked 41st, with only 21.2 percent of its working population holding a bachelor's degree.

What considerations, then, provide context to the numbers and help to indicate whether policymakers should be concerned about the flow of graduates from the state? While not an exhaustive list, this *Commentary* identifies three issues that must be taken into account when interpreting the survey data on graduates: net graduate flows, graduates whose outcomes are unclear, and the general economic conditions in which the survey is conducted.

Net graduate flows, which take into account not only graduates leaving the state (the figure the media tends to report), but also those entering it, are more useful in considering the condition of the state's workforce: Assuming parity of skills among the graduates of colleges in different states, the number of graduates leaving a state may not be as significant as it initially appears, if a sufficient number of graduates from other

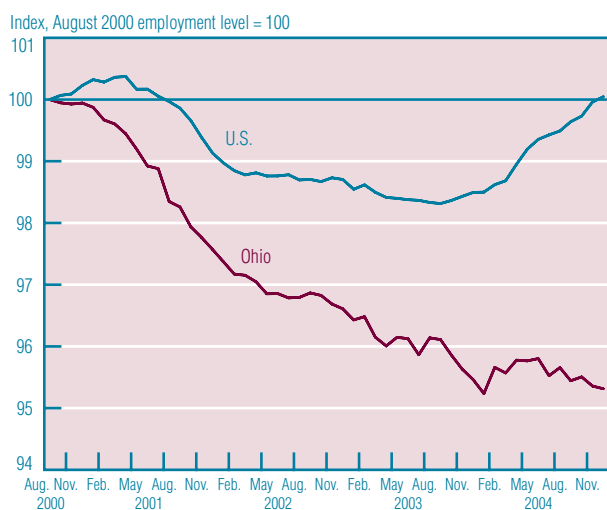
states are entering at the same time.

And that is the case in Ohio. As noted earlier, 35 percent of year-2000 graduates from Ohio schools left the state within one year of graduation, placing Ohio 35th among states in retention of graduates that year. But while 16,779 graduates left Ohio, roughly 7,150 out-of-state graduates entered it that same year. Thus, the net loss of graduates was roughly 9,629—slightly below 18 percent. In terms of net loss, Ohio was near the national average, ranking 28th among states for retention. This is considerably better than the well-below-average, 35th-place ranking for the unadjusted retention number. Considering Ohio's net loss of graduates relative to other states paints a much different picture than does considering just the loss of graduates from Ohio schools.

Among midwestern states, only Illinois saw a net gain of graduates. Michigan, Pennsylvania, Kentucky, and Ohio all saw net losses of less than 20 percent of their college-educated population, while Indiana, Wisconsin, and West Virginia all reported net losses of more than 20 percent. Most southern and central states reported similar losses. The strongest net gains occurred in Nevada (60 percent), Colorado (52 percent), Idaho (47 percent), and Wyoming (44 percent). These states' large percentage increases are somewhat misleading, however, because they produce a relatively small number of graduates: The survey reported less than 3,000 graduates from each of these states.

Along with calculating net graduate flows, it is useful to identify those graduates in the survey whose outcomes are unclear. In the Baccalaureate and Beyond survey, for example, it is impossible, given the availability of the data, to trace the outcome of students who choose to attend graduate or professional school during the survey. (Availability of the data is limited due to privacy concerns). One of the limitations in the data is that they do not permit one to trace the outcomes of individual graduates. For example, if a student reports that she is attending graduate school out of state one year after graduation, it is impossible to tell whether, four years after graduation, she will have returned to Ohio.

FIGURE 1 LABOR MARKET CONDITIONS



SOURCE: U.S. Department of Labor, Bureau of Labor Statistics.

The Baccalaureate and Beyond data indicate that roughly one out of every five graduates from an Ohio undergraduate institution attended graduate school during the 1993–1997 survey period. Of Ohio graduates leaving Ohio, 20.4 percent attended graduate school within four years of graduation. Of Ohio graduates remaining in state, 19.4 percent attended graduate school in the same time period. When looking at the number of Ohio residents that graduated from any undergraduate institution in 2000, be it in state or out of state, an even higher percentage (23 percent) reported attending graduate school within one year of graduation. Given the large share of graduates whose ultimate outcomes cannot be determined from the survey data, some caution should be used in interpreting the migration flow figures.

Finally, the general economic conditions at the time a survey is conducted are important to understanding the significance of the retention rates generated from it. In times of economic downturn, cyclically sensitive states like Ohio experience more job destruction, less job creation, and higher unemployment rates than the national average. A survey of graduates taken in the midst of an economic downturn, then, does not necessarily reflect the behavior of graduates in the years leading up to and after the downturn. If economic conditions are poor when the survey is conducted, the results can give a

distorted picture of the state's ability to retain graduates when the economy starts to pick up, and the severity of the reported retention problem is likely to be exaggerated.

