

Examining the Value Added by Graduate Management Education

Brooks C. Holtom & Edward J. Inderrieden

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The value of getting an MBA degree has been the subject of ongoing debate. Some authors calculate a relatively quick payback period (Lavelle, 2006) while others assert that return on investment is paltry (Pfeffer & Fong, 2002). The purpose of the research reported herein is to directly address this controversy by using large datasets collected by the Graduate Management Admission Council[®] (GMAC[®]) (i.e., Global MBA[®] Graduate Survey, MBA Alumni Perspectives Survey) to assess the return on investment for an MBA degree.

Students enter programs expecting an MBA degree will increase their career options and enhance their earning power (Bruce, Edgington, & Olkin, 2003). The theoretical underpinnings of this expectation can be found in the basic tenets of human capital theory (Becker, 1975; Ehrenberg & Smith, 2003), which proposes positive income effects for both general and specific education. Notwithstanding curriculum debates surrounding the appropriate mix of general skill building and job-specific training, we believe that human capital theory applies in the domain of MBA programs. Specifically, we expect to demonstrate a positive return on investment (ROI) for the degree and a relatively short payback period across a wide range of programs and schools.

Methodology

To assess the value of the MBA degree, we relied on data provided by the GMAC[®]. The data were collected primarily through two different longitudinal surveys. The Global MBA Survey was sent to between 95 and 113 AACSB-accredited schools in 2001, 2002, and 2003. Between 15,000 and 21,000 students were invited to participate and more than 4,000 responded each year (response rates ranged from 21 to 32 percent). More than 50 percent provided permanent email addresses that permitted GMAC[®] to conduct follow-up surveys. The

MBA Alumni Survey was sent to students who provided their email addresses to the Global MBA Survey. Unique identifiers permitted GMAC[®] to match individual responses to the two surveys while still maintaining the respondents' anonymity. The data analyzed for this article was based on the nearly 1,000 respondents who answered the 2004 Alumni survey with post-graduation salary data who had also previously responded to either the 2001, 2002 or 2003 Global MBA Survey. Rankings of MBA programs were obtained from the 2004 U.S. News and World Report Business School Report. Tuition and fee data came from Barron's Report 2004.

In general, we believe the estimates of ROI are conservative. For example, we calculated return over 10 years when in fact graduates are highly likely to continue earning value from their MBA degrees for many more than 10 years. Further, ROI was calculated using only base salary. It does not include profit-sharing, stock or stock options, or bonuses of any type. In many cases these sources of additional income are substantial. For example, many MBA students go to work in investment banks where bonuses often average 100 percent of base pay annually. To determine ROI numbers, total estimated costs were obtained by adding together the published data for each school's tuition and fees plus the pre-MBA salaries reported by respondents from full-time programs (multiplied by two years with the U.S. average salary increase added to the second year number). Post-MBA salaries were obtained through survey data supplied by individuals on the MBA Alumni Survey. The 10-year gain from an MBA was calculated before taxes and is adjusted for the time value of money. The payback period calculation is a more simple calculation [total costs/salary increase] that does not adjust for the time value of money.

It is important to note that this methodology does not hold constant important variables that explain differences

in salaries between MBA and non-MBA holders. For those who would like to read further on this topic, we recommend a more in-depth article we recently published entitled “Do MBA Programs Deliver?” (Inderrieden, Holtom, & Bies, 2006).

Results

As can be seen in Table I, the total return on investment over 10 years is 177 percent or nearly 18 percent on an annual basis. Of course, most MBAs will work well

beyond 10 years after obtaining the degree and, thus, the total as well as annualized return will be much greater for them. Given the strong returns, the payback period is relatively short—only 4.5 years on average. Moreover, if the alternative to pursuing an MBA was to stay in their current jobs, the expected annual raises during the period of the study would be approximately 7 percent total over the two years of the typical MBA program (U.S. Department of Labor, 2006). Table I shows a 52 percent salary increase on average for those obtaining an MBA.

| Table I. Overall Numbers | |
|---------------------------------|---------|
| Pre-MBA Salary | 51,857 |
| Post-MBA Salary | 78,745 |
| Total Cost | 121,641 |
| Net Increase in Salary | 26,888 |
| Percent Increase in Salary | 52% |
| 10-Year Gain from MBA | 337,105 |
| Return on Investment (ROI) | 177% |
| Annualized ROI | 18% |
| Payback Period (years) | 4.5 |

To expand the value of this analysis, we have sought to better understand the different factors that contribute to the ROI produced by the MBA degree. In the following pages we present a number of comparisons to shed light on where the most value is created.

