MBA Student Performance on the ETS Exam: Assessing Student Performance on an Exit Exam That Is Not a Degree Requirement

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Our MBA program has required the ETS Exit Exam for many years. The exam is given during our capstone course. Results are used for programmatic assessment. The ETS exam cannot be used as a "graduation requirement," nor is it part of course grades. Anecdotal evidence indicates students are aware of this, which may affect the extent to which they do or don't prepare for the exam. This study examines the effectiveness of this type of "exit exam." We compare student performance to de-identified student data. This study will inform our faculty about potential changes for programmatic assessment.

Keywords: MBA exit exam, ETS, exit exam performance

INTRODUCTION

The Masters of Business Administration program at the University of South Dakota has required the ETS Exit Exam for many years. However, for a number of reasons we discontinued using the ETS exam after the Spring 2024 semester, opting to create an in-house exit exam. In our program, students take this exam during our capstone course, BADM780 – Business Policy and Strategy. The results of this exam are used by our faculty for overall programmatic assessment and also to examine the extent to which students are learning about the integrated nature of the various business disciplines. One of the issues we have had is that the ETS exam cannot be used as a "graduation requirement" nor should the performance on the exam affect student's course grades. We know from anecdotal evidence that our students have been increasingly aware of this situation, and that this may have affected the extent to which many of our students choose to prepare (or not to prepare) for the exam. The purpose of this study is to determine the effectiveness of this type of "exit exam" relative to its use as a programmatic assessment tool. This analysis will then be used as data comes in from our new in-house exit exam, which will be a graduation requirement. We have followed a similar process with our undergraduate exit exam strategy, and that analysis is the subject of another paper. In this paper, we will be examining student performance and comparing those results to de-identified student data that includes program grade point average, undergraduate grade point average,

GMAT scores (where available), and other relevant data. The discussion of our results details four changes, both external and internal, that conflate the interpretation of our results as they occurred simultaneously, and are difficult to separate. Based on our findings, this study will inform our faculty about past performance, and will also aid our faculty in assessing the new exam.

LITERATURE REVIEW

There are numerous studies looking at various aspects of the ETS Exam. Two groups of papers exist, delineated by whether they seek to explain student performance on the ETS Exam, or by whether they examine the usefulness of the ETS Exam as an assessment tool. Studies about the ETS Exam are further separated by looking at the testing of undergraduate and graduate students.

Terry, Mills, and Sollosy (2008) examine the performance of undergraduate students on the business major field ETS exam. Specifically, they look for the effect of applying ETS exam scores to part of a business capstone course grade. In a sample of 150 students, their model controlled for GPA, SAT/ACT scores, junior college transfer status and gender. Findings in this study indicate that students performed better on the exam when the capstone course grade depended on ETS performance. Specifically, SAT/ACT score and GPA were statistically significant, as were the motivation variables. The three demographic variables in the model were not statistically significant.

Bagamery, Lasik, and Nixon (2010) also looked at ETS Exam performance for undergraduate students. Gender, whether students took the SAT, and GPA were found to significantly affect performance. In this case GPA was narrowed to GPA in the Business Core and Pre-Admission courses but also looked at GPA in General, Quantitative, Accounting, and Management courses. Course location, age, transfer status and major were not statistically significant.

Terry, Walker, and Kelley (2010) exams ETS Exam performance while focusing on the impact of students completing foundational business core courses at 2-year community colleges, as opposed to taking those courses at a 4-year university. This study of 174 students controlled for GPA and SAT/ACT scores and student motivation. Additionally, this study looked at the number of online courses, gender, and student motivation. Effort, ability and incentive variables were positive and statistically significant. This study found that students transferring 30 or more hours from a community college actually scored higher on the ETS Exam, but this increase was not statistically significant.

Wright (2010) focuses on ETS testing, and examines procedures, results and usefulness of the test. The paper finds that the ETS outcome methodology may not be optimal. Looking at data from 199 institutions finds that the threshold for students scoring in the top 5% of the Marketing section are only getting 69% of the questions correct. For Finance, the top 5th percentile only requires getting 59% correct, and for Accounting, the top 5th percentile requires only 66% of the questions to be answered correctly.

Timmerman (2019) used the ETS major field exam results to predict MBA student performance and persistence. In a sample of 203 students the correlation between the ETS field exam and MBA grade point average was moderate, and was equal to the correlation between the student's GMAT scores and their MBA GPA. In both cases, neither the ETS field exam nor the GMAT provided better predictive power than simply using the undergraduate GPA.

