

Doing the

Is a good economy bad for business school enrollments? Two educators aim to settle the question once and for all—and offer their predictions about future enrollment trends.

A good economy may be good for business, but many in management education believe it's bad for business schools. Conventional wisdom holds that when times are good and jobs are plentiful, employees don't see the need to pursue additional business education. Conversely, when times are bad and unemployment is high, it makes sense that newly laid-off workers would flock to business schools to strengthen their skills, add new credentials to their resumes, and sharpen their competitive edge.

But do they, really? Probably not, according to research we recently conducted at the Center for Economic Research at Chapman University's Argyros School of Business and Economics in Orange, California. In the study, we examined data on business school degrees awarded in the United States over the last 30 years. We wanted to determine just how—and whether—economic factors affect business school applications.

We found that the data flatly challenge conventional wisdom. While anecdotal evidence may suggest that economic booms equate to enrollment busts, the numbers show that a good economy does more to spur enrollment than to squelch it. As a result, business educators may need to adjust their long-held beliefs about the cause-and-effect relationship between the economy and business school enrollments.

Defying Expectations

Our analyses of business school enrollments focus solely on the United States and its economy. Recent trends in Europe and Asia indicate an unrelenting boom in business school enrollments, especially at the MBA level. Even so, in these cases, this situation seems to be due primarily to pent-up

by James L. Doti and Francis D. Tuggle

demand for trained capitalists, reinforced by historically low levels of supply of management education and a desire to emulate the success of U.S. commerce. In these regions, it is likely to be some time before local economic conditions have an effect on business school enrollments.

The U.S. economy, however, does seem to influence enrollments, although perhaps not in the way one might expect. In our study, we examined data and trends in U.S. business degrees over the last three decades, especially in relation to prevalent economic conditions. We looked, for instance, at 1975, when the U.S. economy was experiencing one of the worst recessions in recent history. The gross national product had hit bottom and the unemployment rate was at 8.5 percent, according to the U.S. Bureau of Labor Statistics. If conventional wisdom was correct, we would expect the data to show a spike in the number of business degrees awarded in 1977 and 1978, the direct result of a greater number of unemployed and underemployed executives enrolling in business programs two years earlier.

We found something quite different. There was a substantial spike in the annual percentage increase in the number of master's degrees awarded in 1975. But those degrees went to students who had enrolled in 1973, when unemployment was a relatively reasonable 5 percent. Furthermore, the rate of increase in the number of degrees conferred in business at the master's level actually slowed from 1975 to 1977. For instance, business schools awarded 17 percent more degrees in 1975 than in the previous year. That increase slowed to 4 percent in 1977 and 1978.

We then looked at the data 20 years later, in 1998, when

Match on B-School Enrollments

unemployment hit a record low of 4.5. In such a robust economy, we'd expect a dramatic plunge in applications, which would, of course, result in a drop in degrees conferred two years later. But the plunge never happened. The number of master's degrees awarded in 2000 actually continued to increase by about 5 percent.

Of course, the data fluctuate from year to year. Nonetheless, when we look at the "big picture," we see not a pattern of spikes and drops, but a slow, steady, and predictable growth in the number of master's degrees in business. The number of business degrees grew from approximately 30,000 in 1973 to approximately 120,000 in 2000.

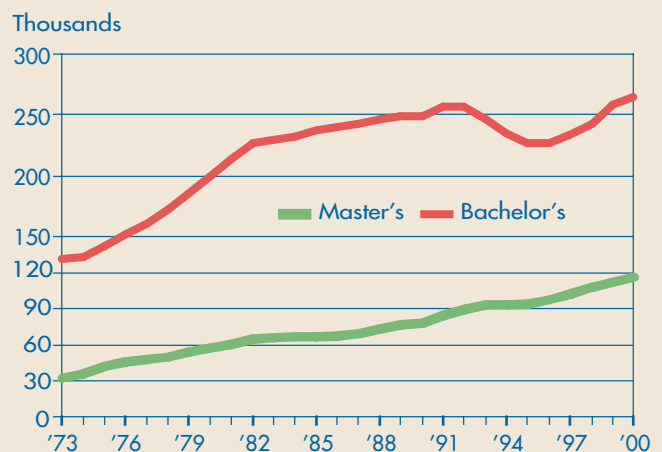
Such growth is *not* the result of a dipping economy, but of more reliable and quantifiable factors. High school graduation rates, for example, play a significant role in the number of students enrolling in business school programs in subsequent years. Likewise, the number of students entering general undergraduate programs directly affects the number of degrees business schools can plan to award down the road. In our study, we discovered that business schools can use these two data points to predict just how many students will be walking down the aisle come graduation day.