Top-Ranked Schools

In 2002, Pfeffer and Fong reported a small number of studies that seemed to indicate that the benefits of graduate management education “accrued mostly to graduates of the more prestigious programs; individuals coming from unaccredited or less competitive schools earned amounts that were more similar to people who either did not attend business school at all or who did not graduate. These findings echo those of others who have observed there are almost no economic gains from an MBA degree unless one graduates from a top-ranked program” (p. 82).

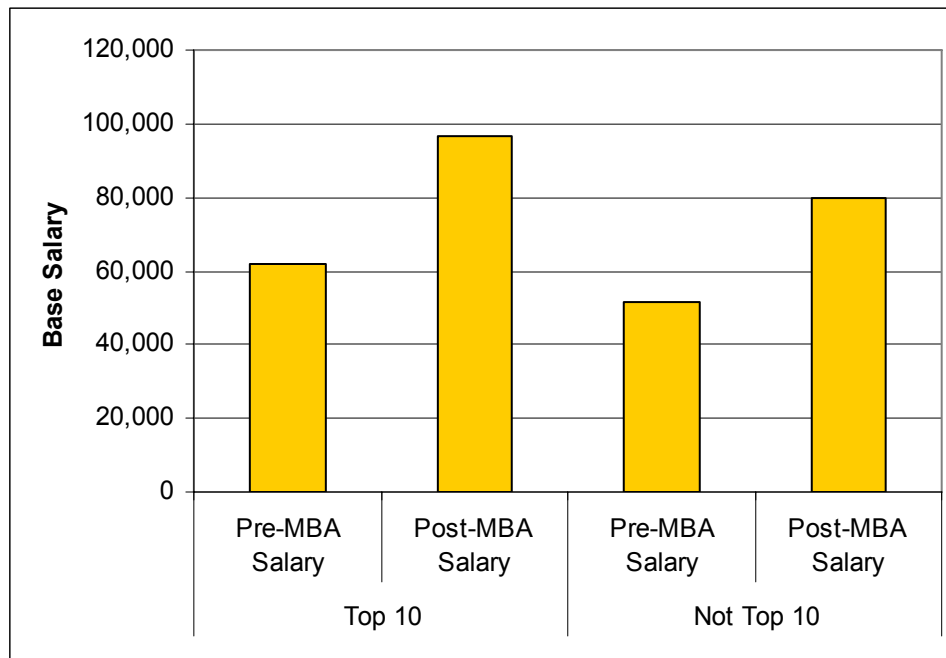
Because general mental ability or “g” has been shown to be strongly related to both educational and occupational

performance (Schmidt and Hunter, 2004), we would expect that top schools would use it as a prime selection factor. Most measure “g” using the GMAT[®] exam. Schools also select using undergraduate grades which are also likely to capture “g” to some degree. The top schools are more selective and so we would expect their students to be smarter on average than students at other schools. Also, whether because of reputation effects, accumulated social capital or because they are likely to work for employers who have the ability to pay higher wages, there is reason to believe that the salaries for graduates of the top programs will exceed those of graduates of less prestigious schools.