DESCRIPTION OF DATA

Students included in the data for this research were University of South Dakota Beacom School of Business graduate students pursuing a Master of Business Administration (MBA), including those with specializations in Artificial Intelligence for Business Analytics, Business Analytics, Business Leadership, Finance, Health Services Administration, Marketing, Operations & Supply Chain Management, and Sustainability. The student data for this project was collected from various sources. The foundation of the data was supplied by the Associate Dean of Graduate Programs, who maintains a database of all student Educational Testing Service (ETS) Exam scores. This data was combined to create a comprehensive list of de-identified student data that included active enrolled students between the date range of summer 2014

through fall 2024. Information from other sources was used to supplement original data, including that from an internal ACCESS database and the University of South Dakota's student information system (SIS), Ellucian Banner.

TABLE 1
DESCRIPTIVE STATISTICS

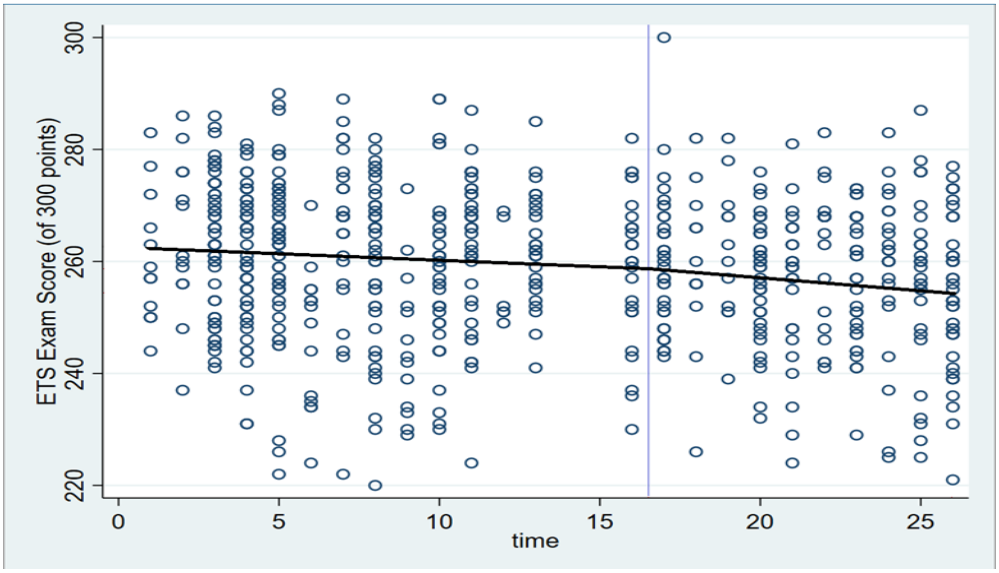
Variable	Obs	Mean	Std. Dev.	Min	Max
ETS Score	699	260	13.5	220	300
After 2020	780	.363	.48	0	1
Undergrad GPA	773	3.36	.41	2	4
Graduate GPA	777	3.64	.28	2.5	4
Time	780	12.2	7.5	1	25

The original student dataset supplied an initial list of Master of Business Administration ETS Exam completions, including the student cohort, test scores, and completion date. A portion of the data also included percentile ranks for each student who completed the ETS Exam. Data from the internal ACCESS database was also used to add additional data fields, including Graduate Management Admission Test (GMAT) score, undergraduate grade point average (GPA), graduate grade point average (GPA), and the student's undergraduate major. The GMAT scores can range from 205 to 805. The undergraduate GPA is factored on a 4.0 scale. The graduate GPA is also factored on a 4.0 scale. The student undergraduate major includes all available undergraduate majors, not just those affiliated with business. Time was also used as a variable, calculated by semester.

DISCUSSION OF RESULTS

The genesis of our concern with the ETS exam as an assessment tool can be seen in Figure 1. The regression line in Figure 1 corresponds to a model where we regress our "after2020" dummy variable and our "time" variable on student ETS scores.

FIGURE 1
ETS SCORES BY SEMESTER



Over the past 15 years, we have seen a decline in the performance of our MBA students on the ETS exam. The rate of decline increases after 2020 (starting with semester 17 in Figure 1). One of the issues we face in analyzing our data is that there are several factors affecting student performance that all changed around 2020, and our data doesn't allow us to disentangle these effects. The first and most obvious was the COVID-19 pandemic and its effect on the delivery of MBA courses (and all courses for that matter). Second, during this same timeframe, we stopped requiring, and GMAT exam for entrance into our program. Third, we also stopped requiring reference letters for students as part of their entrance materials. Both the second and third change may have affected the quality of students entering our program. Finally, there was a substantial change in our program prerequisite structure. Prior to 2020 we had essentially the entire undergraduate business core as a prerequisite for entry into our MBA program. For students with no business and economic background whatsoever, this meant taking six 3-credit "foundations" courses before taking our actual MBA courses. Under this model, our MBA ranged from 33 credits for students with undergraduate majors to 51 credits for students who had to take all 6 foundations courses. After the COVID-19 pandemic, our pre-requisite structure was reduced to two 3-credit courses - so instead of eighteen credits of prerequisite material we dropped to six.

