The University of North Carolina at Charlotte

Ph.D. in
Business Administration

Request for Authorization to Establish

THE UNIVERSITY OF NORTH CAROLINA
Request for Authorization to Establish a New Degree Program

INSTRUCTIONS: Please submit five copies of the proposal to the Senior Vice President for Academic Affairs, UNC Office of the President. Each proposal should include a 2-3 page executive summary. The signature of the Chancellor is required.

Date April 25, 2005

Constituent Institution: The University of North Carolina at Charlotte

CIP Discipline Specialty Title: Business Administration and Management, General

CIP Discipline Specialty Number: 52.0201 Level: B ☐ M ☐ 1st Prof ☐ D ☒

Exact Title of Proposed Program: Ph.D. in Business Administration

Exact Degree Abbreviation (e.g. B.S., B.A., M.A., M.S., Ed.D., Ph.D.): Ph.D.

Does the proposed program constitute a substantive change as defined by SACS? Yes ☐ No ☒

a) Is it at a more advanced level than those previously authorized? Yes ☐ No ☒

b) Is the proposed program in a new discipline division? Yes ☐ No ☒

Proposed date to establish degree program (allow at least 3-6 months for proposal review):

month August *year* 2006

Do you plan to offer the proposed program away from campus *during the first year of operation*?

Yes ☐ No ☒

If so, complete the form to be used to request establishment of a distance learning program and submit it along with this request.

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Executive Summary

The demand for finance Ph.D.s has increased dramatically over the past twenty years from both academic and professional sources. As business schools have grown in enrollment, the need for additional finance faculty has grown commensurately. Additionally, as quantitative methods and techniques have come to dominate financial analysis, strategy, and risk management, hiring by Wall Street and many government agencies has created a second major source of demand. These twin sources of demand have outstripped the capacity of business schools to produce an adequate number of Ph.D.s. This has resulted in a continuing shortage of finance Ph.D.s within academia.

The foremost mission of the Ph.D. in Business Administration with a Major in Finance will be to provide a research-oriented program that is designed to prepare graduates for teaching and research careers in academia. The program will include in-depth study in both theoretical and empirical aspects of the fields of finance, mathematics, and economics, together with training in pedagogy. Students will be expected to demonstrate mastery of the existing body of knowledge in finance and be able to develop new knowledge through original, independent research. With the educational background provided by the program, graduates will be qualified for tenure-track assistant professor positions at both national and international research universities and other educational institutions.

Although the primary goal of the program is to produce finance Ph.D.s for the academic market, the Belk College recognizes that some of the graduates will accept employment in the private sector. The strong analytical curriculum of the program will also meet a societal need by providing graduates the option to enter into careers in either academia or the financial services sector.

The educational goals of the Ph.D. in Business Administration with a Major in Finance are:

- To provide students with educational opportunities in finance, economics, and mathematical finance, culminating in a research-oriented Ph.D. in Business Administration with a Major in Finance
- To prepare for careers in finance and financial management services students who will lead in developing advances in the fields of finance, mathematical finance, and financial economics through theoretical and empirical research
- To involve students in the support and expansion of the base of research in rapidly growing fields related to business finance and financial management services in the Charlotte region, North Carolina, and across the nation and world
- To enhance the educational experience in business, finance, economics, applied mathematics and mathematical finance for all students, graduate and undergraduate, at UNC Charlotte

The program will require resources from both external and internal funds. UNC Charlotte's transition from a comprehensive institution to a Doctoral/Research University-Intensive institution will enable it to draw from expansion funds for partial support of the proposed program. Another source of partial funding is enrollment increase funding within the State appropriations. Additionally, UNC Charlotte's new status as a doctoral institution has attracted research-oriented faculty members and is leading to an increase in external research funds for support of graduate students. Internally, the University will provide support for administration of the program, graduate student support, and enhancement of library resources.

Individuals and businesses, especially in the financial services sector, have been contacted, and indications are that there is significant private support for a program of this type in the Charlotte region. The Charlotte Chamber of Commerce has endorsed doctoral programs at UNC Charlotte in its long-range plan for economic development in the city and region. The Ph.D. in Business Administration is viewed by the business community as an integral part of graduate education in the region. Funding from business sources will fund graduate assistantships, fellowships, data sources, computer facilities, as well as other needed resources. In addition, there are a number of funding possibilities through other arrangements with businesses and state government agencies, such as research grants and internships. It is anticipated that there will be significant sources of funding from external sources to support student fellowships, research, data acquisition, etc. Support from industry, state, and federal agencies, and UNC Charlotte's internal resources will be adequate for initiating and operating a highly respected Ph.D. program in Business Administration with a Major in Finance.

Despite the presence of other similar programs in the State, there is more than sufficient demand to justify another Ph.D. program in North Carolina, especially a program in business and finance in the Charlotte region. The Charlotte financial services community has asked UNC Charlotte to help fulfill this need for employees by providing graduate programs in finance. Thus, it is a natural progression for UNC Charlotte to develop and offer Ph.D.-level education in Business Administration with a Major in Finance.

It is anticipated the program will admit four to five full-time students per year and that the steady state of 15 total students will be reached as follows.

Projected enrollment in the proposed program for four years:

	Year 1 (2006-07)	Year 2 (2007-08)	Year 3 (2008-09)	Year 4 (2009-10)
Full-time	**5**	**9**	**12**	**15**
Part-time	**0**	**0**	**0**	**0**
TOTALS	**5**	**9**	**12**	**15**

I. Description of the Program

I.A The proposed new degree program

The foremost mission of the Ph.D. in Business Administration will be to provide a research-oriented program in business that is designed to prepare graduates for teaching and research careers in academia. The program will include core courses covering all business specialties, combined with an in-depth study in both theoretical and empirical aspects of the major and minor field. Students will also be provided with training in pedagogy. Students will be expected to demonstrate mastery of the existing body of knowledge in their major and minor field and be able to develop new knowledge through original independent research. With the educational background provided by the program, graduates will be qualified for tenure-track assistant professor positions at both national and international research and teaching universities and other educational institutions.

