

# **MBA SHARE IN THE U.S. GRADUATE MANAGEMENT EDUCATION MARKET**

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## **ABSTRACT**

*The MBA degree has captured public attention since the beginning of the 20th century when MBA programs were first established in the United States. Since then, hardly any master's-level degree created as many media impressions as the MBA. Extensive research has been conducted about MBA students, alumni, and employers, yet, several basic questions remain. How many MBA programs are offered? How many students graduate from these programs? How do these numbers compare with those for other programs in business fields? The U.S. Department of Education (DOE) tracks the number of graduate degrees awarded in business; however, the agency does not delineate which ones are MBA degrees. This paper aims to estimate the MBA share in the U.S. graduate management education market and looks at degree-granting institutions that offer master's-level programs. Based on a sampling from nearly 2,000 institutions, this paper provides an estimate for the number of organizations that offer an MBA degree in the United States. An estimated number of MBA students in a given year and the number of those who graduate with an MBA degree are calculated based on survey data from the Graduate Management Admission Council (GMAC) and the Council of Graduate Schools (CGS) combined with DOE data.*

**JEL:** C13; I23; M1

**KEYWORDS:** MBA degree, MBA enrollment, MBA students, MBA programs, master-level programs, simple random sample (SRS)

## **INTRODUCTION**

In 1881, Joseph Wharton, a prominent American industrialist who made his fortune in the mining and metallurgical industries, proposed what many in the world of education perceived as a radical idea. He founded the first collegiate business school at the University of Pennsylvania, The Wharton School of Finance and Commerce, which many labeled as a “struggling provincial experiment” (“Hall of Fame,” 1998; The Wharton School, 2009). At that time, some argued that business was not a university-level discipline (Schlossman, S., Gleeson, R.E., Sedlak, M., & Grayson Allen, D., 1994). Thirty years later, following the establishment of “the world’s first MBA program” (Harvard Business School, 2009) by the Harvard Graduate School of Business Administration and the opening of schools of commerce at other prominent U.S. universities, such as New York University, Dartmouth, University of Chicago, and the State Universities of California, an animated public discussion continued about the value, principles, and place of commercial education in the educational system (Johnson, 1910).

Yet, by the end of the 20th century, Joseph Wharton’s “radical idea” had sunk deep roots and spread worldwide. We now have an estimated 300,000 plus students graduating annually from more than 1,000 graduate and undergraduate business programs around the world (The Wharton School, 2009), a vivid testament to the tremendous interest in business credentials, including the MBA. News coverage related to graduate management education has also increased exponentially. In addition to discussion of broad higher education and economic topics connected to the MBA, school and program rankings, including the popular *BusinessWeek* survey that was first released in 1988 and subsequent undertakings by the *Economist*, *Forbes*, the *Financial Times*, *Wall Street Journal*, and *U.S. News & World Report* (Tyson, 2004), have served as catalysts for increased public attention to the MBA.

Public and academic interest inspired numerous studies focusing on MBA curriculum, faculty, students, alumni and employers. Among them are studies conducted by the Association to Advance Collegiate Schools of Business (AACSB), the Association of MBAs (AMBA) and the Graduate Management Admission Council (GMAC), for example. Yet, several basic questions have remained unanswered, including:

- How many MBA programs are offered?
- How many students graduate from these programs?
- How do these numbers compare with those for other programs in business fields?

While limiting the scope of study to U.S. primary providers of postsecondary education that offer degree-granting programs at the master level or above, this paper aims to provide an estimate for the following:

1. Proportion of institutions that offer MBA degrees within 5% of the population percentage with a 95% confidence interval,
2. Number of graduates who are awarded MBA degrees annually, and
3. Number of MBA students enrolled in a given year.

The body of this paper is organized in several sections. Section 2 reviews relevant literature on available data on the number of MBA programs and on the use of simple random sampling techniques to obtain population estimates. Section 3 describes the research methodology, including data sources and estimation procedures used in the study, followed by Section 4, which presents detailed calculations leading to the study's findings. Section 5 presents the author's conclusions regarding the study's findings and discusses the limitations of this research and recommendations for future studies.

## LITERATURE REVIEW

This section examines what data is available on the number of MBA programs via business school accrediting bodies as well as looks at the variety of sampling applications for population estimates.