A Look at the Data

To discover the factors that contribute to burgeoning enrollments, we first looked at the numbers of business master's degrees conferred between 1973 and 2000. These numbers, shown in Figure 1, include MBAs as well as MS degrees in tax, accounting, human resource management, finance, and other business disciplines.

The long-term data show year-to-year fluctuations in the number of master's degrees awarded, but the business school market has seen steady, consistent growth in this

Figure 1 U.S. Business Degrees Awarded

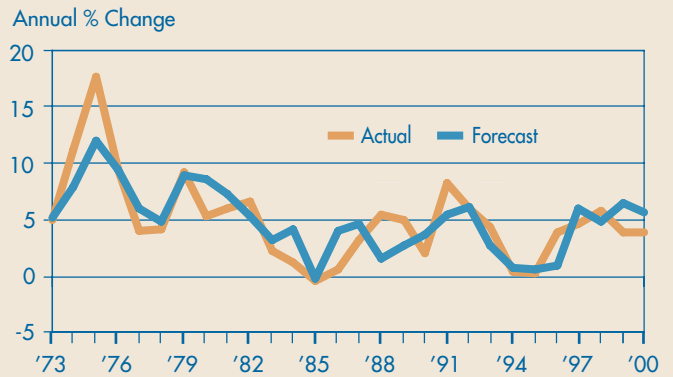


Although the numbers of bachelor's and master's degrees in business conferred each year naturally fluctuate, they have steadily increased since the early 1970s. The number of undergraduate business students in the pipeline is an especially important indicator for business schools, since it serves as one predictor of the number of applications to their master's programs.

area. This finding implies continuing growth in enrollments in master's programs overall. In addition, the data also show the following:

- Overall, a 1 percent increase in the U.S. gross national product (GNP) yields a 0.6 percent increase in the number of master's degrees in business awarded three years later. This indicates not only that good economic times spur growth in enrollment, but also that it may take at least one year of prosperity to compel people to enroll in a two-year MBA program.

Figure 2 Annual Change in Master's Business Degrees in the U.S.



The red line, showing the actual number of master's degrees conferred, shows that business school enrollments increased dramatically in some years—1975, 1979, 1991, and 1998, for example. But the students receiving these degrees generally enrolled two years earlier, which coincided with relatively good economic times. The blue line represents our predictive model, which uses indicators such as change in the gross national product and the number of students receiving bachelor's degrees. Our forecast predicts the number of master's degrees in business to be awarded with reasonable accuracy. The model here is based on data that includes degrees awarded in all master's disciplines. Data based on individual disciplines alone should produce even greater accuracy.

■ A 1 percent increase in the number of undergraduate degrees awarded generally yields a 0.9 percent increase in the number of master's degrees in business awarded two years later. We can infer from this that the more students already in the undergraduate pipeline, the more applications business schools are likely to receive.

■ A 1 percent increase in the ratio of bachelor's degrees in business to general undergraduate degrees leads to a 0.7 percent increase in the total number of master's degrees in business awarded.

Using these three data points, we created our own “forecast” of the number of master's degrees in business over the past 30 years. When charted, our predictions followed, with reasonable accuracy, the trajectory of those degrees actually conferred, as seen in Figure 2.

We also charted the annual percentage change in the number of undergraduate business degrees awarded. Our tests of different macroeconomic variables, as they relate to the number of bachelor's degrees awarded, highlighted three general trends behind the variations:

■ A 1 percent increase in the number of high school graduates leads to a 0.6 percent increase in the number of business bachelor's degrees awarded four years later.