The proposed Ph.D. in Business Administration may eventually encompass majors in other business fields. However, this proposal is focused on the proposed initial major within the Ph.D. in Business Administration; namely, a major in Finance and Financial Management Services (referred to as Finance hereafter).[1] The program in Finance will include an in-depth study of both theoretical and empirical/statistical aspects of the fields of finance, mathematical finance, and financial economics.

The demand for Ph.D.s in Business Administration with Finance emphases has increased dramatically in the past three decades. In addition to increased academic and government demand, the business community, particularly the corporate, banking, insurance, real estate, and financial services sectors, has greatly increased its need for highly trained Ph.D.s in Business Administration with emphasis in Finance who are able to provide leadership in financial research, research in public policy, risk management, portfolio management, and investment strategies. Therefore, an additional goal of the Ph.D. program in Business Administration with a Major in Finance will be to prepare graduates for careers in the private sector. The curriculum of the program will be designed to provide the strong analytical training necessary to provide graduates with the option to choose career paths in either academia or private and government sectors.[2]

[1] Finance and Financial Management Services can broadly encompass all of the following specialties within the discipline: Financial Management, Financial Derivatives (including options and futures), Financial Engineering, Investments, Real Estate Finance, Insurance and Risk Management, Mathematical Finance, Multinational Finance, Personal Financial Planning, and Financial Institutions.

[2] Although similar skill sets are needed for financial research careers in both the academic and private sectors, students will be able to choose dissertation and other research topics that can provide them with any specific background requirements that are needed for their chosen career path.

I.B Educational objectives of the program

The educational goals of the Ph.D. in Business Administration with a Major in Finance are:

- To provide students with educational opportunities in finance, economics, and mathematical finance, culminating in a research-oriented Ph.D. in Business Administration with a Major in Finance
- To prepare for careers in finance and financial management services students who will lead in developing advances in the fields of finance, mathematical finance, and financial economics through theoretical and empirical/statistical research
- To involve students in the support and expansion of the base of research in rapidly growing fields related to business finance and financial management services in the Charlotte region, North Carolina, and across the nation and world
- To enhance the educational experience in business, finance, economics, applied mathematics and mathematical finance for all students, graduate and undergraduate, at UNC Charlotte

I.C Relationship of the program to other programs offered at UNC Charlotte

UNC Charlotte currently offers four graduate programs that are closely related to the proposed Ph.D. in Business Administration with a Major in Finance. These programs are the Master of Science in Mathematical Finance, the Master of Science in Economics, the Master of Business Administration, and the Ph.D. in Applied Mathematics. UNC Charlotte has designed the Ph.D. in Business Administration with a Major in Finance specifically to leverage the resources of the existing programs to achieve both synergies and economies of scale. The following sections explain how the proposed Ph.D. program will share courses, faculty, facilities, and other resources with the existing programs.

I.C.1 Courses

Students enrolled in the Ph.D. in Business Administration with a Major in Finance must satisfy coursework requirements in four categories: the Finance major, the Economics minor, the Research Support field, and the general Business Core.[3] Three of these areas, the Finance major, Research Support, and the Business Core utilize, courses that are also part of the existing programs.

[3] Complete descriptions of the coursework requirements for this program are presented in Section III.

The Finance major consists of six courses. Two of these courses will be cross-listed with similar courses taken by students in the Master of Science in Mathematical Finance and Master of Science in Economics programs. Specifically, Financial Economic Theory (BPHD 8200) will be cross-listed with Financial Economic Theory (FINN 6203), and Derivatives (BPHD 8240) will be cross-listed with Derivatives I – Financial Elements of Derivatives (FINN 6210). In addition, it is likely that the Advanced Seminar in Finance (BPHD 8650) may occasionally be cross-listed with Special Topics in Financial Services (FINN 6058) when the topics are appropriate for both Ph.D. and M.S. in Mathematical Finance students.

The purpose of the Research Support field is to ensure that students in the Ph.D. program acquire the technical skills needed to conduct independent academic research. For the Ph.D. in Business Administration with a Major in Finance, the Research Support field consists of three mathematics courses: Partial Differential Equations for Finance (MATH 8202), Stochastic Calculus (MATH 8203), and Numerical Methods for Financial Derivatives (MATH 8204). These three courses will be cross-listed with equivalent courses from the M.S. in Mathematical Finance and Ph.D. in Applied Mathematics programs (MATH 6202, MATH 6203, and MATH 6204).

The purpose of the Business Core is to ensure that all students graduating from the program have a general understanding of each of the business disciplines. All students will be required either to complete the Business Core or to demonstrate that they have previously competed similar coursework.[4] The Business Core will consist of eighteen semester hours in seven courses, each of which is also part of the Belk College of Business Administration MBA program. These courses are:

- Accounting and Financial Management (MBAD 5131)
- Foundations of Microeconomics (MBAD 5112)
- Foundations of Macroeconomics (MBAD 5113)
- Financial Management (MBAD 6152)
- Marketing Management (MBAD 6171)
- Management Policy (MBAD 6194) and
- Business Information Systems (MBAD 6121).

I.C.2 Faculty

The Ph.D. in Business Administration with a Major in Finance will use faculty who teach in other graduate programs in the Belk College and in the Department of Mathematics in the College of Arts and Sciences. Each faculty member identified in Section IV of this proposal as a participating faculty member already participates in at least one of the following programs: the Master of Science in Mathematical Finance,

[4] For example, a student that had previously earned an MBA would have most likely fulfilled this requirement in its entirety.

the Master of Science in Economics, the Master of Business Administration, or the Ph.D. in Applied Mathematics.

I.C.3 Facilities

The Ph.D. in Business Administration with a Major in Finance will be a relatively small program. As such, its need for facilities will be minimal: office space for any new faculty hired to teach in the program, office space for Ph.D. students on assistantship, and classroom space for the courses. UNC Charlotte and the Belk College have sufficient resources to meet these facilities needs. These resources are completely shared with all other programs offered by the Belk College.

