

Economics, Education, and the Business School Pipeline

Macro Realities and Micro Considerations: The Graduate Management Education Market

Key Facts

- Educational attainment and economic prosperity are highly correlated for both individuals and societies.
- Economic downturns alter the incentive structure for prospective business school students to pursue graduate studies.
- Historically, periods of economic decline in the US have corresponded with increased levels for GMAT® exams taken and applications submitted to many business programs.

Economic Conditions

- ↓ The US economy officially went into recession in December 2007.
- ↓ More than 5 million jobs have been lost, pushing the unemployment rate in March 2009 (8.5%) to a 15-year high.

Graduate Management Education (GME) Conditions

- ↑ The number of GMAT exams taken in TY2008 (246,957) represented a historic high, surpassing the previous peak from TY2002, which was also fueled by an economic downturn.
- ↑ Through testing dates in the first nine months of TY2009, demand for the GMAT exam has continued to increase.

For individuals and societies, long-run economic outcomes are highly related to levels of educational attainment. While nations benefit from an educated workforce through increased productivity and innovation, educated workers earn a wage premium and increased job security through their ability to better compete for positions in the labor market. In the short-run, fluctuations in economic activity also play an important role in shaping education pipelines by altering incentives for prospective students.

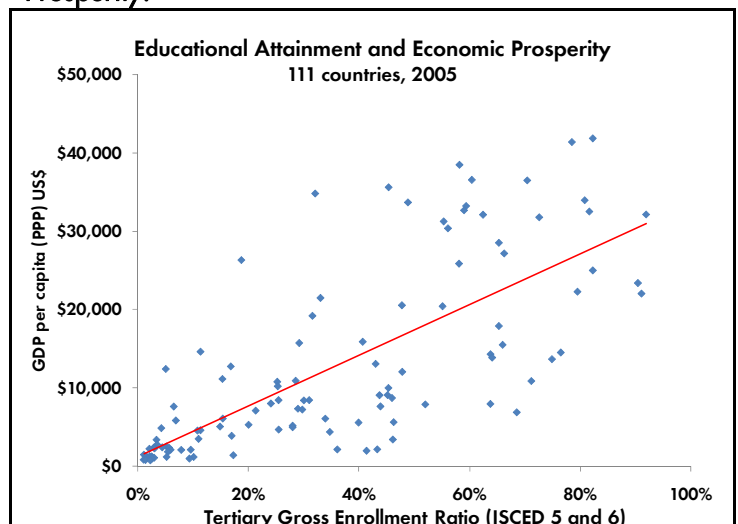
This report highlights the historic relationship among these types of variables in the context of graduate business education.

Higher Education and National Prosperity

The strong, positive correlation between participation in higher education and a nation's level of economic well-being is easily illustrated with international data.^{1,2} Figure 1 highlights this direct relationship for 111 countries, in which GDP per capita—a population-adjusted measurement of economic strength—is compared with tertiary enrollment ratios, a measure of participation in higher education. On average, the higher the level of participation in higher education for a given country, the higher the level of economic prosperity that country enjoys.

In Sweden, for example, the enrollment ratio for tertiary education in 2005 was 82%, the sixth highest rate in the sample. Its corresponding level of GDP per capita was \$32,525, twelfth overall. Pakistan stood at the other end of the spectrum in 2005 with a tertiary participation rate of only 4.5% (93rd overall) and GDP per capita of \$2,370 (84th overall). There are certainly outliers in the data—Switzerland had a relatively low level of tertiary education participation when compared with its high per capita income in 2005, Ukraine had high participation and low income that same year—but, on average, the relationship holds across the globe.

Figure 1: Educational Attainment and Economic Prosperity.



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While the connection between education and economics is apparent, the causal direction of this link is not as clear. As noted in a recent report published by Cisco Systems:

That education is an essential ingredient of prosperity is at once obvious and contentious. Obvious because any person able to read this text knows what a difference it makes in their lives to have gone to school, to have learned to read, write, and calculate. Contentious because when social scientists try to “prove” that education is a cause of economic growth it turns out to be quite difficult to decide which came first, the chicken or the egg.³

Despite a lack of concrete evidence as to whether it is educational access and participation that drives economic growth or vice versa, national governments and international institutions have collectively leveraged the close relationship between the two variables to inform and justify strategic public policy initiatives. According to a 2008 OECD report on the impact of tertiary education on the knowledge society,

Tertiary education policy is increasingly important on national agendas. The widespread recognition that tertiary education is a major driver of economic competitiveness in an increasingly knowledge-driven global economy has made high-quality tertiary education more important than ever before.⁴

In addition to its connection with societal gain, educational attainment benefits individuals by increasing their competitiveness and compensation in labor markets.