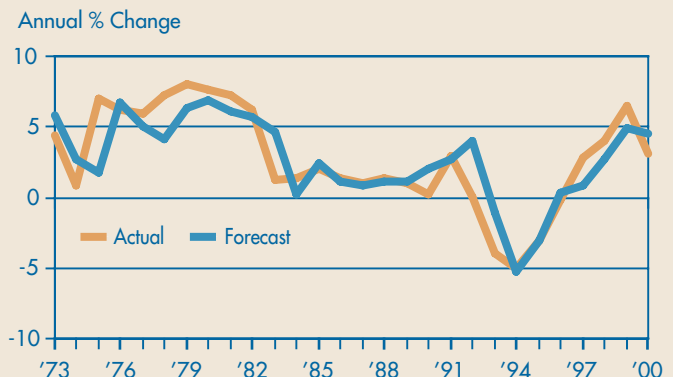
■ A 1 percent increase in the number of students entering undergraduate programs produces a 0.7 percent increase in the number of business bachelor's degrees awarded four years later.

■ A 1 percent increase in the unemployment rate results in a 0.2 percent *decrease* in the number of business bachelor's degrees awarded four years later.

These three findings also allow us to forecast the annual percentage change in how many bachelor's degrees in business will be awarded from year to year. We again created a forecast of the number of BBA degrees that should have been awarded, using these three data points. As depicted in Figure 3, our forecast follows the actual number of BBA degrees conferred almost exactly.

It's true that no one can predict when an economic downturn will occur. Our study found, however, that business schools *can* use past economic trends and graduation rates to predict, with some degree of accuracy, how many business students they can expect to graduate in a given year. One important predictor is the number of people already in the pipeline, via high school and undergraduate programs. In addition, as these data show, a rising GNP, an indication of a good economy, results in an increase in enrollments, while a high unemployment rate, an indication of a bad economy, results in a decrease. This indicates that students are more

Figure 3 Annual Changes in BBAs in the U.S.



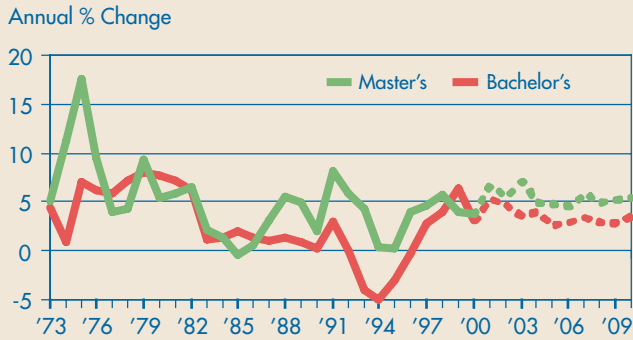
Using indicators such as the number of high school graduates, the number of students entering bachelor's programs, and unemployment rates, we can predict the number of bachelor's degrees in business that will be awarded. Because data on undergraduate degrees are relatively homogeneous, the forecast of the number of BBAs conferred is very close to actual numbers.

likely to enroll in business school, not to escape a bad economic outlook, but to take advantage of a good one.

The Future of B-School Enrollments

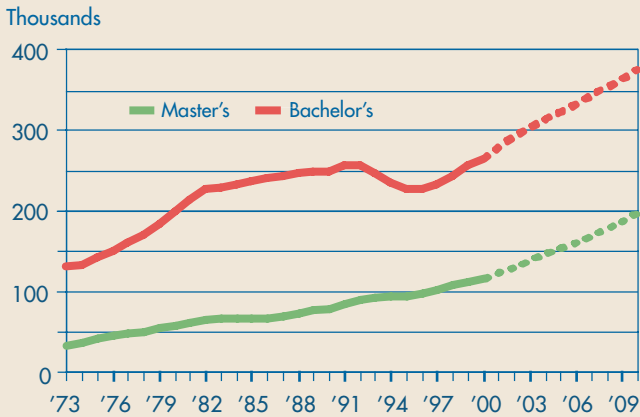
The findings of this study can be useful predictive tools for U.S. business school administrators. Using the data, we can project three interconnected inferences when we look at the number of bachelor's degrees in business each year. First, the ratio of undergraduate business degrees to the total number of undergraduate degrees will continue to rise. Second, the year-to-year percentage change in the number of undergraduate business degrees will fluctuate, dipping only slightly in

Figure 4 Projected Changes in Business Degrees Awarded in the U.S.