As part of their accreditation process for business schools and graduate management programs, various accreditation agencies regularly perform a thorough enumeration of graduate management programs. The Association to Advance Collegiate Schools of Business (AACSB, 2009) requires accreditation candidates to identify all business degree programs delivered by the institution with subsequent authentication by the chief academic officer. As part of candidate self-study, the Association of Collegiate Business Schools and Programs (ACBSP, 2009) requires review of all business school programs, including those granting associate, bachelor's, and graduate degrees; so too does the International Assembly for Collegiate Business Education (IACB, 2010). The Association of MBAs (AMBA 2007a, 2007b) collects detailed demographic information, including delivery mode and duration, for MBA and Master's in Business and Management programs. The European Foundation for Management Development (EFMD, 2010) also collects program-based information as part of its European Quality Improvement System (EQUIS) accreditation. The data collection that each organization mandates for accreditation purposes yields statistics on the number of programs, students, and degrees conferred; however, it does not go beyond each organization's membership base.

Population sampling and drawing conclusions based on the assessment of a limited part (sample) of a whole—the primary research method used in this study—is a long-established and cost-efficient research tool that saves resources, time and money. Sampling methods of various types thus have been applied extensively and successfully in innumerable research studies in social science and beyond. For example, Köhl, Magnussen and Marchetti (2006) discuss sampling design and simple random sampling in forest surveys for estimating biodiversity, assessing particular phenomena, or calculating wildfire risks.

Robertson, Zlotnich and Westerfelt (1997) estimate drug consumption among homeless adults by sampling sites that have a concentrated homeless population and subsequent sampling of individuals based on their demographics. Snow et al. (2010) use stratified simple random sampling to estimate the prevalence of Salmonella in egg-laying farms in Great Britain. Levy and Lemeshow (1999) cover sampling frames, methods, estimation techniques and sampling errors in their book on survey research.

**RESEARCH METHODOLOGY**

This section first describes the data sources used in the study, then defines the sampling frame, and last provides detailed calculations used to determine the needed sample size.

Data Sources

This research is based on publicly available institution-level data from the National Center for Education Statistics (NCES), the primary U.S. federal entity for collecting education-related data. The NCES 2007–2008 Institutional Characteristics (IC) survey data used in the calculations are the core component of the Integrated Postsecondary Education Data System (IPEDS) and are collected annually (NCES, 2009). Completion of this survey is mandatory for open-to-public educational institutions that participate in federal student financial aid programs, which comprised of 6,624 schools as of fall 2007. Of the 7,052 postsecondary institutions that NCES surveys, 1,957 offer a graduate degree or certificate. Table 1 shows how the sampling frame for this study was defined based on DOE/NCES IC survey data.

Table 1: Sampling Frame

	<b>Number of Institutions</b>	<b>Percentage of Institutions</b>
<b>Total</b>	7,052	100.0%
Participates in financial aid programs	6,624	93.9%
Degree-granting	4,605	65.3%
Offers graduate degree or certificate	2,005	28.4%
Minus administrative units	48	—
<b>Study population</b>	<b>1,957</b>	<b>27.8%</b>

*This table shows how the sampling frame for the study was defined.  
Source: DOE/NCES 2007–2008 IC Survey data.*

The second major data source used in this study is primary research data collected by the Graduate Management Admission Council through its *Application Trends Survey* (ATS) conducted in 2008 (GMAC, 2008). The sample selection is drawn primarily from schools that use the GMAT exam for admissions. These schools received 42% of GMAT score reports sent during testing year 2008 (which ran from July 2007 to June 2008). For the purposes of this study, only data reported by institutions located in the United States were analyzed.

The third data source consists of statistics taken from the Council of Graduate Schools’ (CGS) annual series titled *Graduate Enrollment and Degrees*, conducted from 2005 to 2008. These are based on yearly survey responses from about 700 U.S. colleges and universities that offer graduate programs (Bell, 2009, 2008; Redd, 2007; Brown, 2006). Participating institutions enroll more than 70% of all graduate students in the United States.

The population of schools was adjusted to exclude administrative units such as university system offices, and a simple random sample (SRS) was drawn to identify the proportion of institutions that offer MBA degrees within 5% of the population percentage with a 95% confidence interval.

### Estimation Procedures

The size of the population of institutions offering an MBA was determined by extrapolating from a representative sample of all known institutions in the United States. The first task then was to determine the needed sample size.

Given that the universe of graduate degree offering institutions is 1,957, the initial estimated sample size needed to yield a margin of error of  $\pm 2.5\%$ , i.e., the 95% confidence interval is

$$n' = 1.96^2 \frac{P(1-P)}{.05^2}, \quad (1)$$

where  $n'$  is an initial estimate of the sample size and  $P$  is an estimated population proportion.