I.C.4 Other Resources

Finance research is data intensive. The Belk College maintains subscriptions to the two predominant financial databases: the Center for Research in Security Prices (CRSP) database and the Compustat database. In addition, the Atkins Library maintains subscriptions to other finance and finance-related databases such as Mergent, Value Line online, and Lexus/Nexus. These resources are already in place to support the current graduate and undergraduate programs of the Belk College.

In addition to these established resources, the Belk College has recently made a significant investment in data resources. This investment includes acquiring data feeds from commercial data providers Bloomberg and Reuters, expanding the scope of data purchased from Compustat, and purchasing specialized databases including ExecuComp and the Mortgage Servicing News Database. These resources will be used by both the Ph.D. program and other graduate programs such as the M.S. in Mathematical Finance, the M.S. in Economics, and the MBA.

II Justification for the Program

II.A The Program's relationship to:

II.A.1 The institutional mission and strategic plan

The proposed Ph.D. in Business Administration with a Major in Finance is consistent with the vision statement, mission statement, and strategic plan of UNC Charlotte. The Vision Statement for UNC Charlotte states that "the goal of UNC Charlotte is to be a publicly supported Doctoral/Research University – Extensive in North Carolina early in the 21st Century." The establishment of a Ph.D. in Business Administration with a Major in Finance directly supports this vision. Similarly, UNC Charlotte's Mission Statement lists Finance as one of seven broad areas of concern for the Charlotte region to which UNC Charlotte is committed to devoting interdisciplinary resources. By utilizing the interdisciplinary resources of the Departments of Finance and Business

Law, Economics, and Mathematics, the proposed Ph.D. in Business Administration with a Major in Finance directly supports the achievement of this goal.

The Vision Statement for UNC Charlotte also notes that "UNC Charlotte has a special responsibility to build the intellectual capital of this region," and it lists as the number one strategic goal of the University: "to improve educational opportunities that respond to the intellectual and professional needs of the region." Given the importance of the finance industry to the economies of both Charlotte and North Carolina, establishing a Ph.D. in Business Administration with a Major in Finance is fundamental to UNC Charlotte meeting that goal. This proposed program will contribute directly to the region by providing graduates who are trained to enter high-level financial service industry careers that exist within the Charlotte region.

The proposed program also meets the objectives for the current five-year academic plan for UNC Charlotte. This academic plan specifically includes the Ph.D. in Business Administration with a Major in Finance as a goal. The plan states that "Charlotte has emerged as one of the nation's leading centers for business, particularly in banking, insurance, financial services, real estate and retail trade. UNC Charlotte must be prepared to serve the employment market in these sectors and to address the multiple needs of the business community for continuing professional education and applied research."

The program also meets the goals of the Belk College. The five-year strategic plan for the College states as one of its goals, "to be recognized as the provider of outstanding academic programs in the area of financial services at the bachelor's, master's and doctoral levels and to be recognized nationally and internationally for research in the financial services area." The proposed Ph.D. in Business Administration with a Major in Finance will allow the Belk College to meet this strategic goal.

II.A.2 Student demand

There is a strong student demand for a Ph.D. in Business Administration with a Major in Finance at UNC Charlotte. This demand is seen in a number of ways. First, student demand for the existing program that is most closely related to the proposed Ph.D., the Master of Science in Mathematical Finance, is high. Second, some students are already writing finance-related dissertations in the Applied Mathematics Ph.D. program. Third, graduate advisors in the Belk College routinely receive inquiries from potential students about whether UNC Charlotte has a Ph.D. in "finance."

The Master of Science in Mathematical Finance is the existing program at UNC Charlotte that is most similar to the proposed Ph.D. program. The demand for this program, which was established in fall 2003, is strong. The program has already graduated seven students, and has a current enrollment of 26 students. As of March, 2005, the program has over 30 applications pending for the summer and fall 2005 semesters. The students who are being admitted to the program have strong academic backgrounds and credentials. Although the M.S. in Mathematical Finance program will

accept either the GRE or GMAT, the majority of applicants take the GRE. The average GRE quantitative score of students enrolled in the program is 738. Of those students in the program who have taken the GMAT, their average score is 670. Both the average GRE and GMAT scores correspond to roughly the 90th percentile of students taking the exam. Perhaps the strongest evidence of the demand for this type of education, however, is provided by the fact that of the 26 students currently enrolled, three already hold Ph.D.s (usually in math or engineering), and eleven others already hold either M.S. or MBA degrees.

In the past several years, a number of students have entered the Applied Mathematics Ph.D. program and elected to write dissertations that were a cross between mathematics and finance. During their coursework, these students took courses in finance and economics from the Belk College. Currently a finance faculty member is serving as a member of an Applied Mathematics dissertation committee. While the majority of these Applied Mathematics doctoral students' interests and training lie firmly within mathematics, they do serve to illustrate that there is demand for doctoral-level finance at UNC Charlotte.

Finally, the program directors of the M.S. in Mathematical Finance, M.S. in Economics, and MBA programs each report that they routinely receive inquiries from potential students about the possibility of enrolling in a finance doctoral program at UNC Charlotte. Indeed, the Program Director of the M.S. in Mathematical Finance reports receiving between five and ten inquiries each semester about the possibility of UNC Charlotte establishing a Ph.D. in Business Administration with a Major in Finance.

Individually each of these facts presents solid evidence of a significant student demand for a Ph.D. in Business Administration with a Major in Finance at UNC Charlotte. Taken together, they present a compelling case that the demand for the proposed program will be strong. This demand will allow UNC Charlotte to be highly selective in its admissions to the program.

II.A.3 Societal need

The demand for finance Ph.D.s has increased dramatically over the past twenty years. This demand has come from both academic and professional sources. As business school enrollments have grown, the need for additional finance faculty has grown commensurately. Additionally, as quantitative methods and techniques have come to dominate financial analysis, strategy, and risk management, hiring by Wall Street, commercial banks, and many government agencies has created a second major source of demand. These twin sources of demand have outstripped the capacity of business schools to produce an adequate number of Ph.D.s. This has produced a continuing shortage of finance Ph.D.s within academia. The following sections address these two areas of demand, and offer estimates of the number of finance Ph.D.s that the market will demand in the future.