Higher Education and Individual Competitiveness

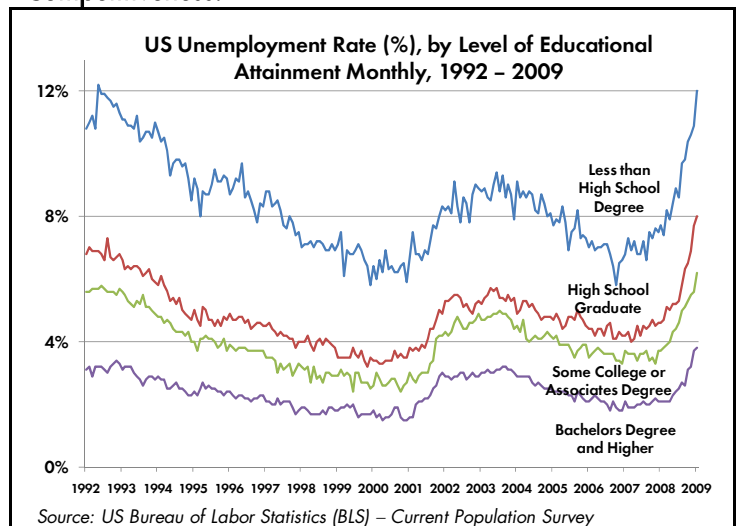
Much has been made of the modern “knowledge economy,” in which ideas and innovation in the business world are driven by a highly educated workforce. In the United States, however, it was not until the year 2000 that the number of people employed with college degrees outnumbered the number of people employed with only high school degrees for the first time.⁵ This transition towards a more highly educated workforce has been anything but gradual. In 1992, those in the US workforce with high school degrees outnumbered those with bachelor’s degrees or higher by more than eight million. Less than two decades later, it is now those with college degrees that outnumber high school graduates in the workforce by eight million.

With the number of new jobs awarded to skilled labor positions in the United States significantly outpacing

unskilled positions, one of the ways in which individuals compete with each other and attempt to stand out from the crowd is through earning educational credentials. Signaling competency through human capital development is not a new concept but, as a greater proportion of total jobs have gone to those with college degrees, the relative importance of such credentials has increased.

Simply collecting more degrees, however, does not make individuals immune from labor market challenges, especially during economic downturns. In March 2008, the unemployment rate in the United States for workers with bachelor’s degrees stood at 4.3%. This marks the highest unemployment rate on record for college graduates since data matching educational attainment against employment status was first conducted by the Current Population Survey (CPS) in 1992. (See Figure 2.)

Figure 2: Economic Attainment and Individual Competitiveness.



Higher levels of education are effective in insulating against extreme unemployment impacts throughout the business cycle. Specifically, a college degree does seem to provide—no matter what aggregate economic conditions are—the ability to secure employment at a greater rate relative to their less educated counterparts.

A similar ability for skilled labor to secure employment relative to less-educated labor is visible in labor markets within the European Union. In 2007, individuals that had completed ISCED 5/6 educational programs (first and second stage tertiary education) had an unemployment rate of 3.6%. Those with ISCED 3/4 (upper secondary and post-secondary non-tertiary) and ISCED 1/2 (primary and lower secondary) had higher rates of 6.0% and 9.2%, respectively.⁶ The percentage differences among the tiers of

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educational attainment and their corresponding employment outcome in Europe appear similar to those seen in the United States.

Economic Fluctuations and the Demand for Graduate Management Education

The long-standing relationship between economic competitiveness and educational attainment is based either on accumulated human capital spurring productivity growth or on the increased ability to pursue education as wealth is built over time. Historically, however, short-run economic circumstances have also played a significant role regarding education. There is an immediate impact on the demand for higher education and graduate management education (GME), for example, when economic conditions worsen. Much of this is due to the fact that cyclical fluctuations often emerge quickly and can be quite severe, significantly altering the personal and professional incentives facing prospective business students.

To understand why this is, it is important to recognize the financial considerations that face business school applicants. There are two primary types of costs generally associated with the pursuit of management education: explicit costs and implicit costs.

Explicit Costs: Cyclical Demand for GME

Explicit costs include tangible expenses such as tuition, textbooks, and housing. For countries in which higher education is not a publically provided good and the burden is internalized by students, these costs are typically cited as the most significant barriers to earning an advanced degree. A recent GMAC survey revealed that the number one reason for prospective graduate schools students to either postpone or forego attending graduate business school was that “it would require more money than I am willing to invest right now”.⁷ These explicit costs are related to cyclical demand for education because the ability to afford them increases when the economy is growing and incomes are rising.