This equation is a direct algebraic manipulation of the equation for standard error (SE):

$$1.96 SE = 5\% \text{ and}$$

$$SE = \sqrt{\frac{P(1-P)}{n'}}.$$

This initial estimate was then refined by applying the correction for a finite population

$$n = \frac{N * n'}{N + n'}, \quad (2)$$

where  $N$  is the population size.

Applying equations 1 and 2, the needed sample size was determined to be 310.

$$\begin{aligned} n' &= 1.96^2 * \frac{.40 * .60}{.05^2} = 369 \\ n &= \frac{1,957 * 369}{1,957 + 369} = 310 \end{aligned} \quad (3)$$

For calculating the sample size, the population proportion of institutions offering MBA degrees was initially assumed to be .40 based on data from three small random samples ( $n = 10$ ) from the studied population.

Accreditation rosters, websites and the other data files were consulted to determine characteristics of the sampled institutions and to derive estimates for various population parameters.

The MBA and other master-level business degree offerings (such as Master of Accounting, Finance, Management, etc.) were determined in June 2009 based on information posted on institutional websites (98%) or by calling admissions offices (2%) if online information was unavailable or unclear.

Longitudinal statistics on master's degrees conferred by degree-granting institutions from the DOE/NCES Completions Survey were used to estimate the number of business degrees conferred in 2007–2008 by

applying a three-year average percentage change to the actual number of degrees conferred in the preceding period. Student attrition rates in MBA programs were assumed to be similar to those in other master-level business programs.

Longitudinal statistics from CGS on the number of graduate students in business fields enrolled and the number of graduate business degrees awarded were used to estimate the award-to-enrollments ratio for graduate business programs. An average percentage based on the latest three-year period was used in calculations.

**RESULTS**

Findings presented in this section correspond to the order of the three primary research questions posed in this study: (1) an estimation of the number of US institutions offering MBA degrees, (2) a calculation of the number of graduates awarded an MBA degree, and (3) the number of MBA students enrolled in a given year.

Proportion of Institutions Offering MBA Degrees

The 310-institution sample was representative of the studied population in terms of size, regional location, degree of area urbanization, and control of the institution—variables that may affect the number and type of degree offerings (Table 2).

Table 2: Selected Characteristics of the Population and Sample

	Population (n=1,957)	Sample (n=310)
<b>Institution Size Category</b>		
Under 1,000 students	31.4%	31.9%
1,000–4,999 students	38.4%	36.8%
5,000–9,999 students	13.0%	14.5%
10,000–19,999 students	9.6%	9.0%
20,000 and above	6.8%	7.4%
N/A	0.8%	0.3%
Total	100.0%	100.0%
<b>Geographic Region</b>		
U.S. Service Schools	0.2%	—
New England	7.7%	6.8%
Mid East	19.5%	21.0%
Great Lakes	15.9%	13.9%
Plains	9.4%	8.4%
Southeast	20.8%	21.9%
Southwest	8.2%	6.5%
Rocky Mountains	3.1%	4.5%
Far West	13.3%	14.5%
Outlying areas	2.0%	2.6%
Total	100.0%	100.0%
<b>Degree of Urbanization</b>		
City	54.9%	56.1%
Suburb	23.6%	22.3%
Town	13.4%	13.2%
Rural	8.0%	7.7%
N/A	0.1%	0.6%
Total	100.0%	100.0%
<b>Control of Institution</b>		
Public	28.1%	27.1%
Private not-for-profit	60.8%	62.3%
Private for-profit	11.1%	10.6%
Total	100.0%	100.0%

*This table compares the population and the sample based on four variables that may influence degree offerings: institution size, geographic region, degree of urbanization, an institutional control.*  
 Source: DOE/NCES 2007–08 IC Survey data.

Of 310 examined institutions, 180, or 58.1%, offered master-level degrees in business fields, including an MBA, and 154, or 49.7%, offered an MBA degree. Notably, all institutions that offered an MBA degree also offered at least 1 other graduate business degree; and 26 institutions offered only master-level degrees in business other than MBA.