As Table 2 shows, the graduates of the Top 10 MBA schools in fact earn significantly more than those who are not from the Top 10. The difference between the Top 10 graduate’s base salary at graduation (\$96,420) and those not from the Top 10 (\$79,703) is substantial (Figure 1).

| Table 2. Impact of Top 10 Ranking | | |
|-----------------------------------|---------|------------|
| Variable | Top 10 | Not Top 10 |
| Pre-MBA Salary | 61,935 | 51,619 |
| Post-MBA Salary | 96,420 | 79,703 |
| Total cost | 198,321 | 123,712 |
| Net Increase in Salary | 34,485 | 28,084 |
| Percent Increase in Salary | 56% | 54% |
| 10 year Gain from MBA | 432,348 | 352,103 |
| Return on Investment (ROI) | 118% | 185% |
| Annualized ROI | 12% | 18% |
| Payback Period (years) | 5.8 | 4.4 |

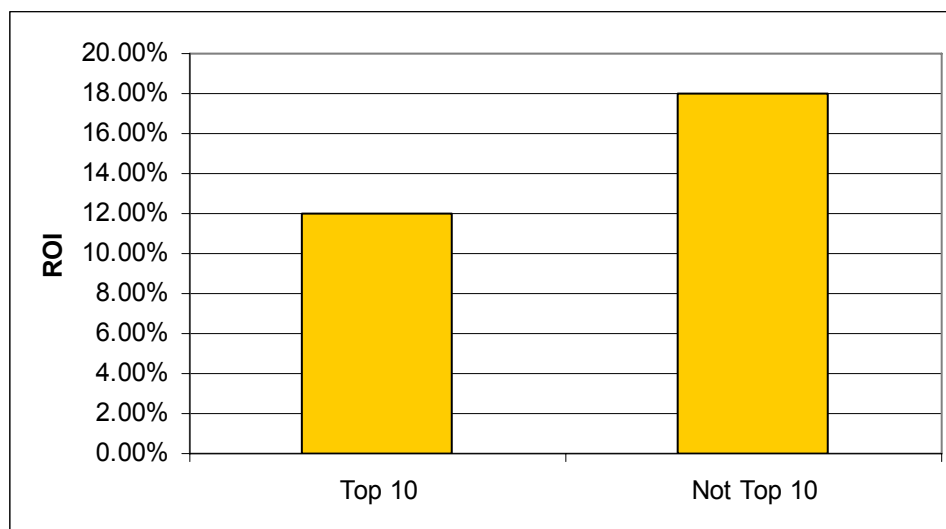
Figure I. Salary Impact of Top 10 Ranking



However, when viewed in relative terms, graduates from schools outside the Top 10 experienced increases in salary that were nearly equal to the Top 10 (54 percent and 56 percent, respectively). In other words, in terms of the percentage increase from their pre-MBA salaries, graduates from schools below the Top 10 in the rankings did just as well as their Top 10 peers. Moreover, given that the costs

of the Top 10 programs are higher, the ROI is lower (Figure 2) and the payback period for graduates of the Top 10 programs is longer by 15 months on average. For specific schools, the payback period can be much longer. As reported by Lavelle (2006), the payback period for Top 10 schools Harvard, Stanford and MIT is more than 14 years.

Figure 2. Annual ROI Impact of Top 10 Ranking



Given that there are more than 500 AACSB accredited business schools, it is quite reasonable to question how far down in the rankings the benefits extend. To provide a broader comparison, we examined the outcomes achieved by graduates from the Top 50 schools and those outside the Top 50. As noted in Table 3, the post-MBA salary difference is just over \$10,000—with graduates of Top

50 programs receiving higher salaries on average. However, the ROI is higher and the payback period is shorter for graduates of programs outside the Top 50. The main driver in this equation is the cost of tuition. The average total costs of attending a Top 50 program are nearly \$46,000 higher.

| Variable | Top 50 | Not Top 50 |
|----------------------------|---------|------------|
| Pre-MBA Salary | 53,019 | 50,680 |
| Post-MBA Salary | 83,736 | 73,448 |
| Total cost | 141,717 | 95,777 |
| Net Increase in Salary | 30,718 | 22,768 |
| Percent Increase in Salary | 58% | 45% |
| 10 year Gain from MBA | 385,116 | 285,452 |
| Return on Investment (ROI) | 172% | 198% |
| Annualized ROI | 17% | 20% |
| Payback Period (years) | 4.6 | 4.2 |

Program Type

Many types of MBAs are now being offered. Three broad categories capture the vast majority of offerings: full time, part time and executive. These programs are designed to meet the needs of students at various life or career stages. An important question that has not been answered

conclusively to date is the cost-to-benefit ratio of the various types of programs—especially given that the costs are quite different.

