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December 2, 2016

AIMÉE DORR
PROVOST AND EXECUTIVE VICE PRESIDENT
UNIVERSITY OF CALIFORNIA

Re: Approval of Master of Finance (M.F.) Degree at UC Irvine

Dear Aimée:

In accordance with the *Universitywide Review Processes For Academic Programs, Units, and Research Units* (the "Compendium"), and on the recommendation of CCGA, the Academic Council has approved UC Irvine's proposal to establish a self-supporting Master of Finance (M.F.) degree program.

Because this is a new degree, and the Assembly of the Academic Senate is not meeting within 30 days of CCGA's approval, Council must approve the program per Senate Bylaw 125.B.7.

I am enclosing CCGA's report on its review of the new degree, and respectfully request that your office complete the process of obtaining the President's approval.

Sincerely,

Jim Chalfant

Jim Chalfant, Chair
Academic Council

Cc: Academic Council
Senate Director Baxter
Senate Executive Directors

COORDINATING COMMITTEE ON GRADUATE AFFAIRS (CCGA)
Kwai Ng, Chair
kwng@mail.ucsd.edu

ACADEMIC SENATE
University of California
1111 Franklin Street, 12th Floor
Oakland, California 94607-5200

November 15, 2016

ACADEMIC COUNCIL CHAIR JIM CHALFANT

Dear Jim:

At its November 2, 2016 meeting, the Coordinating Committee on Graduate Affairs (CCGA) voted to approve UC Irvine's proposal for setting up a self-supporting graduate program leading to a Master of Finance (M.F.) degree. The Masters of Finance degree program is designed to prepare its students for quantitative and analytical functions in the field of finance, which includes mutual funds, hedge funds, pension management, real estate investment, and wealth management more generally.

Compared to a typical MBA program, the new MF program put an emphasis on quantitative methodologies, and a de-emphasis on prior business experience. While a background in calculus, intermediate statistics, and probability is preferred, it is not required for applicants to the program. Students are expected to be either graduating undergraduates or recent BAs with up to five years of professional experience. Admission will be by "comprehensive review" rather than by quantitative cut offs on most of these elements.

In its initial review, the proposal received some criticism from external reviewers about its target student population in that it did not clearly identify a broad enough sector from which applicants could be consistently drawn. It seemed to target a relatively small population who were not as technically skilled as traditional MFA (Master of Financial Engineering) students but were more skilled than traditional MBA students. Its plan to admit a mix of domestic and foreign students was also questioned by some reviewers. Applicants to similar MF programs in UC Riverside and UC San Diego are predominantly international students. Some concerns were also raised about whether the new Irvine program might adversely affect the financial viability and reputation of all three MF programs, given the proximity of the three campuses.

External reviewers solicited by CCGA's lead reviewer Jan DeVries praised the quality of the faculty of the Merage School and its capacity to support a high quality program. But some again raised concerns about the ambiguity of its target student population, as reflected by the eclectic character of its proposed curriculum. Another matter of concern to all of the referees was the provision made for student placement. Placement record plays a crucial role in building up, or destroying, the reputation of a new professional program.

In its response, the Merage School of Business expressed confidence in drawing more domestic students than other MF programs. It argued that it was in a unique position to do so as a potential benefiter of its strong and sizable undergraduate programs in business administration. It brought up the success of its Master of Professional Accountancy program as proof. MPA programs typically have a student makeup dominated by international applicants. Yet the Irvine's MPA has been able to admit a balanced mix of domestic and international students. It also reiterated that a comprehensive and holistic review system at admissions was best suited to build an academically strong and diverse student population.

The School also addressed other concerns raised by reviewers. For example, it plans to hire a career service staff member to assist with MF students in their career development. It revised its budget to increase its return to financial aid. The School also anticipates strong ladder faculty involvement in the MF program, with the expectation that Academic Senate faculty teach 60-70 per cent of courses offered at build-out. On the whole, CCGA members felt that the school addressed comprehensively many of the other concerns raised.