Academic Demand

Nationally the academic demand for finance Ph.D.s has been very strong, and shows every indication of increasing. This demand has historically been caused by growth in business school enrollment and especially in enrollment in finance courses. Over the past two decades, the explosive growth of MBA and undergraduate finance programs has created a need for a commensurate increase in finance faculty. Additionally, a second source of academic demand is rapidly developing: replacements for retiring finance faculty. Because business schools are relatively recent additions to most universities, their faculty has never undergone large-scale retirements. It appears almost certain that in the next decade this will change. Thus, the demand for finance Ph.D.s will only increase. Further compounding the issue is that there has been a dramatic reduction in the production of Ph.D.s by business schools. The following sections address each of these issues.

Demand and Growth in Business School Faculties

The growth in demand for business education has been dramatic, particularly at the MBA level. In the 2001-2002 academic years, 281,330 bachelor's in business administration degrees were awarded, which was over twenty percent (21.8%) of all bachelor's degrees conferred by U.S. universities. In that same time frame, 120,785 MBA degrees were conferred, more than one-quarter (25.05%) of the total master's degrees awarded by U.S. universities.[5] Although these numbers are large, what is notable is their growth rate, especially at the master's level. In 1970, U.S. universities conferred only 25,977 master's degrees in business.[6] By 1980, that number had more than doubled to 57,391. By 1990, that number had risen to 78,255.[7] From 1990 through 2002, the growth rate in MBA conferrals was 3.7 percent per year.[8]

To service this influx of students, business schools have had to increase both class sizes and the size of their faculties. Even with the best efforts of business schools, this has been difficult. The Association to Advance Collegiate Schools of Business (AACSB), the primary accrediting body for business schools, notes that as of 1999, roughly five percent of all finance positions were unfilled, and that business schools expect an annual growth rate of approximately five percent in the number of finance positions.[9]

According to the National Center for Education Statistics, as of 1998 there were approximately 4,970 faculty members who held Ph.D.s in finance.[10] Based on the conservative assumption that the growth rate in faculty will more closely mirror the growth rate in business school enrollments (3.7%) rather than the five percent rate observed by AACSB, by 2025 the number of finance faculty needed by business

[5] Source: Digest of Educational Statistics, 2003, US Department of Education, 2003. Table 252. http://nces.ed.gov/programs/digest/d03/

[6] We note that in the early 1970s many of the master's degrees would have been M.S. or M.A. degrees in specific disciplines such as accounting or economics.

[7] Source: Digest of Educational Statistics, 2001, US Department of Education, 2001.

[8] While business schools continue to confer some M.A. and M.S. degrees, the overwhelming majority of the degrees conferred, and virtually all of the growth, has been in MBA degrees.

[9] Source: *AACSB Newsline*, Spring , 2000.

[10] Source: National Center for Educational Statistics, *National Survey of Postsecondary Faculty1998*.

schools will be 13,255. If one were to assume only a two percent growth rate in faculty, a rate considerably lower than has happened historically, the number of finance faculty needed by 2025 will be 8,483. Growth in business school faculty, therefore, is likely to increase the demand for finance Ph.D.s by 3,000 to 7,000 people over current levels during the next twenty years.

Demand and Faculty Retirements

The growth in the demand for faculty in business schools has historically been almost entirely driven by growth in the schools themselves. Business schools, at least in their current size and scope, are a relatively recent phenomenon, and many have not yet experienced a period of significant faculty retirements. As AACSB noted in 1998, faculty retirements are becoming more common as "…a cohort of faculty who started teaching in the 1950s and '60s approach retirement age."[11] The scale of the retirement problem can be seen in data available through the National Center for Education Statistics. The average age of the 4,970 faculty holding finance Ph.D.s identified by the 1998 "National Survey of Postsecondary Faculty" is 47.58 years, and the average date for the awarding of their doctoral degree was 1983. Assuming that the average faculty member will work until age 67, this implies that over the next twenty years, universities will have to find replacements for roughly 2,500 finance faculty members. This will be in addition to the growth in faculty positions that will also occur. The AACSB notes that 30 percent of all business faculty members are over age 55. Assuming that this distribution holds for finance faculty as well, this implies that U.S. universities must graduate over 1,500 new Ph.D.s in finance in the next ten to twelve years to replace retiring faculty.[12]

Based upon the estimates of the growth in business school faculty size and of faculty retirements, it appears that U.S. universities must produce between 5,500 and 9,500 new Ph.D.s in finance over the next twenty years, just to satisfy the demand of academic institutions. This equates to between 275 and 475 finance Ph.D.s per year. This greatly exceeds the capacity of existing U.S. universities with Ph.D. programs with majors in Finance.

Ph.D. Production and the Current Shortage of Finance Ph.D.s

Over the past decade there has been a dramatic scaling back in the number of finance Ph.D.s created. In fact, the number of finance Ph.D.s conferred in 1998 was slightly more than 61 percent of the number conferred in 1994. There is little evidence that this trend is changing.

The primary reason for the reduction in Ph.D. production has been a redirection of resources to MBA and Executive MBA programs, caused by the tremendous demand from students and profitability of those programs. A lack of resources, especially for public institutions, has caused business schools to focus more on master's programs that often generate resources and less on Ph.D. programs that often use resources. In

[11] *AACSB Newsline*, 1998.

[12] *Management Education at Risk*, Report of the Management Education Task Force to the AACSB Board of Directors, August 2002.

fact, Zimmerman (2001) notes that top business schools have reduced the size of their doctoral programs by roughly 25 percent.[13] For the four academic years 1997-1998 through 2000-2001, U.S. universities conferred a total of 299 Ph.D.s in finance, or an average of 75 new Ph.D.s per year. Clearly this rate of Ph.D. production cannot meet the needs for future business schools faculty.