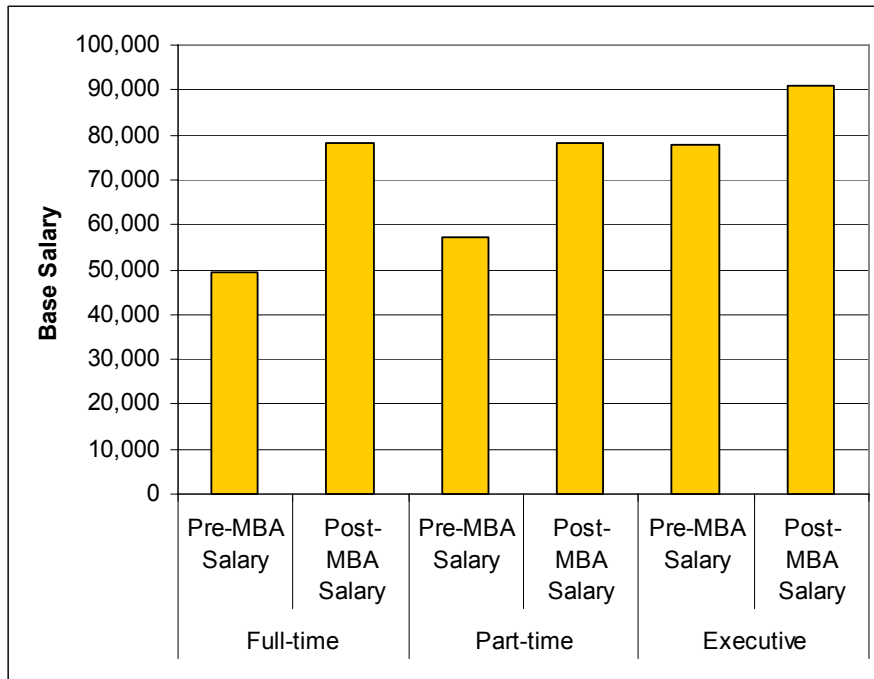
As can be observed in Table 4 as well as Figure 3, the increase in salary is greatest for the full-time MBA graduates across the full spectrum of schools. This may in

part be because they come in with the lowest salaries and in part because so many are career switchers. Interestingly, the average post-MBA salaries of full-time and part-time program graduates are nearly equal. Not surprisingly given their greater experience and tenure, most executive MBA

graduates earn significantly more than their full-time or part-time peers. But because their pre-MBA salary was relatively high, their percentage increase is more modest (17 percent).

| Variable | Full-Time | Part-Time | Executive |
|----------------------------|-----------|-----------|-----------|
| Pre-MBA Salary | 49,329 | 57,301 | 77,609 |
| Post-MBA Salary | 78,221 | 78,287 | 91,026 |
| Total cost | 146,725 | 33,726 | 37,293 |
| Net Increase in Salary | 28,892 | 20,986 | 13,417 |
| Percent Increase in Salary | 59% | 37% | 17% |
| 10 year Gain from MBA | 362,228 | 263,110 | 168,217 |
| Return on Investment (ROI) | 147% | 680% | 351% |
| Annualized ROI | 15% | 68% | 35% |
| Payback Period (years) | 5.1 | 1.6 | 2.8 |