In light of the lingering concerns about the program's target student population, CCGA urges the UCI graduate council to review the program's admission plan in the third-year review, as required by the new SSGPDP policy (V.A.2). CCGA recommends that the third year review to examine the realism of the program's admission plan. Specifically, the review should evaluate whether the program is in fact able to draw enough from the target student population identified in the proposal, without severely compromising admission standards. The recommended review, CCGA believes, would contribute to the continued sustainability of the program as a SSGPDP program.

As you know, CCGA's approval is usually the last stop of the Academic Senate side of the systemwide review and approval process except when the new degree title must be approved by the President, under delegated authority from the Board of Regents. According to the Academic Senate Bylaws, the Assembly of the Academic Senate (or the Academic Council if the Assembly is not meeting within 30 days of CCGA's approval) must approve new degree titles. Given its status as a new graduate program title on the Irvine campus, CCGA submits its approval of the Master of Finance degree program for formal approval by the Assembly of the Academic Senate. For your information, I have included our lead reviewer's final reports as enclosures.

Respectfully submitted,

Kwai Ng
Chair, CCGA

cc: Shane White, Academic Council Vice Chair
CCGA Members
Hilary Baxter, Academic Senate Executive Director
Michael LaBriola, Academic Senate Analyst
William Parker, Irvine Division Senate Chair

Natalie Schonfeld, Irvine Division Senate Executive Director
Adriana Collins, Irvine Division Senate Analyst

Enclosures: (2)

UC Irvine proposal to establish a self-supporting Masters of Finance degree program.

Jan de Vries, UC Berkeley

Overview

UC Irvine has submitted a proposal to establish, a self-supporting masters degree program in Finance. The Masters of Finance (MF) program would be operated by the Merage School of Business. It would be under the supervision of the School's dean and an existing faculty committee, the Masters Curriculum Committee, that now oversees the MBA degree programs (full time, fully employed, executive) and a self supporting Masters in Professional Accountancy. The MF program is to be administered by an associate dean, with operations under the control of a program director, an associate director of admissions, a career counselor, and two program assistants.

The Masters of Finance degree program is designed to prepare its students for quantitative and analytical functions in the field of finance, which includes mutual funds, hedge funds, pension management, real estate investment, and wealth management more generally. UC Irvine is adjacent to Newport Beach, a hotbed of such firms, and, of course, not far from the large finance center of Los Angeles. Finance is already a notable academic strength of the Merage School. It has two acknowledged leaders of the field (David Hirshleifer and Philippe Jorion) and a strong complement of ladder rank faculty in finance.

The new program expects to enroll 20-25 students in its first year, growing to a steady state enrollment of 80-100 by year four. The cost of the program will be set at $55K in the initial year, which is expected to be 2017-18, and the proposal claims that this self-supporting program will cover its costs with an enrollment of 22. That is, the proposal believes it will be at least marginally profitable from inception.

The curriculum

The MF program is designed for completion in one year (four quarters) of full time study. Students will complete a core curriculum of six quarter courses and supplement this with seven electives (52 units in all) to be chosen from 21 existing MBA courses. The core courses cover financial reporting, the foundations of finance (portfolio theory, asset pricing models, etc.), financial research methodology (applied econometrics) risk management, and derivatives, and conclude, in the summer quarter, with a capstone course. This course will require the students to organize in teams to work on an applied finance project, and conclude with a comprehensive examination.

The MF program differentiates itself from the MBA primarily by an emphasis on quantitative methodologies, and a de-emphasis on prior business experience. Applicants are "encouraged" to have a background in calculus, intermediate statistics, and probability. They are expected to be drawn from either current undergraduates or holders of the BA with up to five years of professional experience who have maintained at least a 3.0 GPA as undergraduates and score sufficiently on the GMAT or GRE exams (and, where relevant a score of at least 80 on the TOEFL). Admission will be by "comprehensive review" rather than by quantitative cut offs on most of these elements.

The faculty and the instructional program

The proposal says very little about how the new courses MF courses will be staffed. It does state that at the outset three of the core courses will be taught by ladder faculty, two by continuing lecturers, and three by part-time lecturers. (This makes eight courses, while there are only six core courses in the program.) The three courses taught by ladder faculty will not detract from state-supported programs, it is said, because of current excess capacity.