Relying on past trends as a guide, the annual percentage change in the numbers of bachelor's and master's degrees in business can be predicted to hold fairly steady through 2009.

Figure 5 Projected Number of U.S. Business Degrees Awarded



Past indicators show that the total number of degrees conferred in bachelor's and master's business programs will rise steadily through 2009, independent of economic factors.

2005 and 2009, as shown in Figure 4. Finally, the total number of undergraduate business degrees will steadily rise, reaching approximately 380,000 by 2010, up from approximately 270,000 in 2000, as shown in Figure 5.

Similarly, we can also apply our findings to business master's degrees, including degrees from all disciplines. We found that the number of people earning bachelor's degrees in business in the U.S. should increase by about 5 percent annually from 2005 to 2009; and that the total number of business master's degrees awarded in the U.S. should reach 200,000 by 2010. And when we compare growth rates for master's and bachelor's degrees in business, we see that, while the number of master's degrees conferred should grow at 5 percent annually for the first decade of the 21st century, the number of bachelor's degrees should grow at about a 3 percent rate over the same period.

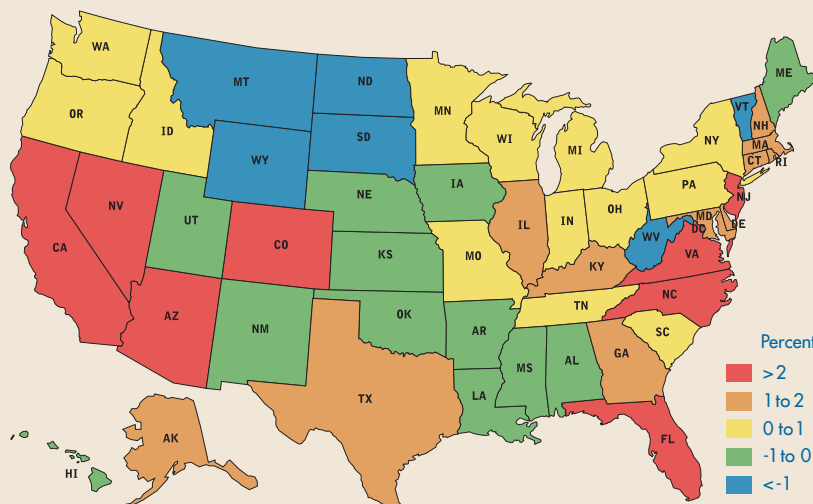
Our forecasted numbers are projected nationally. There will be important regional differences that business school administrators should consider, especially in the number of high school graduates. The rate of change in the number of high school graduates—one primary indicator of changes in business school enrollments—will be different from state to state.

We found, for instance, that the U.S. government expects the number of high school graduates to fluctuate over the first decade of the 21st century. If a business school is located in one of the high-growth states such as Florida or Arizona, the projections should be adjusted upward.

However, if a business school is located in a state where the number of high school graduates is forecasted to decline, such as North Dakota or West Virginia, the projections should be adjusted downward.

It's interesting to note that the U.S. Department of Education recently produced its own projections for the number of undergraduates and master's students in business. Starting from roughly the same levels of enrollments in 2000 as our