The Baccalaureate and Beyond survey of the class of 2000 poses exactly this problem. The second survey of graduates, conducted in April 2001, took place during a recession. Anecdotal data on economic conditions found in Federal Reserve *Beige Book* reports from around this time show that the economic slowdown seemed to take hold in Ohio and the rest of the Fourth District roughly six months before taking hold nationwide. Data from the Bureau of Labor Statistics also show that deterioration in Ohio labor markets preceded the national trend by about nine months (see figure 1). In June 2000, Ohio's labor market first displayed a deceleration in job growth, whereas consistent deceleration in jobs growth nationwide did not appear until March 2001. In December 2000, Ohio reported its first monthly net job losses, although it was not until July 2001 that the national job market saw net job losses. The Ohio job market has been slower to recover than the national market as well, and this may affect the data to be released in 2005: Although U.S. jobs growth began in April 2004, Ohio has yet to see consistent jobs growth.

Ohio labor markets appeared to be hit especially hard by the recession during the time the class of 2000 was entering the labor force; this undoubtedly creates some distortion in the migration numbers reported for Ohio graduates in 2001. The extent to which the retention figures are distorted by the recession remains to be seen, however, when the next set of Baccalaureate and Beyond data are released.

■ Thinking about the Numbers

Even given proper context, it may not make sense for policymakers to focus their attention solely on the retention rates of new graduates in a state. As discussed earlier, looking at Massachusetts and Indiana demonstrates how little the retention rate of college graduates actually indicates about a state's labor force and education levels. Perhaps a more important question than "Are we retaining our new graduates?" is "How do we maintain a well-educated workforce?"

Determining effective strategies requires a useful base of knowledge about the reasons college graduates move from one area to another—regardless of when they graduated. Where can a policy-maker go for such knowledge? A good place to start is the Current Population Survey (CPS), conducted by the Census Bureau and the Bureau of Labor Statistics. In particular, the survey asks individuals who have migrated from one state to another to identify the reasons for the move. Among the 182,600 college graduates who moved from Ohio between March 1, 2000, and March 1, 2003, for example, 44.8 percent identified job-related reasons as the primary factor in the decision to relocate (see table 1). While job-related reasons were the most often cited reason for leaving, more than one-half of the graduates cited a family, housing, or education issue as their reason for leaving the state. Clearly, more research on the migration decisions of graduates is needed.

Although the migration data have a relatively short history within the CPS, and the question about reasons for moving has not been uniform over the life of the survey, it is still possible to create fairly consistent categories that permit one to reasonably estimate the frequency with which graduates cite specific reasons for their movement. Further, because the CPS has income and occupation information, one could examine why specific cohorts of college graduates (for example, those aged 25–35 and making more than \$50,000) move from one area to another. As the CPS better develops its questioning about migration decisions, the information it provides on an annual basis will help create a fluid picture of graduate migration patterns. When CPS data are paired with demographic details available from the Baccalaureate and Beyond survey—the reasons graduates selected their schools in the first place, the course of study they pursued, and the debt they had accumulated by the time they emerged from school are some examples—the CPS can assist policymakers in gaining a more complete picture of recent graduates' behavior.

■ Focusing on the Goal

When states monitor the retention rate of new graduates, the real issue they are presumably concerned with is how to maintain a well-educated workforce. States need to remain cognizant of the fact that improving retention rates of new graduates is only one route to

achieving that goal. Low gross retention rates may not be important if the state is a net importer of graduates from other states. Alternatively, low retention rates may not be detrimental if the state maintains a good stock of graduates of all ages (as is the case with Massachusetts). Conversely, high retention rates may not be significant if the state fails to educate a substantial number of college students. To determine what policies may best help it equip itself with a well-educated workforce, a state should consider several alternatives for improving its level of college-educated workers and should monitor indicators beyond the retention rates of new graduates.

Retention rates of new graduates only allow policymakers to see one dimension of the multifaceted problem of maintaining a well-educated workforce. Further, the information provided about new graduate retention rates does not appear to be all that reliable, given infrequent data, an inability to track the ultimate outcomes of graduates, and the data's sensitivity to current economic conditions. At a time when state and local economic resources,

especially in Ohio, are limited, it does not seem efficient to build economic development strategies based solely on retention rates of new graduates without heed to longer-term trends and a better understanding of the dynamics surrounding the state's current stock of graduates.

■ Recommended Reading

On lifetime earnings of college graduates:

Bureau of the Census Website, "The Big Payoff: Educational Attainment and Synthetic Estimates of Work-Life Earnings," <http://www.census.gov/prod/2002pubs/p23-210.pdf>.

On rising college tuition costs:

See the Digest of Education Statistics, at <http://nces.ed.gov/programs/digest/>

On the Baccalaureate and Beyond survey:

See the survey's home page, at <http://nces.ed.gov/surveys/b&b/>.

On the Current Population Survey:

See the survey's home page, at <http://www.bls.census.gov/cps/cpsmain.htm>.

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