As enrollment grows from 20-25 to 80-100 the core courses will require two sections each, and the proposal notes that this scaling-up will be contingent on additional hiring of finance faculty. Indeed, the proposal expects to use revenues from the MF program to finance four new ladder faculty FTE, three of which will be filled by finance specialists. By this strategy, teaching in the program will shift from adjuncts and part time lecturers to ladder faculty: in year three the financial model projects 15 courses, 12 of which to be taught by ladder faculty.

The statements above are my interpretation of the fine print in the financial spreadsheets. Unfortunately, the proposal offers no discussion of how the new MF program will compensate teaching by ladder faculty and how extensive this participation can be expected to be in steady state. For example, the capstone course will always be offered in the Summer quarter; who will be responsible for this course? Likewise, with the current excess capacity: does this mean ladder faculty will teach MF core courses as part of their general (state supported) teaching requirements?

There is also some ambiguity about the full time nature of the program. The proposal speaks of encouraging students to take on internships and practicums. To encourage this, the core courses will be taught in the evenings and, perhaps, on weekends. This, presumably, will not be the case for most electives, which are primarily MBA courses. If all instruction is in the evenings, the 500+ hours of instruction will take up at least 2.5 hours of every day of instruction, all concentrated in the evening hours, which seems unlikely if not undoable.

The employment market for the Masters of Finance degree

Until recently most students wishing to prepare for a career in the financial sector pursued an MBA with a concentration in finance. Over the past twenty years the field of finance has become much more technically developed, thanks in large part to the work of Nobel Prize winners such as William Sharpe, Myron Scholes, and Fisher Black. Their influence has been such that they have been blamed for the banking crisis and general financial instability of the past decade. Their influence also brought many young people to the field, often known as "quants", with academic backgrounds in mathematics and statistics, who soon overshadowed coworkers with traditional MBA training. Professor Longstaff's letter speaks, of a growing divide between MBAs, with more general training and relatively light quantitative skills, and these finance specialists. Business schools have sought to get back in the game by developing new degree programs focused on finance that are more quantitatively rigorous than an MBA with a finance concentration. In the UC System, UC Berkeley and UCLA both have established Masters of Financial Engineering programs, while UCSD and UC Riverside have established Masters of Finance programs. There are at least seven other MF programs offered by other California universities and many more nationally. All of the UC MF programs (except UC Riverside?) are self-supporting.

Until very recently, the financial sector has grown faster than the economy as a whole and provided expansive employment opportunities for students trained in asset management and risk management. As noted above, UC Irvine is adjacent to a major center for the financial industry and the real estate sector. The Merage School has cultivated ties with these firms and the proposal is bolstered by encouraging letters from several Newport Beach employers, including Charles Schwab and Wells Fargo.

<u>Student interest in Masters of Finance degree programs</u>

If the employer demand for the products of MF programs is large and possibly growing, the student demand for such programs is a bit more complicated. The Business School commissioned a survey-based study of potential student interest. The results were strongly encouraging: 67 percent of those surveyed expressed "purchase intent", indicating strong or moderate interests in enrolling in the proposed MF program. The proposal also invokes the recent application histories of the two existing MF programs at nearby UCSD and UC Riverside: in 2015 they <u>enrolled</u> 8.3% and 17.4% of applicants, respectively. The proposers interpret this as a sign that the market is far from saturated. Indeed, they hint that new entrants such as UC Irvince will expand the market rather than create intensified competition. A more relevant metric would be the percentage of applicants <u>admitted</u>. Here matters at the nearby competitors looks less rosy, since UC Riverside admitted 61 percent of its applicants, and secured a yield of under one-third. Unless the applicant pool for UC Irvine is markedly different than that available to the other programs, the introduction of a new program may undermine the financial viability and reputation of all of them.

<u>The Business Model</u>

The proposal foresees a very profitable MF program. The market survey identified an "optimal" pricing point slightly in excess of the $55K that will be charged – in the first year,; tuition increases of 5% per year are built into the calculations – for the four-quarter program. As reviewers put it, $55K is the going rate. However, only 7.5 percent of this is intended be set aside as "return to aid", leaving a net tuition per student of $50,880. The proposal believes it will pass the break-even point at 22 students, or about $1.1 million of expense. Consequently, at steady state, with 80-100 students, the program will generate between $4 and $5 million. From this revenue stream, the administrative and instructional costs will be covered and four new ladder faculty FTE will be supported. The costs for space and the use of labs appear to be absorbed in the general overhead of the Merage School. The spreadsheets submitted with the proposal, do not extend beyond year three of the program's build out, but they envision large net profits.