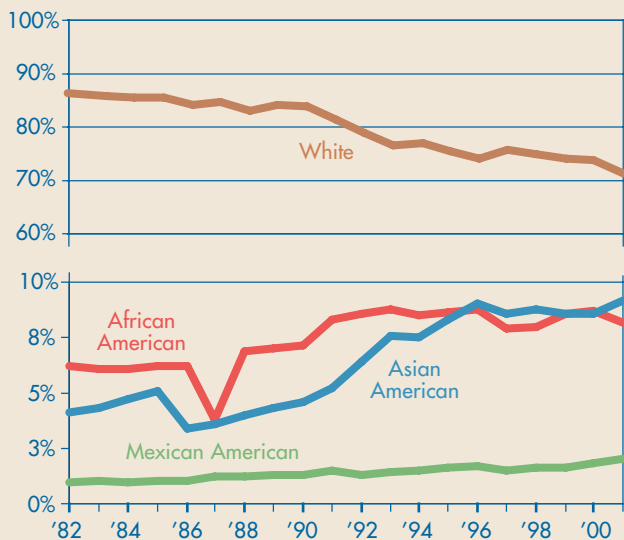
Figure 6 Future Numbers for U.S. High School Graduates



The number of high school graduates in a given state is a helpful indicator of how many BBAs will be awarded four years later. Business schools located in high-growth states such as Virginia, North Carolina, and Florida are likely to see increases in the number of BBAs they produce by 2010. Those located in states with declining numbers of high school graduates, such as North Dakota and Montana, may see the number of BBAs they graduate decline.

forecasts, the Department of Education estimates that by 2010, there will be 280,000 undergraduates, well below our forecast of 380,000, and 120,000 master's students—again, well below our forecast of 200,000. However, using past economic data as a guide, our own forecasts followed actual enrollments for the last 30 years; therefore, we believe our forecasts should also hold for the next decade. The trends in upcoming years will be the test of both forecasting methodologies.

Figure 7 Ethnic Diversity and the GMAT



Incoming cohorts to business programs continue to become more diverse. Since 1982, the percentage of minorities taking the GMAT has increased, and the total percentage of test takers who are Caucasians has been less and less of a majority.

Figure 8 Age of GMAT Takers

Age Group	'82-83	'01-02	Change
22-23	24.5%	12.6%	- 11.5%
24-25	21.5%	16.6%	- 4.9%
26-27	15.0%	18.0%	+ 3.0%
28-30	14.5%	20.7%	+ 6.2%
31-34	10.9%	14.7%	+ 3.8%

The average age of those sitting for the GMAT has been on the rise since the 1980s. With people aged 28 to 30 now comprising the majority of test takers, business schools can expect an older, more experienced group of students entering their graduate programs.

Who Are the Future MBAs?

So far, we have been reporting on the number of business master's degrees *awarded*. Business school administrators are likely to be more interested in the number of students *applying*. Therefore, institutions in the business school community could address this interest by collecting long-term data on MBA degrees alone, as well as on the number of business school applications schools receive over many years. Even so, we can shed light on future business school applications.

For instance, business schools still have work to do in encouraging more women to apply. The percentage of female candidates taking the GMAT is not keeping up with the increase of test takers overall. The percentage of women sitting for the exam has been declining, from a high of nearly 40 percent in 1996 to just under 37 percent in 2001.

Otherwise, however, diversity among business school applicants seems to be improving. The percentage of Caucasians taking the test has declined from a high of about 87 percent in 1982 to just over 70 percent in 2001. The percentage of African Americans and Asian Americans taking the test has held fairly steady at 8 percent to 9 percent from 1995 to 2001.

The average age of students enrolling in graduate business programs is also on the rise. There has been a significant drop in the number of candidates sitting for the GMAT who are 22 to 25 years old and an increase among those 26 to 34 years old. The largest increase has been among those aged 28 to 30.

Much Room for Growth

Using econometric research techniques, we predict that, although there will be some year-to-year fluctuations, enrollments in U.S. undergraduate and graduate business programs will continue to grow for the rest of the decade. That trend is likely also to hold for business programs overseas. Business programs in many parts of the world are still in a "take-off" phase, taking advantage of a burgeoning interest in national and international business within their populations.

In the end, U.S. business schools may want to plan to serve a larger, more diverse, more veteran population than ever before. The econometrics applied in this study illustrate upcoming patterns of growth for the business school market—patterns that administrators can anticipate and leverage in the decade to come. **Z**

James L. Doti is president and the Donald Bren Distinguished Chair in Business and Economics at Chapman University in Orange, California. Francis D. Tuggle is the dean of Chapman University's George L. Argyros School of Business and Economics.

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