The low rate of Ph.D. conferrals creates not only long-term problems for business schools, but also immediate problems. The current job market for finance academics illustrates this. The job market for new finance Ph.D.s largely occurs at two academic meetings: the Financial Management Association meetings, held in October, and the American Finance Association meetings, held in early January. As a service to its members, the Financial Management Association (FMA) publishes position announcements from universities as well as resumes of job candidates. For 2005, the FMA *Directory of Positions Available* lists 223 academic positions. The FMA *Resume Book* lists 145 resumes.[14] Thus, the current demand for finance Ph.D.s is roughly 1.5 times the current supply of finance Ph.D.s. This means that a significant number of positions will either go unfilled or will be filled by hiring faculty away from other institutions.

Private Sector Demand

As previously noted, U.S. universities must produce between 5,500 and 9,500 finance Ph.D.s over the next twenty years to meet the demands for faculty. To compound the problem, the private and government sectors also demand finance Ph.D.s. Commercial banks, investment banks, and government agencies drive this demand. Over the past twenty years the field of finance has undergone a major transformation: it has become increasingly quantitative and mathematically driven. These are areas where finance Ph.D.s tend to have strong skills; the private sector has realized this and has begun hiring significant numbers of finance Ph.D.s.

Estimating the private sector demand for finance Ph.D.s is difficult, as there is no central repository for data on private-sector hiring of Ph.D.s. It is well known that almost all investment banks, and most large commercial banks, routinely hire finance Ph.D.s into senior staff and managerial positions. Given the very important role that banking plays in the Charlotte and North Carolina community, this creates even stronger demand for finance Ph.D.s produced by the program proposed here.

The private sector's demand for finance Ph.D.s further reduces the pool of available candidates for academic positions. AACSB, in its report "Management Education at Risk," notes that only 62 percent of U.S. business doctoral candidates plan to enter the academic labor market. While the AACSB statistic is for business doctoral students in general, there is reason to believe that more of the candidates within the subset of finance doctoral students enter into industry (nonacademic) careers. The implication is

[13] Zimmerman, J. L, *Can American Business Schools Survive?*, Working Paper FR 01-16, Bradley Policy Research Center, University of Rochester, September 2001..

[14] We note that some of the resumes listed are for candidates that have graduated in the past and are seeking to find another job. Thus, the shortage of new Ph.D.s is understated.

that U.S. universities must produce between 9,000 and 15,000 finance Ph.D.s in order to fill the projected 5,500 to 9,500 faculty positions over the next twenty years.

Summary of Need for Finance Ph.D.s

The demand for finance Ph.D.s comes from two separate sources: the academic market and the private sector market. Growth in business school enrollments has created tremendous demand for new faculty at a time when the production of finance Ph.D.s has dropped dramatically. A significant portion of the current stock of finance faculty is nearing retirement, and will have to be replaced. The private sector marketplace hires a significant number of finance Ph.D.s.

There is short-term demand for finance Ph.D.s, and there is strong evidence for increased demand over time. Business schools cannot even meet the current demand for finance Ph.D.s, and show no signs of significantly increasing the production of Ph.D.s in the near future. Based on this analysis, it is anticipated that there will be more than sufficient demand for finance Ph.D.s produced by UNC Charlotte under the proposed program.

How the Proposed Program Meets the Need

The foremost mission of the Ph.D. in Business Administration with a Major in Finance will be to provide a research-oriented program that is designed to prepare graduates for teaching and research careers in academia. The program will include in-depth study in both theoretical and empirical aspects of the fields of finance, mathematics, and economics, together with training in pedagogy. Students will be expected to demonstrate mastery of the existing body of knowledge in finance and be able to develop new knowledge through original, independent research. With the educational background provided by the program, graduates will be qualified for tenure-track assistant professor positions at both national and international research universities and educational institutions. The finance Ph.D.s developed in this program directly meet the needs of the academic marketplace.

Although the primary goal of the program is to produce finance Ph.D.s for the academic market, the Belk College recognizes that some of the graduates will accept employment in the private sector. The strong analytical curriculum of the program also meets a societal need by providing graduates the option to enter into careers in either academia or the financial services sector.

II.A.4 Impact on existing undergraduate and/or graduate academic programs

The proposed Ph.D. in Business Administration will build upon and expand the graduate programs in the Belk College, and will significantly enhance the instructional and research programs of the entire College. Presently the Belk College offers the following graduate programs: three master's degrees (Master of Business Administration, Master of Science in Economics, and Master of Accountancy); and, the Departments of Finance and Business Law and Economics in the College are operating a master's program in Mathematical Finance jointly with the Department of

Mathematics. The College also jointly offers, with the College of Information Technology, a Ph.D. in Information Technology. However, the College's participation in the IT Ph.D. is largely limited to the Department of Business Information Systems and Operations Management. In addition, the Department of Economics currently teaches two core courses for the Ph.D. program in Public Policy and two core courses for the Master of Health Administration program.

The proposed Ph.D. in Business Administration with a Major in Finance will improve both the scope and quality of instruction available at the University and within the Belk College. In addition, it will enhance the research environment of the University and College, and it will create synergies with the Master of Science in Mathematical Finance and the Master of Science in Economics programs.

The proposed program will improve the scope of instruction available by expanding the array of programs offered by UNC Charlotte at the doctoral level. This program will make an important contribution to UNC Charlotte in its mission to provide excellent graduate-level education to professionals in the Charlotte region. In this respect, the program will provide educational and economic advantage to the region. The Mission Statement of UNC Charlotte specifically identifies Business and Finance as one of its broad areas of concern to the region. This program will contribute directly to the region by providing graduates trained to enter high-level financial service industry careers that exist within the Charlotte region.

The proposed program meets the objectives for UNC Charlotte's current five-year academic plan, which includes the Ph.D. in Business Administration with a Major in Finance as a goal and states, "Charlotte has emerged as one of the nation's leading centers for business, particularly in banking, insurance, financial services, real estate and retail trade. UNC Charlotte must be prepared to serve the employment market in these sectors and to address the multiple needs of the business community for continuing professional education and applied research."