<u>Critique of the proposal</u>

I approached five professors of business administration, all specialized in finance and most with direct familiarity with masters of finance programs, for evaluations of the UC Irvine proposal. Thus far, four have submitted letters.[i] They are all positive with respect to the quality of the Merage School of Business faculty and its capacity to support a high quality program. Christofferson, for example, notes that asset management, risk management, and real estate analysis are all strengths of the school and should allow the new program to differentiate itself from competitors. Walden also emphasized the strong faculty and felt the proposed curriculum is well designed. Wei Jiang also praised the faculty and felt the curriculum was "very solid".

However, they all had more or less critical comments to make about the marketing of the new MF program, which is of particular importance for a self-supporting program.

Wei Jiang goes to the heart of the matter, I believe, when he notes that the core curriculum, while "solid", is ambiguous about its target student population. Is it
A. an alternative MBA-type program for people with little business experience,
B. a business "add-on" credential for undergraduates with non-business majors, or
C. a "stepping stone" program, by which he means a vehicle for international students to gain access to US employment opportunities in the financial sector?

The proposal appears to focus on a mix of A and B. It makes specific reference to current undergraduates and recent graduates as the target recruiting ground, and refers only casually to the possible enrollment of international students, who would be expected to return to their home countries for employment. But both Wei Jiang and Walden emphasize that MF programs now operating are populated almost entirely by international, primarily Chinese, students. UC Riversides applicants are 96% international; UCSD's 90%, and UC Berkeley's Master of Financial Engineering "only a bit less", according to Walden. On what basis does the School of Business believe it will function in a fundamentally different environment?

This brings us back to the design of the curriculum. The stated purpose for a stand-alone MF degree (rather than an MBA with finance emphasis) is the ability to develop stronger quantitative analytical skills. The program can better screen applicants for these skills and can develop them to a higher level in the dedicated core courses. But all four reviewers raised questions about the quantitative "rigor" of the proposed program:

Longstaff found the MF core courses to cover the material often included in the finance courses of MBA programs, with the addition of a computational course (the financial research methodology course?). She recommended that there be more focus on computer programing and econometrics.
Christofferson expressed worry that a 12-month program requires strong quantitative skills at entry, yet the proposal speaks rather vaguely about an "encouraged" background in calculus and statistics.
Wei Jiang was most emphatic on this point: "the technical depth of the curriculum is not obvious." He went on to note that if the degree program is not sufficiently technical, it will not receive the STEM designation required to allow international students to remain in the US after graduation without first having secured an H1 visa. He regards this as critical to attracting high quality international students to the program. Which brings us back to the intended applicant pool.

I am left with the impression that the MF program faces a choice: if it wishes to attract international students it should maintain a high standard for quantitative preparation and emphasize these skills in its core program. This will distinguish the program sharply from the MBA program and make more difficult the integration of students from the two programs in elective courses. Walden claims, from personal experience in the Berkeley Financial Engineering program, that the two types of students do not mix very well. But, if Wei Jiang is correct, it will give access to a large pool of well-prepared international students. On the other hand, if it wishes to attract primarily domestic students, it will need to focus on current and recent undergraduates with a variety of non-business majors who want to enter the business world quickly and would be content with entry level positions in finance. Wei Jiang sees the employment prospects for domestic students as strong, since they are not subject to H1 visa quotas. Christofferson believes that the market for such students will be bifurcated: those who seek asset management positions, which may not grow in number, will find competition from MBAs, who want such positions; this leaves risk management positions for the products of MF programs, since MBAs have little interest in them and increased regulation will generate new work in this area. A new MF program seems to face the choice of taking the high road and the low road, and the reviewers seem agreed that the School needs to be clear about which road it intends to travel.