### Number of Graduates Awarded MBA Degrees

Applying sample percentages to the population of 1,957 institutions, we estimate that 1,136 schools ( $1,957 \times 0.581$ ) offer graduate degrees in business, including MBAs; 972 institutions ( $1,957 \times 0.497$ ) offer an MBA degree; 164 ( $1,136 - 972$ ) offer other master-level degrees in business, but not an MBA; and 821 ( $1,957 - 1,136$ ) focus on disciplines other than business. Thus, in 2008, an estimated 1,136 schools awarded all graduate business degrees in the United States.

As Table 3 shows, the number of business degrees conferred by degree-granting institutions in the United States in 2007–2008 was estimated at 160,529 by consecutively applying a three-year average percentage change to the latest available 2005–2006 DOE data.

Table 3: Master's Degrees in Business Conferred by Degree-Granting Institutions, 2001–2002 to 2007–2008

	01–02	02–03	03–04	04–05	05–06	06–07 (est.)	07–08 (est.)
<b>Number</b>	119,725	127,685	139,347	142,617	146,406	153,305	160,529
Annual % change	3.6%	6.6%	9.1%	2.3%	2.7%	4.7% (est.)	4.7% (est.)
3-year % change	3.7%	4.6%	6.4%	6.0%	4.7%	—	—

*This table shows how the number of master's degrees in business conferred in 2007–2008 was estimated. Source: DOE/NCES 2007–2008 Completions Survey, Fall 2000 through Fall 2006, Table 262.*

According to the GMAC 2008 ATS data reported by 181 institutions in the United States that offered graduate management programs, U.S. schools offered an average of 4.38 business degree programs per school (Murray, 2008). Unlike the population of all U.S. schools that offered master-level degrees or above, however, all 181 institutions that reported to the survey offered an MBA degree. Table 4 shows that, with all program types (e.g., full-time, part-time) combined, an average 2007–2008 MBA class consisted of 104.8 students, and, with all majors combined, an average class of other master's programs specialized in business fields consisted of 50.8 students. Assuming that the student attrition rate is similar for MBA and other master's programs in business, we may expect that the MBA/master's student ratio of 2.06:1 will translate into the same ratio among those who successfully graduated from the program. Therefore, if an average institution that offers an MBA program grants  $x$  master's degrees in business other than MBA, it would award  $2.06x$  MBA degrees. Consequently, an estimated 972 institutions awarded a total of  $972 \times (x + 2.06x)$  or  $2,974x$  degrees to students from 1 MBA and 3.38 ( $4.38 - 1$ ) master-level programs at each institution, on average.

Table 4: Number of Graduate Business Degrees Offered and Average Class Size, by Institution Size

<b>Institution Size</b>	<b>Mean Number of Degrees</b>	<b>Mean MBA Class Size</b>	<b>Mean Master's Class Size</b>	<b>Ratio (MBA/Master's)</b>
Under 1,000 students	1.00	48.0	35.0	1.37
1,000–4,999 students	2.68	82.4	20.5	4.02
5,000–9,999 students	3.81	68.4	40.1	1.71
10,000–19,999 students	4.42	128.4	33.3	3.85
20,000 and above	5.43	129.6	61.6	2.10
<b>Total</b>	4.38	104.8	50.8	2.06

*This table shows that a strong correlation exists between the institution size and the number of degrees offered and provides the average absolute and relative (MBA/master's student ratio derived based on the average class size) class size for an MBA program and a master-level program. Source: GMAC 2008 ATS data.*

As observed among schools that offered MBA degrees (Table 4), there is reason to believe that a strong correlation also will exist between the size of the institution and the number of graduate business degrees offered among the estimated 164 institutions that only offered other graduate degrees in business fields. Based on the characteristics of schools in the sample, the majority of those that offered only other master’s degrees in business (61.6%) were at institutions with fewer than 5,000 students, as displayed in Table 5. GMAC survey results highlighted in Table 4 showed that similar schools that offered MBA degrees had an average of 1 to 2.68 degree programs, including the MBA. Thus, using a conservative approach, we may assume that 164 institutions offered on average one master-level program in business.