The Belk College will be able to achieve some synergies and efficiencies between two of the master's programs in which it participates—the Master of Science in Mathematical Finance and the Master of Science in Economics—and the proposed Ph.D. in Business Administration with a Major in Finance. In particular, the College will be able to use the data and computational resources of the Ph.D. program within the master's programs. Further there will be some cross-listing of courses between these master's programs and the Ph.D. program.

Finally, the proposed Ph.D. program allows the Belk College to meet one of its strategic goals. The five-year strategic plan for the College states as one of its goals, "to be recognized as the provider of outstanding academic programs in the area of financial services at the bachelor's, master's and doctoral levels and to be recognized nationally and internationally for research in the financial services area."

The Finance major of the Ph.D. in Business Administration will have a positive impact on, and synergy with, the Master of Science in Economics and the Master of Science in Mathematical Finance. These master's programs will be able to share some core courses with the Ph.D. program. Additionally, the presence of the Ph.D. program will further enhance the already high quality of students attracted to the master's programs, in that the ability to pursue a Ph.D. in Business Administration with a Major in Finance may serve as an effective recruiting tool. For example, graduate students in these programs will have much greater opportunities to be directly involved with the research programs of the faculty. As more master's students get involved with research programs, some of them will be interested in pursuing a Ph.D. in Business Administration. Thus, the master's programs could serve as an excellent feeder system into the Ph.D. program. Also, the existence of the master's programs will help in attracting and recruiting students for the Ph.D. program, because the option to pursue one of these complementary and related master's degrees will exist for students who begin the Ph.D. program.

II.B Potential program duplication and program competitiveness

II.B.1 Similar programs offered elsewhere in North Carolina

Two universities in North Carolina offer a Ph.D. in Business Administration with a Major in Finance (distance from Charlotte):

(1) Duke University, The Fuqua School of Business (132 miles);
(2) University of North Carolina at Chapel Hill, Kenan-Flager Business School (134 miles).

Public institutions

The program at the University of North Carolina at Chapel Hill's Kenan-Flager Business School has had steady-state total enrollments of 15-20 students over the past five years. In addition, the Ph.D. in Economics at UNC Chapel Hill offers a major in Financial Econometrics.

Recently the Department of Economics at the University of North Carolina at Greensboro (83 miles from Charlotte) has proposed to establish a Ph.D. in Economics that will offer a minor in Financial Economics. This proposed UNC Greensboro Ph.D. in Economics will have virtually no overlap with the Ph.D. in Business Administration with a Finance major proposed here because the two programs have fundamentally different foci. The UNC Greensboro program is an applied degree: its primary goal is to train students in the application of existing economic theory and econometric methods to business problems. The proposed Ph.D. in Business Administration with Finance major is a research degree: its primary goal is to train students to conduct independent research in order to create new knowledge. Further, students in the UNC Greensboro program who take the Financial Economics field will primarily study economics with a few courses in financial economics, while students in the UNC Charlotte program will primarily study finance. This is more than a semantic

difference, it is a major difference in the training the students will receive and in the types of positions that they can obtain.

Private institutions
The program at Duke University has had steady-state total enrollments of 15-20 students over the past five years. In addition, the Ph.D. in Economics at Duke offers a major in Financial Economics.

II.B.2 The differences between the proposed program and other programs

Despite the presence of these programs, there is more than sufficient demand to justify another Ph.D. program in North Carolina, especially a program in business and finance in the Charlotte region.

The financial sector that uses advanced financial techniques has experienced tremendous growth within the Charlotte region. The presence of the banking industry in this region is well known. The Charlotte region represents the second-largest financial center in the United States. Eight of the nation's top 200 banks operate in the Charlotte region, and two of the top five banks in the country are headquartered in the City of Charlotte. With the exception of New York City, no other American metropolitan area can claim a larger presence of the nation's strongest financial institutions. Also, the energy marketing and pricing sector uses sophisticated financial techniques and this industry has a strong presence in the Charlotte region.

Because of the presence and sophistication of the financial service industries in Charlotte, there is a growing demand for employees who have Ph.D.-level training in finance. The Charlotte financial services community has asked UNC Charlotte to help fulfill this need for employees by providing graduate programs in finance. Thus, it is a natural progression for UNC Charlotte to develop and offer Ph.D.-level education in Business Administration with a Major in Finance.[15]

The proposed Ph.D. in Business Administration in UNC Charlotte's Belk College is well-positioned to achieve an outstanding reputation. Over the past decade, the Belk College has evolved into a research-oriented college. Every faculty member who has joined the College during that time has done so with a specific mandate to produce top-quality research. This has created a research culture within the College that is strong, and that would only increase with the addition of a doctoral program. The best evidence of this research culture has been the publications of the faculty and the ability of the College to attract faculty from some of the top universities in the nation. [16]

The proposed Ph.D. program is well-positioned to attract excellent students. The best evidence of this has been the overwhelming response to the newly introduced M.S. in Mathematical Finance. As documented earlier, this program has attracted a sizeable and

[15] Letters of support for the proposed program from Charlotte area community leaders and institutions are provided in Appendix I.
[16] For a list of current faculty who will likely participate in the program, see Appendix II.

highly qualified group of students. This success demonstrates that the reputation of the Belk College in general and the Department of Finance and Business Law in particular is sufficiently strong to attract high quality students to its graduate programs.

The combination of the research reputation of the faculty of the Belk College and the demonstrated ability of the College to attract top students positions the College to quickly develop a significant reputation for its Ph.D. program. The structure of the proposed program is such that students will be expected to begin developing research agendas early in their studies, and it will encourage students to begin publishing prior to their graduation. This will allow students to readily compete for academic positions at national and top regional schools.

II.C Enrollment

II.C.1 Headcount enrollment

Five-year history of enrollments and degrees awarded in similar programs offered at other UNC institutions.

Program Title: Ph.D. in Business Administration

University	Data	Year				
		1999-2000	2000-2001	2001-2002	2002-2003	2003-2004
UNC Chapel Hill	Fall Enrollment	**59**	**57**	**60**	**60**	**69**
	Degrees awarded	**12**	**12**	**13**	**8**	**6**

As part of the planning process for the proposed program, the Planning Committee spoke with Liz Griffin, Director of Ph.D. Programs at UNC Chapel Hill, on March 22, 2005 regarding student demand for the PhD in Business. She said that the demand for the finance area is always the strongest and in her estimation is probably twice as strong as all other areas.