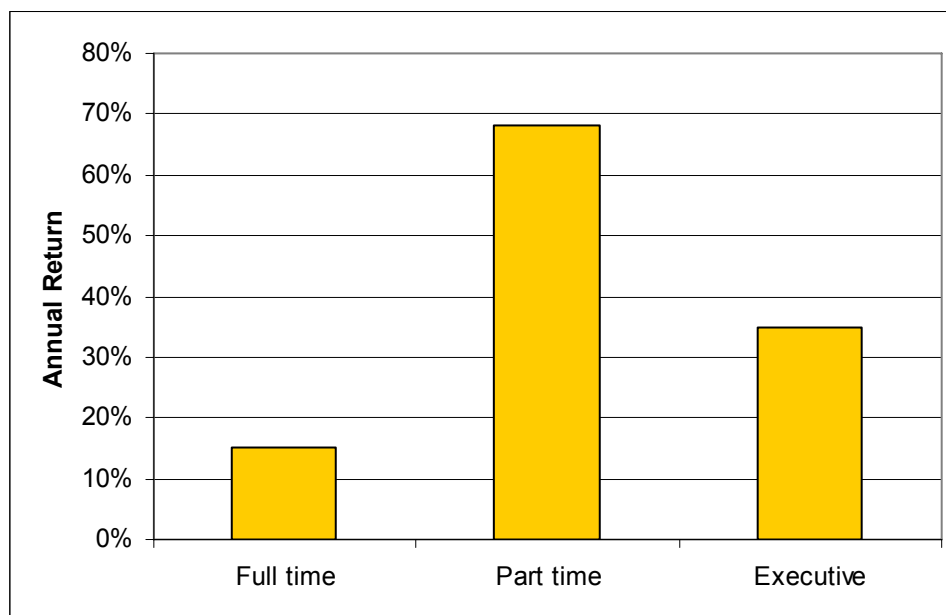
Figure 3. Salary Impact of Program Type



The most striking difference is seen when comparing the costs across the programs. Because full-time MBAs incur large opportunity costs associated with leaving the full-time workforce for nearly two years, their total cost looms large (\$146,725) compared to part-time (\$33,726) and

executive programs (\$37,293). Thus, as can be seen in Figure 4, the return on investment is much higher for part-time and executive graduates and the payback period is much shorter.

Figure 4. Annual ROI Impact of Program Type



Public vs. Private

As Lavelle (2006) reports in Business Week, the payback period for the top schools ranges from 10 to 15 years. The majority of the top schools are private. This raises an important question regarding the costs and benefits of public versus private schools in general. Our analysis revealed interesting differences. Given the generally lower

cost of public schools (\$104,154) compared to private schools (\$145,183) with similar net increases in salary (public: \$25,567, private: \$28,661), the annualized ROI is higher for publics (21%) than for privates (15%). Of course, the payback periods are also shorter for publics—by a year on average.

| Variable | Public | Private |
|----------------------------|---------|---------|
| Pre-MBA Salary | 50,040 | 54,310 |
| Post-MBA Salary | 75,607 | 82,971 |
| Total cost | 104,154 | 145,183 |
| Net Increase in Salary | 25,567 | 28,661 |
| Percent Increase in Salary | 51% | 53% |
| 10 year Gain from MBA | 320,544 | 359,326 |
| Return on Investment (ROI) | 208% | 147% |
| Annualized ROI | 21% | 15% |
| Payback Period (years) | 4.1 | 5.1 |

Extrinsic and Intrinsic Rewards

Baruch, Bell and Gray (2005) recently examined differences between generalist (MBA) and specialist (MA, MS) graduate business degrees. They found no significant differences in the respective measures of career success (e.g., salary) or internal measures (e.g., perceived competence regarding general management, analytical skills, self-efficacy, or job satisfaction). This interesting study expands the boundaries of how value for the MBA is conceived. To build on that study, we examined and report MBA graduates satisfaction with specific aspects of their MBA degrees. The results are overwhelmingly

positive. As can be seen in Table 6 (where 1 represents “extremely satisfied” and 5 represents “not at all satisfied”), MBA graduates are most satisfied with the opportunities the MBA provided to improve themselves personally (1.59) and the increase in their career options (1.70). However, their development of management knowledge and technical skills as well as credentials they desired followed close behind (1.74).

