SAINT LOUIS UNIVERSITY

Program-Level Assessment: Annual Report

Program Name (no acronyms): MS in Applied Financial Economics	Department: Economics
Degree or Certificate Level: MS	College/School: Chaifetz School of Business
	Assessment Contact: Hailong Qian
Date (Month/Year): September 2021	
In what year was the data upon which this report is based collected? AY 2020-21	
In what year was the program's assessment plan most recently reviewed/updated? AY 2018-2019	

1. Student Learning Outcomes

Which of the program's student learning outcomes were assessed in this annual assessment cycle? (Please list the full, complete learning outcome statements and not just numbers, e.g., Outcomes 1 and 2.)

All five SLO were assessed.

SLO #1 (Knowledge): Advance knowledge of economic and financial theory.

SLO #2 (Analytics/quantitative skills): Demonstrate analytical proficiency with the use of quantitative techniques employed in economic and financial forecasting.

SLO #3 (Applications/modeling and forecasting): Research topics both theoretically and empirically to design and evaluate appropriate modeling strategies.

SLO #4 (Communication): Clearly articulate research methodologies and empirical findings in both oral and written frameworks.

SLO #5 (Professional ethics): Demonstrate professional conduct with respect to carrying out research and providing/receiving feedback from peer colleagues.

2. Assessment Methods: Artifacts of Student Learning

Which artifacts of student learning were used to determine if students achieved the outcome(s)? Please describe and identify the course(s) in which these artifacts were collected. Clarify if any such courses were offered a) online, b) at the Madrid campus, or c) at any other off-campus location.

SLO #1 (Knowledge): Exam questions were assessed in ECON 6050 (online, fall 2020) and ECON 6060 (online, spring 2021).

SLO #2 (Analytics/quantitative skills): Exam questions were assessed in ECON 6060 (online, spring 2021) and capstone research papers were assessed in ECON 6850 (online and in-person), summer 2021.

LO #3 (Applications/modeling and forecasting): Capstone research papers were assessed in ECON 6850 (online and in-person), summer 2021.

LO #4 (Oral and written communications): Capstone presentations and research papers were assessed in ECON 6850, summer 2021.

LO #5 (Professional ethics): Students' capstone research process, research paper and peer-review activities were observed and assessed in ECON 6850, summer 2021.

Madrid student artifacts are not applicable.

3. Assessment Methods: Evaluation Process

What process was used to evaluate the artifacts of student learning, and by whom? Please identify the tools(s) (e.g., a rubric) used in the process and **include them in/with this report document** (do not just refer to the assessment plan).

We followed a three-step process.

Step 1: Each instructor first collected raw assessment data and then calculated the respective percentages for "Exceeds Expectations", "Meets Expectations" and "Needs Improvement".

Step 2: An individual instructor then identified those student learning outcomes that students performed lower than 75% for "Exceeds Expectations" or "Meets Expectations".

Step 3: in this step, instructors proposed concrete measures for further improving student learning outcomes, especially for those SLOs identified in Step 2 above.

For the current assessment cycle, Dr. Hailong Qian and Dr. Heather Bednarek were involved.

4. Data/Results

What were the results of the assessment of the learning outcome(s)? Please be specific. Does achievement differ by teaching modality (e.g., online vs. face-to-face) or on-ground location (e.g., STL campus, Madrid campus, other off-campus site)?

Because of Covid-19 in AY 2020-21, all classes were taught online (asynchronously in fall 2020, synchronously in spring 2021, and both online and in-person in summer 2021).

The main findings from AY 2020-21 assessment data are:

(1) Overall, our MS-AFE students learned very strong quantitative techniques from the twelve-month long program of study; more than 88% of the students (that is, 23 out of 26 students in the last cohort) achieved "Exceeds Expectations" or "Meets Expectations" for learning outcomes 1-3.

(2) Almost a quarter of the students needed further improvement in writing of their capstone research papers, while about one third of the students (mainly international students) needed further improvement in their oral presentation skills and confidence. Many students had trouble with writing a well-organized research paper that includes all the necessary components such as introduction, literature review, empirical analyses and conclusion. The poorer than usual oral communication skills in the last academic years was also partially caused by the fact that classes were mostly online in the last academic year and students were living and learning in social isolation and never had a chance to physically interact with fellow students and form a cohort.

(3) Almost 20% of the students (5 out of 26 students) need improvement in SLO #5 (Professional Ethics) in terms clearly citing references and attributing models and results of others in their research paper.

(4) Many students (7 out of 26 students) had trouble in applying theoretical econometric modeling and estimation techniques to real applications.

5. Findings: Interpretations & Conclusions

What have you learned from these results? What does the data tell you?