Table 5: Selected Characteristics of Sampled Institutions and 2008 ATS Respondents

	Sampled with MBA (n=154)	Sampled with Master’s (n=26)	ATS Respondents (n=180)
<b>Institution Size Category</b>			
Under 1,000 students	11.7%	23.1%	1.1%
1,000–4,999 students	40.3%	38.5%	15.5%
5,000–9,999 students	20.8%	23.1%	17.7%
10,000–19,999 students	13.6%	11.5%	26.0%
20,000 and above	13.6%	3.8%	39.2%
N/A	—	—	0.6%
Total	100.0%	100.0%	100.0%
<b>Geographic Region</b>			
U.S. Service Schools	—	—	—
New England	6.5%	7.7%	11.0%
Mid East	17.5%	30.8%	15.5%
Great Lakes	10.4%	11.5%	16.0%
Plains	10.4%	3.8%	5.0%
Southeast	25.3%	26.9%	23.8%
Southwest	5.8%	3.8%	11.0%
Rocky Mountains	5.2%	7.7%	3.9%
Far West	14.9%	3.8%	13.3%
Outlying areas	3.9%	3.8%	0.6%
Total	100.0%	100.0%	100.0%
<b>Degree of Urbanization</b>			
City	54.5%	61.5%	64.1%
Suburb	24.7%	15.4%	24.3%
Town	13.0%	23.1%	8.3%
Rural	6.5%	—	2.8%
N/A	1.3%	—	0.6%
Total	100.0%	100.0%	100.0%
<b>Control of Institution</b>			
Public	33.8%	38.5%	53.6%
Private not-for-profit	52.6%	53.8%	45.9%
Private for-profit	13.6%	7.7%	0.6%
Total	100.0%	100.0%	100.0%

*This table compares characteristics of institutions in the 310-unit sample that offer MBA degrees or only other master’s degrees, and characteristics of institutions that reported to the GMAC 2008 Application Trends Survey (annual survey of graduate management programs that tracks application volume, acceptance and enrollment rates, and incoming class size), based on four variables.*

*Source: DOE/ NCES 2007–2008 IC Survey data and GMAC 2008 ATS data.*

If 3.38 degree programs per school (4.38 - 1) awarded  $x$  master’s degrees other than MBA, one program would award  $x/3.38$  degrees, on average, and 164 institutions would award  $164*(x/3.38)$  or  $48.52x$  degrees. Therefore, solving the following equation would provide an estimate of an average number of MBA ( $2.06x$ ) and other master’s degrees in business ( $x$ ) awarded per institution.

$$972 * (x + 2.06x) + 164 * \frac{x}{3.38} = 160,529$$

$$x = 53.11 \tag{3}$$

$$2.06x = 109.41$$

Multiplying the average number of MBA degrees offered by the number of institutions that grant these degrees ( $109.41 \times 972$ ), we can estimate that of all graduate business degrees awarded in 2007–2008 (160,529), 106,347 or 66% were MBA degrees.

Because institutions that reported to the GMAC *Application Trends Survey* were significantly different from the randomly selected schools offering MBA programs in terms of student body size with over-representation of larger organizations (Table 5), we may need to adjust calculations using a separate ratio of MBA to master's programs within each size group (Table 4). To identify the size of each group in the population, sample percentages of size distribution (Table 5) were applied to 972 schools that offered an MBA degree, as displayed in Table 6.

Table 6: Number of Institutions Offering MBA Degree and MBA/Master's Ratio, by Size

Institution Size	Institutions with MBA	Ratio (MBA/Masters)
Under 1,000 students	114	1.37
1,000–4,999 students	392	4.02
5,000–9,999 students	202	1.71
10,000–19,999 students	132	3.85
20,000 and above	132	2.10
<b>Total</b>	<b>972</b>	<b>2.06</b>

*This table shows the number of institutions that offer an MBA degree by size category and provides MBA/master's program class-size ratio also found in Table 4. Source: DOE/NCES 2007–2008 IC Survey data and GMAC 2008 ATS data.*

Now, the first portion of the equation (3) will consist of five parts derived for each size subgroup starting from the smallest institutions likely to offer only one MBA program ( $114 \times 1.37x$ ) to the largest ( $132 \times (x + 2.10x)$ ). Solving this equation, the adjusted-for-size number of other master's degrees in business awarded per institution  $x = 42.59$ , and the total estimated number of MBA degrees awarded in 2007–2008 was 121,968 or 76% of all graduate business degrees conferred.

Based on different approaches to calculating the number of MBA degrees, the two estimates—66% and 76%—can be viewed as low and high alternatives that assume the range of outcomes where the actual population percentage may be. Because the 2:1 MBA/master's ratio represents a conservative approach, it is reasonable to conclude that at least 66% of graduate business degrees conferred in the United States in 2007–2008 were MBA degrees.