The lowest scoring item was the satisfaction with their job security (2.64), which represents an aggregate response between somewhat satisfied and not very satisfied.

| Table 6. Satisfaction with Aspects of the MBA Degree | |
|---|---------------------|
| Aspect | Satisfaction Rating |
| Preparation to get a good job in the business world | 2.00 |
| An increase in your career options | 1.70 |
| Credentials you desired | 1.74 |
| Opportunity to improve yourself personally | 1.59 |
| Opportunity for quicker advancement | 1.86 |
| Development of your management knowledge/technical skills | 1.74 |
| An increase in earning power | 1.90 |
| Opportunity to network and to form relationships with long-term value | 1.96 |
| Increase in work environment flexibility | 2.04 |
| Job security | 2.64 |
| Legend: Extremely Satisfied = 1; Very Satisfied = 2; Somewhat Satisfied = 3; Not very Satisfied = 4; Not at all Satisfied = 5 | |

Because demand for the MBA degree is driven by many factors including the real as well as perceived value, we end by examining graduates’ perceptions of the value of the degree. Specifically, they were asked: When you compare the total monetary cost of your MBA program to the career opportunities you have received as a result of obtaining your degree, how would you rate the overall value of your MBA degree? As noted in Table 7 (where 1 represents “outstanding” and 5 represents “poor”), MBAs

across the various program types were very positive. Graduates of full-time programs were the most upbeat (2.10, which is essentially “excellent”), followed by executive MBAs (2.55) and part-timers (2.57) who were halfway between excellent and good. The largest difference is between graduates of Top 10 schools (1.63) and non Top 10 schools (2.29). Further, there does not appear to be a practically significant difference between men and women.

| Table 7. Value of the MBA Program | | |
|---|------------|-----------|
| Variable | | Mean |
| Program | Full-Time | 2.10 |
| | Part-Time | 2.57 |
| | Executive | 2.55 |
| Gender | Male | 2.17 |
| | Female | 2.29 |
| Ranking | Top 10 | 1.63 |
| | Not Top 10 | 2.18 |
| | Top 50 | 2.08 |
| | Not Top 50 | 2.28 |
| Legend | | |
| When you compare the total monetary cost of your MBA program to the career opportunities you have received as a result of obtaining your degree, how would you rate the overall value of your MBA degree? | | |
| a. Outstanding | 1 | d. Fair 4 |
| b. Excellent | 2 | e. Poor 5 |
| c. Good | 3 | |

Summary

Individuals considering returning to school to obtain an MBA degree are rightly concerned about the significant costs involved. They hope that the increase in their salary after obtaining the degree will help them cover those costs and then some to compensate for the time and energy invested. The results of this study clearly indicate that across school and program types (public vs. private, full time vs. part time vs. executive) as well as program rankings (Top 10 vs. non Top 10, Top 50 vs. non Top 50), the MBA delivers a significant return on investment in the long run.

The increase in salary experienced by the majority of graduates is likely to have a strong impact in both the near and long term. In the near term it serves as validation for the sacrifices required in obtaining MBA. In the long term earning an MBA will have a significant effect on their lifetime earnings as a compelling study from Stanford Economist Paul Oyer (2006) demonstrates. There are a number of reasons for this. For example, many companies request salary history data before making a job offer, so a candidate's wage at a new firm is often predicated on past salary. Graduates' own expectations of future compensation as they search out future jobs are often anchored by their current compensation. Evidence

suggests that this trend is so powerful that when people graduate and take jobs during a recessionary economy, they may never quite catch up. In sum, the amount of money that MBAs make at their first post-graduate position can greatly influence the money they will make the rest of their lives.

Finally, beyond the extrinsic rewards the degree provides, it is clear that respondents to the GMAC[®] surveys experienced significant intrinsic rewards through their MBA programs. Improving themselves personally and developing networks and relationships with long-term value were highly rated outcomes without a dollar-denominated return but clearly beneficial. In conclusion, it appears that there is significant value added by graduate management education.

Contact Information

For questions or comments regarding study findings, methodology or data, please contact the GMAC[®] Research and Development department at research@gmac.com.

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