The most obvious examples of cyclical demand for higher education are in India and China, which have each experienced high rates of economic growth for many years. This growth created new jobs and raised real incomes, increasing the financial ability of citizens to afford higher education and also increasing their need to pursue higher education to compete for the best new jobs. As long as growth continues to spur job creation and wealth, demand for management education from these citizen groups should remain strong.

Implicit Costs: Counter-Cyclical Demand for GME

In contrast to explicit costs, implicit costs are not as readily visible and tend to change dramatically in short periods of time. Even though implicit costs are sometimes overlooked, they can be just as influential as explicit costs—if not more—in attracting or discouraging talent into the business school pipeline.

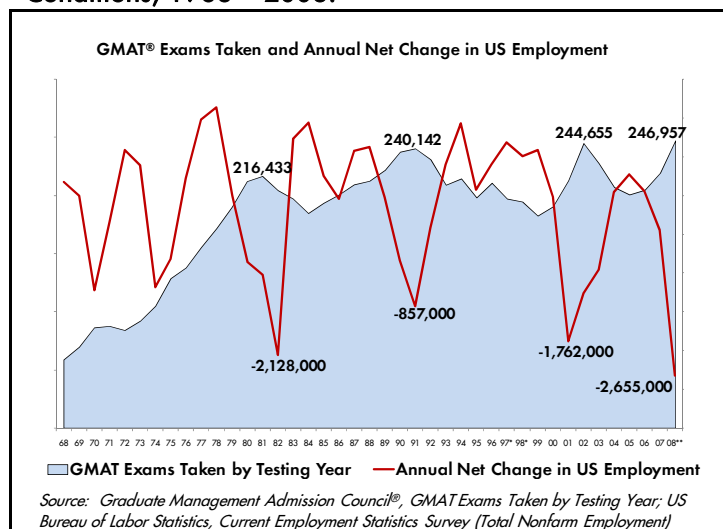
Implicit costs are the total opportunity cost of returning to graduate school and are what must be given up in order to complete a program. The most significant implicit cost is foregone income from leaving the workforce.

When career opportunities in the labor market are plentiful, then the opportunity cost of being outside of it is high. When career opportunities are weak—when labor markets deteriorate during cyclical economic contractions, for example—the opportunity cost of returning to school is reduced. This relationship defines counter-cyclical demand for GME, in which individuals are attracted to graduate school in economic downturns because the pursuit of such a degree is relatively less of a financial burden when career opportunities are uncertain or nonexistent.

US Recessions and Historic GMAT Volume

The counter-cyclical theory of GME demand is consistent with historical episodes of aggregate GMAT exam growth.

Figure 3: GMAT Exams Taken and US Employment Conditions, 1968 – 2008.



* GMAT exam volume for 1997 and 1998 smoothed to adjust for volatility caused by switch to computer testing. Preliminary data for Dec 2008

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Throughout the 1960s and 1970s, the number of GMAT exams taken increased significantly as the exam established itself as an integral part of the business school admissions process. Since then, modest testing growth has continued throughout several cyclical movements. Over the years, however, there have been four distinct peaks in testing volume. The most recent was in TY2008, when 246,957 exams were taken worldwide, a historic high. (See Figure 3.)

Corresponding to these four testing peaks has been each major recession endured by the US economy since 1980, as shown in Table 1. What is remarkable is that even though each recession in itself has been unique in terms of intensity and scope, the response by prospective business students entering the GMAT pipeline has remained constant. Generally, severe troughs in the US employment market have corresponded directly with peaked or peaking GMAT volume.

As the pace of the current global downturn has accelerated, beginning in late 2008, demand for the GMAT exam continues to remain strong. Through the first nine months of testing year 2009 (TY2009), the number of GMAT exams taken is up significantly when compared with the same period in TY2008.

Table 1: US Recessions and GMAT Volume Since 1980.