Projected enrollment in the proposed program for four years:

	Year 1 (2006-07)	Year 2 (2007-08)	Year 3 (2008-09)	Year 4 (2009-10)
Full-time	5	9	12	15
Part-time	0	0	0	0
TOTALS	**5**	**9**	**12**	**15**

Anticipated steady-state headcount enrollment after four years:

Full-time 15 Part-time 0 Total 15

II.C.2 Student credit hour (SCH) production

Year 1: 2006-07	**Student Credit Hours (SCH)**		
Program Category	**UG**	**Master's**	**Doctoral**
Category I			
Category II			90
Category III			
Category IV			

Year 2: 2007-08	**Student Credit Hours (SCH)**		
Program Category	**UG**	**Master's**	**Doctoral**
Category I			
Category II			162
Category III			
Category IV			

Year 3: 2008-09	**Student Credit Hours (SCH)**		
Program Category	**UG**	**Master's**	**Doctoral**
Category I			
Category II			216
Category III			
Category IV			

Year 4: 2009-10	**Student Credit Hours (SCH)**		
Program Category	**UG**	**Master's**	**Doctoral**
Category I			
Category II			270
Category III			
Category IV			

III Program Requirements and Curriculum

III.A Program Planning

III.A.1 Institutions with similar offerings regarded as high quality

As part of the planning process for the proposed program, the Planning Committee examined the finance Ph.D. programs of many universities throughout the nation. The Committee considered the programs at the institutions listed below to be of the highest quality, based upon the quality of their students, the publication records of their faculty, and the placement success of their graduates. The faculty limited this list to public institutions with the single exception of Duke University, which was included because of its reputation and location.

- Duke University
- University of Florida
- Indiana University
- University of Michigan
- New York University
- University of North Carolina–Chapel Hill
- Ohio State University
- University of Texas–Austin
- University of Virginia
- University of Wisconsin–Madison

III.A.2 Institutions visited or consulted in developing this proposal.

In preparing the program plan, the Committee consulted documentation from many finance Ph.D. programs throughout the nation. In particular the Committee examined the format, content, and governance structure of programs at both elite, nationally recognized institutions as well as at similar institutions. Examining the elite institutions helps ensure that the proposed program contains the appropriate course content, research emphasis, and structure. Examining the similar institutions helps ensure that the Committee considers how other institutions with similar missions, financial resources, and student demographics implement their programs. Taken together, the information from these two sets of institutions allowed the Committee to design a program with similar content and structure to those of the top institutions, but that also considered the resource and financial constraints faced by institutions similar to UNC Charlotte.

Nationally Recognized Institutions:

- University of California–Berkeley
- University of California–Los Angeles
- University of Chicago
- Duke University
- University of Florida
- University of Georgia

- Indiana University
- MIT
- University of Michigan
- New York University
- University of North Carolina–Chapel Hill
- Ohio State University
- University of Texas–Austin
- University of Virginia
- Virginia Tech
- University of Wisconsin–Madison
- Yale University

Similar Institutions

- University of Cincinnati
- Florida State University
- Georgia State University
- University of Houston
- University of Memphis
- University of Texas–Arlington
- University of Texas–Dallas

III.B Admission.

III.B.1 Admissions requirements for proposed program

The minimum admission requirements for the program are:

- Either a master's degree in a related field with a minimum GPA of 3.25 out of 4.0, or an undergraduate degree in a related field with a minimum GPA of 3.5 out of a 4.0. Students admitted to the program without a master's degree will be required to take at least 30 semester hours of coursework at the master's level prior to enrolling in doctoral courses.

- A GMAT score of at least 650 or GRE scores with scores on the quantitative section of at least 700 and on the verbal section of at least 500.

- For non-native speakers of English who do not hold degrees from a U.S. university, a score of 220 on the computer-based TOEFL, a score of 550 on the paper-based TOEFL, or 85% on the MELAB. Non-native speakers of English may be required, at the discretion of the Graduate School or the Program Committee for the Ph.D. in Business Administration, to enroll in English as a Second Language (ESL) courses at the English Language Training Institute.

- Three positive letters of recommendation, one of which must be from a former professor.

- A Statement of Purpose from the applicant explaining why they wish to pursue a Ph.D. in Business Administration and why they wish to study the specific area to which they are applying.

- To ensure their preparation for doctoral coursework, students may be required to take additional undergraduate or graduate courses, as determined by the Ph.D. in Business Administration Program Committee and the Program Director. Such courses will be specified prior to the time of admission into the program and may include courses in finance, economics, accounting, marketing, management, operations management, management information systems, mathematics, or statistics.

III.B.2 Documents to be submitted for admission

- A complete application to the Graduate School at UNC Charlotte.
- Official Transcripts from all colleges and universities attended.
- Official GMAT or GRE (verbal, quantitative and analytical) scores.
- Three letters of reference.
- A personal statement that addresses the applicant's motivation for applying to the program.
- TOEFL or MELAB scores if the student is a non-native speaker of English and does not hold a degree from a U.S. university.

III.C Degree requirements

III.C.1 Total hours required

The program requires a minimum of 42 semester hours of coursework at the doctoral level, a minimum of at least 18 hours of dissertation credit, and at least 72 overall graduate semester hours.

III.C.2 Proportion of courses open only to graduate students

100 percent.

III.C.3 Grades required

Letter grades are used to designate the quality of work completed. Letter Meaning:

(A) commendable
(B) satisfactory
(C) marginal
(U) unsatisfactory

A student is expected to achieve grades of *A* or *B* in all courses taken for graduate credit and must have at least an average of *B* in order to graduate. More than two *C* grades will result in termination of the student's enrollment in the graduate program. If a

student makes a grade of *U* in any course, enrollment will be terminated and the student cannot take any further graduate course work without being re-admitted to the program. Readmission to the program requires approval of the Dean of the Graduate School upon the recommendation of the Program Director.