#### Number of MBA Students Enrolled in a Given Year

The number of graduate students enrolled in business fields (which include Business Administration and Management, Accounting, and Banking and Finance), as well as the number of graduate certificates and degrees awarded reported annually to CGS by the same institutions may serve as a basis for deriving the proportion of total enrolled students who also successfully received their diplomas. As shown in Table 7, the number of MBA students enrolled in a given year, including first-time and continuing students, can be estimated by applying the percentage of awards in enrollments to the estimated number of MBA degrees conferred. We applied a 2006–2008 three-year average percentage (39.1%), derived from institutions reporting to CGS for graduate business fields, to the conservative estimate of the number of MBA degrees awarded in 2008 (106,347). From this calculation, we estimate that 272,219 students may be enrolled in MBA programs annually.

Table 7: Graduate Enrollment and Degrees Conferred, Business and All Fields Combined, in Thousands

	04-05	05-06	06-07	07-08
<b>Business</b> (Source: CGS)				
Students enrolled	219,953	220,682	188,823	255,215
Degrees awarded	82,832	86,575	73,982	98,935
Percentage of enrolled	37.7%	39.2%	39.2%	38.8%
<b>All fields combined</b> (Source: DOE)				
Students enrolled	2,186	2,231	2,294	2,339*
Degrees awarded	627,249	650,132	665,223	681,800*
Percentage of enrolled	28.7%	29.1%	29.0%	29.1%

*This table shows the percentage of graduate degrees awarded based on the total number of graduate students enrolled overall and in business fields each year. \* Projected. Source: CGS 2006-2009, DOE/NCES (Hussar & Bailey, 2009).*

Notably, a consistent 10 percentage-point difference exists between CGS statistics on business degree awards as percentage of enrollments and similar DOE statistics that cover all graduate fields at all U.S. degree-granting institutions (Table 7). It appears unlikely that in the population, business programs have higher graduation rates than nonbusiness programs. The observed difference possibly can be attributed to specifics of the CGS sample, which primarily consists of CGS member schools. (CGS member schools tend to be larger institutions with accredited programs in several distinct disciplines, which are likely to graduate more students.) Thus, applying a three-year average percentage derived from all graduate schools' data (29.1%) to the conservative estimate of the number of MBA degrees awarded (106,347), yields a high alternative of 365,502 students that may be enrolled in MBA programs. The range of 272,219 to 365,502 potential students enrolled also includes 312,205 enrollments that are calculated by applying a percentage of business awards to enrollments (39.1%) to the high alternative estimate of MBA degrees awarded (121,968). Accordingly, at least 272,219 first-time enrolled and continuing students were in MBA programs in the United States in 2008 (Table 8).

Table 8: Summary of Results

	Number	Percentage
<b>Institutions</b>		
Offers graduate degrees	1,957	100.0%
Offers graduate degrees in business	1,136	58.1%
Offers MBA degrees	972	49.7%
<b>Students</b>		
Master's degrees in business conferred	160,529	100.0%
MBA degrees conferred—Low alternative	106,347	66.2%
MBA degrees conferred—High alternative	121,968	76.0%
MBA students enrolled—Low alternative	272,219	—
MBA students enrolled—High alternative	365,502	—

*This table summarizes results of the calculations presented in the paper.*

## CONCLUSION

The findings presented in this paper provide estimates of the MBA share in the U.S. graduate management education market in terms of the proportion of institutions offering MBA degrees and the proportion of MBA degrees among all graduate business degrees conferred. The study relies primarily on population estimation principles based on sampling data and uses government statistics and primary research data for derivative calculations. The study results show that half of U.S. educational institutions that offered master-level degrees (49.7%)—one-fifth of all 4,605 degree-granting institutions in the United States (21.1%)—offered an MBA degree. These schools enrolled more than a quarter of a million students in MBA programs and awarded more than 100,000 MBA degrees annually, which was at least 66% of all graduate business degrees conferred in the United States in 2008. The findings may be helpful in defining sampling frames for MBA-related research and providing a broader context for evaluating conclusions of existing research.

This study has several limitations, including the use of assumptions based on logic or common sense rather than existing research and the use of survey data that are a subject to sampling error and nonresponse error. In addition, this paper combined data for calculations from several different sources with timelines and samples that may not coincide precisely. A simplified approach based on three-year averages instead of comprehensive mathematical models was used to extrapolate trends from preceding periods to future periods. Overcoming the study's limitations may be a subject for future research.

In addition, examining how well the findings hold using more recent data from DOE, CGS and GMAC, expanding the scope of research to other world regions and providing international estimates may be a readily achievable opportunity for future research.

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