US Recession	GMAT Testing Peak		Net Employment Trough	
	Level	Testing Year	Level	Year
1980, 1981–1982	216,433	1981	-2,128,000	1982
1990–1991	240,142	1991	-857,000	1991
2001	244,655	2002	-1,762,000	2001
2007–2009	246,957	2008*	-3,078,000	2008

Source: GMAC Data; US Bureau of Labor Statistics (BLS)

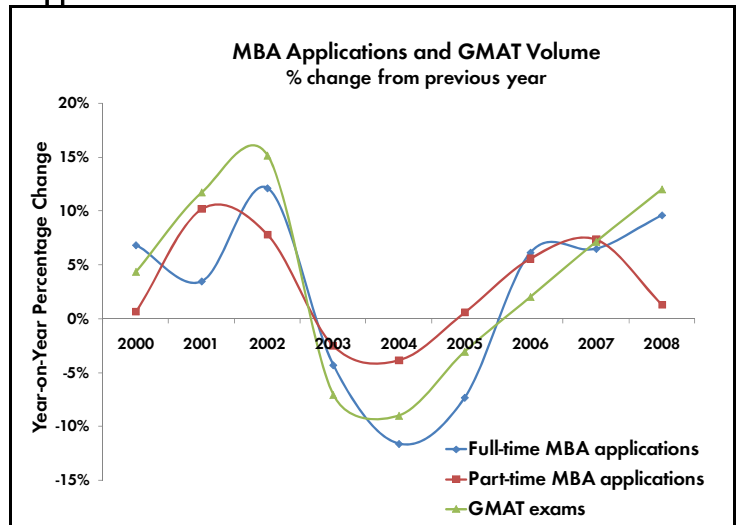
* Most recent testing year.

GMAT Volume and Application Trends

For many of the world's leading business schools, GMAT exam volume signals the physical size and characteristics of their annual application pipelines. Figure 4 highlights this relationship. During the 2001–2002 US economic downturn, GMAT exams and applications both trended upward only to fall again after an economic recovery was

underway. A similar growth trend was observed leading up to 2008, in which 77% of full-time MBA programs experienced an increase in applications.⁸

Figure 4: Relationship between GMAT Exams and MBA Applications.



Although it is true that increases in GMAT exam and application volumes do not necessarily translate into increases in student matriculation, external evidence from the National Center for Education Statistics (NCES) adds support to this relationship.⁹ Since 1990, the two academic years that experienced the greatest annual percentage increase in the number of graduate degrees conferred in business were 1992 and 2004, both of which came shortly after adverse economic conditions might have enticed students into the business school pipeline.

Rational Expectations for Economic Recovery

At some point, the global economy will begin to recover. The number of layoffs will slow and new jobs will be created as economies around the world enter a new period of expansion. For some, this will raise the opportunity cost of being in school and, consequently, out of the labor force.

In aggregate, it is likely that the number of individuals sitting for the GMAT exam will return to pre-recessionary levels, application growth will slow, and schools will have to fill classes with a smaller student pipeline. This might be a challenge for some schools, but it is a consequence of a natural industry cycle dating back as far as GMAT testing volumes indicate and is likely to happen again.

For business schools, identifying when this will occur is less important than understanding that it will eventually happen.

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Being selective in periods of rising applications and smart when volumes start to fall could be the best strategy for weathering cyclical storms. ■

PowerPoint® slides corresponding to the discussion in this *Economics, Education, and the Business School Pipeline* e-report can be found online at www.gmac.com/gmac/researchandtrends/globaltrends.

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¹ Barro, Robert. *Education and Economic Growth*. Organization for Economic Co-operation and Development (OECD), 2000.

² UNESCO Institute for Statistics. Accessed online, March 3, 2009 at: <http://www.uis.unesco.org/>

³ Miller, Riel. *Education and Economic Growth: From the 19th to the 21st Century*. Cisco Systems, 2007.

⁴ *Tertiary Education for the Knowledge Society*. Organization for Economic Co-operation and Development (OECD), 2008. Accessed online on March 3, 2009 at: http://www.oecd.org/document/35/0,3343,en_2649_39263238_36021283_1_1_1_1,00.html

⁵ U.S. Bureau of Economic Analysis (BEA). Non-farm employment by level of education for those 25 and above.

⁶ EuroStat Data. Population and Social Conditions: Education and Training. Accessed online on March 3, 2009 at <http://epp.eurostat.ec.europa.eu>

⁷ Schoenfeld, G. *2008 mba.com Registrants Survey Comprehensive Data Report*, pages 6-7. Graduate Management Admission Council. Accessed online, February 25, 2009 at <http://www.gmac.com/gmac/ResearchandTrends/SurveyReports/RegistrantsSurvey.htm>

⁸ Murray, M. *Application Trends Survey Report, 2008*. Graduate Management Admission Council, Accessed online, February 25, 2009 at <http://www.gmac.com/gmac/ResearchandTrends/SurveyReports/corporaterecruiterssurvey.htm>

⁹ National Center for Education Statistics (NCES). *Digest of Education Statistics 2007*. Chapter 3, "Postsecondary Education."