Our six regressions are all variations on equation 1.

$$ETS\ Score_i = \beta_0 \quad + \beta_1 \cdot after2020_i + \beta_2 \cdot GPA_i + \beta_3 \cdot t_i \tag{1}$$

Our dependent variable is the student's ETS exam score, which ranges from 220 to 300, after2020 is a dummy variable (=1 if the student took the exam after 2020), GPA is either the student's undergraduate and/or graduate GPA, and t is a time trend. The regression results are shown in Table 2. In our first three models, the dummy for after 2020 is negative at a 1% level of significance. This is consistent even when undergraduate GPA and graduate GPA are added to the model. Our second model adds undergraduate GPA which is also significant at a 1% level. In our third model, we keep undergraduate GPA and also add graduate GPA. In this case, graduate GPA is highly significant but undergraduate GPA becomes insignificant.

Our second set of regressions (numbered 4 through 6 in Table 2) adds a time variable, which numbers the semesters in our model from 1 to 25. In all three models the time variable is negative and significant, indicating that the ETS scores of our students has been falling significantly over time. When the time variable is included in the last three regressions, the dummy variable "after2020" becomes insignificant. Undergraduate GPA and graduate GPA perform the same in the second set of regressions as they did in the first set.

TABLE 2
ETS SCORE REGRESSIONS

Variable	(1)	(2)	(3)	(4)	(5)	(6)
after2020	-3.367***	-3.946***	-4.782***	0.802	-0.210	1.568
	(1.045)	(1.046)	(1.006)	(2.273)	(2.265)	(2.166)
UG GPA		5.261***	1.940		5.171***	1.565
		(1.232)	(1.248)		(1.230)	(1.244)
GR GPA			15.27***			16.29***
			(1.892)			(1.904)
time				-0.287**	-0.257*	-0.441***
				(0.139)	(0.138)	(0.133)

Variable	(1)	(2)	(3)	(4)	(5)	(6)
Constant	260.8***	243.4***	199.2***	262.9***	245.5***	200.0***
	(0.640)	(4.130)	(6.750)	(1.201)	(4.286)	(6.706)
Observations	699	696	696	699	696	696
R-squared	0.015	0.039	0.122	0.021	0.044	0.136

Standard errors in parentheses: *** p<0.01, ** p<0.05, * p<0.1

CONCLUSIONS

The analysis of the ETS exam scores for our MBA students supports several of our initial conjectures. First, the ETS scores after 2020 are significantly lower than the scores from semesters prior to 2020. Our data do not allow us to specify why this is the case, as the COVID-19 pandemic, changes in entrance requirements, and the restructuring of our pre-requisites for our MBA core courses all changed about the same time.

Second, the models also indicate that the ETS scores of our students have been falling throughout the period we are studying, which is about the last 12 years. We believe this drop in scores is due in part to the fact that our students are increasingly aware that the ETS exam is *not* a graduation requirement, and is also *not* part of the calculation of any of their course grades. Further, we believe from anecdotal evidence that, over time, a growing percentage of our students are aware of this fact. As a result, we do not have confidence that our students feel particularly compelled to perform well on the exam. This is buttressed by the fact that other research cited in this paper found that students who had their ETS scores as part of their Business Strategy course grade performed significantly better on the ETS exam.

We are pleased to find that measures of student quality and/or learning both have a positive impact on the student's ETS exam score. Both undergraduate GPA and graduate GPA were positive significant determinants of ETS scores. The result that our students who demonstrated better learning during our program also performed better on the ETS exam is reassuring.

Future research will involve an examination of our undergraduate exit exam. For our undergraduate programs, we dropped the ETS exam about 5 years ago and moved to an in-house exit exam where passing this exam is a graduation requirement. This will be informative to our faculty as we are currently transitioning from the ETS exam to an in-house exit exam for our MBA program as well, and we expect results from this study and the undergraduate study will validate our decision to move away from the ETS exam entirely.

REFERENCES

Bagamery, B.D., Lasik, J.J., & Nixon, D.R. (2010). Determinants of Success on the ETS Business Major Field Exam for Students in an Undergraduate Multisite Regional University Business Program. *Journal of Education for Business*, *81*(1), 55–63.

Terry, N., Mills, L., & Sollosy, M. (2008). Student Grade Motivation as a Determinant of Performance on the Business Major Field ETS Exam. *Journal of College Teaching and Learning*, *5*(7), 27–32.

Terry, N., Walker, J., & Kelley, G. (2010). The Determinants of Student Performance on the Business Major Field ETS Exam: Do Community College Transfer Students Make the Grade? *Journal of International Management Studies*, *6*(1), 1–8.

Timmerman, T.A. (2019, Winter). Using the ETS Major Field Test in Business to Predict MBA Performance. *Journal of the Academy of Business Education*, *20*, 277–286.

Wright, R.E. (2010). Standardized testing for outcome assessment: Analysis of the educational testing systems MBA tests. *College Student Journal*, *44*(1).