From this perspective the market survey commissioned by the School of Business seems oddly misdirected, since it focused on the intentions of potential students who make up but a small fraction of applicants to existing MF programs. The enthusiastic response of the polled individuals may be explained by the methodology, which was to select from a pool of 30,000 potential participants the 100 who were known by their characteristics to be most inclined to be interested in such a program. One wonders what credence to place in the results.

Another matter of concern to all of the referees is the provision made for student placement. Longstaff and Christofferson stated that placement, which is costly, is crucial to the success of the program, and Walden spells out why this is so: the reputation of such a program is directly related to its placement record. A “fat tail” of weak students will undermine reputation, which will erode applications by qualified students.

Conclusions and questions

The Merage School of Business has a strong finance group and is well qualified to operate a Masters of Finance program. It has access to a significant local market for its graduates and it has designed a one-year curriculum that most reviewers found credible.

However, I do not believe the proposal should be approved until we have clarification in the following areas

1. What is the target applicant pool? The reviewers give a very different picture of the realities of student interest than is provided by the proposal. It is essential for the success of the proposal and for the well being of existing UC programs to have clarity on this subject.
2. How demanding will the curriculum be? Given the one-year length of the program, students will need to be ready for advanced quantitative work at the outset. Is a “recommendation” to have studied calculus sufficient? Just how much more advanced than MBA finance courses will the program be? Does the program seek STEM certification?
3. Has the school devoted adequate resources to the placement of MF graduates? Has it devoted adequate resources to financial aid?
4. How will the program be staffed under the restrictions of SSGPDP (self supporting graduate professional degree programs) and what amount of instruction and leadership will be provided by the School’s ladder faculty? This is particularly unclear for the later years of the program, as it grows to its full student numbers.

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[i] Evaluations have been received from the following:
Frances Longstaff, Allstate Professor of Insurance and Finance, Anderson School of Management, UCLA.

Johan Walden, Associate Professor of Finance, Haas School of Business, UC Berkeley. Chair of the Masters of Financial Engineering Program Committee.

Peter Christofferson, TMX Chair of Capital Markets, Joseph L. Rotman School of Management, University of Toronto.

Wei Jiang, Arthur F. Burns Professor of Free and Competitive Enterprise, Columbia Business School. Vice Dean for Curriculum and Instruction.

Reflections on the UCI response to the CCGA letter of 20 August.

Jan de Vries, UC Berkeley

The UC Irvine Merage School of Business response to the CCGA letter of 20 August 2016, was prepared by Associate Professor Christopher Schwarz and Senior Associate Dean Mary Gilly. Below, I summarize the substance of their responses to the four sets of questions put to the proposers in the CCGA letter and conclude with my thoughts on the adequacy of this response.

1. *What is the target applicant pool? The reviewers give a very different picture of the realities of student interest than is provided by the proposal. It is essential for the success of the proposal and for the well being of existing UC programs to have clarity on this subject.*

Response: the technical skills required of a Master of Financial Engineering are considerably higher than those needed for a Master of Finance degree. [By implication: MFE programs rely heavily on international students because the demanding mathematical skills exclude most domestic students. The bar will be set much lower in the proposed MF program]

Our target applicant pool is a mix of domestic and international students interested in "adapting their skills and applying them to a business context in the area of finance".

We are in a unique position to target more domestic students [than other programs] because we can attract students from UCI undergraduate business majors and other UC campuses.

Our MPAc (Master of Professional Accountancy) is about 50-50 domestic and international.

2. *How demanding will the curriculum be? Given the one-year length of the program, students will need to be ready for advanced quantitative work at the outset. Is a "recommendation" to have studied calculus sufficient? Just how much more advanced than MBA finance courses will the program be? Does the program seek STEM certification?*
   There is also some ambiguity about the full time nature of the program. The proposal speaks of encouraging students to take on internships and practicums. Is this intended to be an expected part of the student's MF experience? Will the School arrange for such practical experience? And, can a rigorous program we achieved in one year of evening courses?

Response: We will perform a “comprehensive holistic review” in order to admit “strong and diverse cohorts”.

We do not plan to apply for STEM certification now

The model of evening study plus day-time internships is drawn from the MPAc degree, and works well there.

The practicum in the final, summer quarter, is modeled on the current experiental learning class in our full time MBA program. Finance faculty are committed to being available to oversee these projects both through face to face meetings and via Skype.