The main findings from last year's assessment data are mostly consistent with previous assessment findings. More specifically, here are four main findings.
(1) Our students gained strong econometric skills in modeling, estimation and forecasting.
(2) Many of our students (about 25%) need more practice in writing a research paper that seamlessly integrates all the necessary components of a professional research paper: introduction, literature review, data sources, model

specification, empirical analyses, hypotheses tested, and conclusion based on empirical findings of the research, plus the reference sections.

(3) A significant percentage of our students (about one third) are not confident in their oral presentation skills, which results in ineffective presentations.

(4) Many of our students (about a quarter) are very casual in citing references or clearly indicating results from other researchers.

(5) A quarter of our students need further improvements in application skills in terms of articulating the research question, finding the necessary data and searching for the best model specification.

6. Closing the Loop: Dissemination and Use of Current Assessment Findings

A. When and how did your program faculty share and discuss these results and findings from this cycle of assessment?

The economics department faculty members who teach in the MS-AFE program (Dr. Muhammad Islam, Dr. Fei Tan, Dr. David Rapach, Dr. Hailong Qian) met twice in September 2021 to discuss the assessment data and how to further improve our students core skill set and the value-proposition of the program.

B. How specifically have you decided to use these findings to improve teaching and learning in your program? For example, perhaps you've initiated one or more of the following:

Changes to the Curriculum or Pedagogies	• Course content	• Course sequence
	• Teaching techniques	• New courses
	• Improvements in technology	• Deletion of courses
	• Prerequisites	• Changes in frequency or scheduling of course offerings
Changes to the Assessment Plan	• Student learning outcomes	• Evaluation tools (e.g., rubrics)
	• Artifacts of student learning	• Data collection methods
	• Evaluation process	• Frequency of data collection

Please describe the actions you are taking as a result of these findings.

Based on the current round of assessment data, we are planning to do the following.

(1) To maintain and further strengthen the quantitative skills of the MS-AFE program, the economics department is planning to offer a second track in applied quantitative economics.

(2) To further enhance our MS-AFE graduate students' analytical and statistical programming skills, the department is planning to offer two new electives: Applied Portfolio optimization using R, and Applied Bayesian Methods in Time-series analysis using Python.

(3) To improve students' writing skills, the program is planning to require more writing assessment throughout the curricula. For example, ECON 6050 and ECON 6060 now also require students to write a short research paper on an economic/financial topics, while ECON 6850 (Capstone Research) is planning to require students to turn in and present multiple drafts of their papers.

(4) To improve students' communications skills, especially for many of the international students, the MS-AFE program is planning to offer student more presentation opportunities throughout the program. For examples, ECON 6000 now requires student presentations, while ECON 6850 will ask each student to present three times in the class: presentations of proposal, first draft and second draft, respectively. Additionally, ECON 6850 also requires a peer-reviewer to present three separate times: reviews of proposal, first draft and second draft, respectively. Additionally, in collaboration with our school Career Resources Center and the Business School Graduate Office, we are planning to have more social events so that our international students will have more in-person opportunities to interact with faculty and domestic students.

If no changes are being made, please explain why.

7. **Closing the Loop: Review of Previous Assessment Findings and Changes**

   A. What is at least one change your program has implemented in recent years as a result of assessment data?

Based on the last assessment outcome, we added a new analytics class, Applied Business Analytics (ITM 6400) and required more writing throughout the program.

   B. How has this change/have these changes been assessed?

The result of new class (ITM 6400) was directly assessed by SLO #2, while the improved writing skill is directly assessment by SLO #4.

   C. What were the findings of the assessment?

Since we added the new elective ITM 6400 in AY 2018-19, almost all of our students elected to take the class and, as a result, our students' applied data analytical skills have been further strengthened. As for the result of the enhanced writing requirement, the progress has been slow so far and we'll have to offer more writing opportunities throughout the program.

   D. How do you plan to (continue to) use this information moving forward?

Well, based on last two rounds of assessment data, it is very clear that our students gained high level of quantitative skills in terms of modeling and forecasting, while their writing, oral communication and application skills need further improvement. Thus, We are planning to: (1) To maintain the quantitative strength of our program, we'll continue to require two sequence of econometrics classes and offer more applied time-series and optimization classes. (2) To improve students' statistical programming skills, we'll offer more classes using R and Python; in fact, both econometrics classes now use R and EViews. (3) We'll continue to require more writing projects and presentations in most of the required classes in the program.

IMPORTANT: Please submit any assessment tools (e.g., rubrics) with this report as separate attachments or copied and pasted into this Word document. Please do not just refer to the assessment plan; the report should serve as a stand-alone document.