3. *Has the school devoted adequate resources to the placement of MF graduates? Has it devoted adequate resources to financial aid? Has it, with reference to the internships and practicums mentioned above, devoted adequate resources to linking entering students with private sector experience?*

Response: The MPAc program has one career counselor to serve 80-100 students and this staffing model has achieved a 64% placement rate. It should work similarly for the MF program.

We will “leverage” our relations with area firms to secure sufficient internships.

We agree that financial aid is a critical issue. We will raise return to aid from 7 to 10%.

4. *How will the MF program be staffed under the restrictions of SSGPDP (self supporting graduate professional degree programs) and what amount of instruction and leadership will be provided by the School’s ladder faculty? For example, the curriculum design places the concluding capstone course in the summer quarter. Will ladder faculty play a role in this course?*

Response: The school has much experience with running self supporting programs. It now has four SSGPDP programs: Executive MBA; Fully-employed MBA; Health care executive MBA; MPAc.

Our current practice: some faculty are assigned SSGPDP courses as part of regular teaching. The program covers the cost of a portion of salary., while some faculty prefer to teach in overload. Senate faculty are expected to account for 60-70% of MF teaching at “build-out”. By then, the four new faculty FTE funded by the MF program will make this level of faculty staffing possible. Since ladder faculty are sufficiently involved in the existing SSGPDP programs, we foresee no special problems with the proposed program

Faculty will be "involved" in the summer practicum.

Evaluation of the UC Irvine response.

Overall, the response does not reveal a deep engagement with the issues raised by the external reviewers and summarized in our letter. The school presently operates four SSGPDP programs and feels confident that the addition of a fifth – the Masters of Finance (MF) program now under review – does not raise questions that they have not dealt with already. The response letter makes frequent reference to the existing Masters of Professional Accountancy (MPAc), which seems to serve as a template for the current proposal. The mix of evening courses and daytime internship, the summer quarter "capstone" practicum, and the mix of adjunct and ladder faculty teaching envisioned for the MF proposal are all modeled on the existing MPAC program. Since the MPAc works to the school's satisfaction, it sees no reason to worry much about the general design of the proposed MF program.

The response letter does offer clarification on the matter of the target applicant pool. It is clear that the school does not expect to rely on foreign students whose interest is based primarily on easy access to the US employment market. The school will not make calculus a formal requirement for admissions and it will not seek STEM certification. On the other hand, it will seek a diverse student body through the deployment of a "comprehensive holistic review" in admitting students. This seems designed to ease students into the program whose motivation is to improve their employability by adding a one-year business-oriented degree to their existing undergraduate major. It's aim is to prepare these students for entry level positions at financial firms rather than for more responsible positions in financial analysis and investment strategy. The school's response places even more emphasis that the original proposal on their view that UC Irvine undergraduates will be a – if not the, -- primary market for applicants. Finally, the response letter commits the school to returning 10 percent of tuition revenue to student aid. The original proposal had set this at 7 percent.

The external reviewers did not express grave concerns regarding the design of the MF curriculum. One had wondered how the MF courses could be distinguished from the MBA courses intended for students in the financial track of that program and the school's response indicates that there is, indeed, not much difference between them. If we are willing to concede that the school itself is the best judge of its curriculum decisions regarding the proposed MF, and if we are willing to agree with them that their experience with SSGPDP programs should calm our concerns about the practicalities of operating a high-quality self-supporting Masters of Finance, then the only serious matter of concern that remains is the adequacy of the school's applicant pool analysis.

What remains is the viability of the school's marketing analysis. The market survey it commissioned (not discussed in the response letter) inspires little confidence. The experience of UC Riverside n UC San Diego (discussed in our letter of 29 August) raises serious questions about the buoyancy of the demand for programs of this kind. The large differences found in the characterizations of student interest offered by the school and by external reviewers raise further concerns about the realism of the marketing analysis.

If the CCGA gives its approval to the program as is, I believe a third-year review of the adequacy of the school's marketing analysis should be required, with a view to re-assessing the current 'holistic' admissions process, the level of quantitative training actually obtained by program, and the placement record achieved.