III.C.4 Amount of transfer credit accepted.

No more than six hours of credit may be transferred into the program. The student must have earned either an *A* or a *B* in any course transferred into the program, and the course must have been taken at an AACSB-accredited institution.

III.C.5 Other requirements

- Diagnostic evaluation at end of first year in program.
- Comprehensive/qualifying examination before admission to candidacy.
- Presentation of Dissertation proposal for admission to candidacy.
- Dissertation.
- All students must complete a residency requirement of at least 18 credit hours over three successive terms.
- Students must pass a final examination/dissertation defense.

III.C.6 Language and/or research requirements.

- There is no foreign language requirement.
- Students must complete at least nine hours of research support courses.
- Students who have passed the comprehensive/qualifying exam must remain continuously enrolled in a Dissertation Research Seminar.

III.C.7 Any time limits for completion.

Students must complete their degree, including dissertation, within eight (8) years. Students must pass their comprehensive exam and be admitted to candidacy within six (6) years of being admitted to the program.

III.D Existing courses by title and number

Doctoral courses are numbered at the 8000 level, while master's level courses are numbered at the 5000 and 6000 level. Doctoral students will normally take only courses at the 8000 level. They will only take 5000 or 6000 level courses to meet Business Core requirements or prerequisite requirements.

Existing Courses: Business Core Courses

MBAD 5131 - Accounting and Financial Management
MBAD 5112 - Foundations of Microeconomic
MBAD 5113 - Foundations of Macroeconomics
MBAD 6152 - Financial Management
MBAD 6171 - Marketing Management
MBAD 6194 - Management Policy
MBAD 6121 - Business Information Systems

Business Core: To ensure their preparation for doctoral level coursework in all business specialties, students must demonstrate proficiency in the Business Core. Students may satisfy this requirement either by taking the courses listed above, or by having previously taken equivalent courses. For the 5000-level courses listed above, graduate or undergraduate courses may count as equivalent courses. For the 6000-level courses listed above, only graduate courses may count as equivalent courses.

New Courses

For the Major in Finance

BPHD 8200 –Financial Economic Theory (Required)
Cross-listed with existing course FINN 6203
BPHD 8210 – Investments and Portfolio Theory (Required)
BPHD 8220 – Asset Pricing (Required)
BPHD 8230 – Theory of Corporate Finance (Required)
BPHD 8240 – Derivatives (Required)
Cross-listed with existing course FINN 6210
BPHD 8650 – Advanced Seminar in Finance (Required)
BPHD 8990 – Doctoral Dissertation Research (Required)
BHPD 9999 – Doctoral Residence

For the Minor in Economics

BPHD 8110 – Microeconomic Theory I (Required)
BPHD 8120 – Microeconomic Theory II (Required)
BPHD 8130 – Econometrics I (Required)
BPHD 8140 – Econometrics II (Required)
BPHD 8150 – Econometrics III (Required)

Research Support Courses for the Finance Major
MATH 8202 – Partial Differential Equations for Finance (Required)
Cross-listed with existing course MATH 6202
MATH 8203 – Stochastic Calculus for Finance (Required)
Cross-listed with existing course MATH 6203
MATH 8204 – Numerical Methods for Finance (Required)
Cross-listed with existing course MATH 6204

Course descriptions are attached in Appendix D

IV Faculty

IV.A Names of persons on the faculty who will be directly involved in the program.

Department of Finance and Business Law

Faculty Name	**Highest Degree and Institution**	**Other degrees and Institutions**
Ben Nunnally	DBA, University of Virginia	MBA, Atlanta University BS, Virginia Union University
Steven Ott	PhD, University of Wisconsin-Madison	MS, University of Wisconsin-Madison BBA, University of Wisconsin-Whitewater
C. William Sealey	PhD, University of Georgia	MA, University of Georgia BBA, University of North Carolina-Asheville
Lloyd Blenman	PhD, Ohio State University	MA, University of Western Ontario BSocSc, University of Guyana
Richard Buttimer	PhD, University of Georgia	BBA University of Georgia
Steve Clark	PhD, Clemson University	MA, University of Georgia BA, Valdosta State University
Faith Neale	PhD, Florida State University	MSA, Georgia Southwestern State University BSBA, University of Florida
Marecelo Pinheiro	PhD, Princeton University	MA, Pontifical Catholic University in Rio De Janeiro
Judson Russell	PhD, University of Alabama	MA, University of Alabama MBA, University of Alabama MBA, University of Southern Mississippi BSBA, University of Southern Mississippi

Department of Economics

Faculty Name	Highest Degree and Institution	Other degrees and Institutions
Ted Amato	PhD, University of South Carolina	MA, University of North Carolina-Greensboro AB, Lenior-Rhyne College
John Gandar	PhD, University of Missouri	MA, Victoria University - New Zealand BA, Massey University - New Zealand
Rick Zuber	PhD, University of Kentucky	MA, University of Kentucky BA, Wake Forest University
Hwan Lin	PhD, University of Illinois – Urbana-Champaign	MS, University of Illinois - Urbana-Champaign MS, National Chung Hsing University - Taiwan
Rob Roy McGregor	PhD, University of South Carolina	MA, Clemson University BA, Clemson University
Ben Russo	PhD, University of Iowa	MA, University of Iowa BA, State University of New York - Stony Brook
Jennifer Troyer	PhD, Florida State University	MA, Florida State University BS, University of Memphis
Stanislav Radchenko	PhD, Rutgers University	MA, Rutgers University BA, Donetsk State Academy of Management - Ukraine

Department of Mathematics

Zongwu Cai	PhD, University of California – Davis	MS, Zhejiang University – Hangshou, China BS, China University of Geosciences – Wuhan, China
You Lan Zhu	Tsinghua University – Beijing, China	
Isaac Sonin	PhD, Moscow State University	MS, Moscow State University
Volker Wihstutz	PhD, University of Bremen	Diploma in Math, University of Frankfurt
Robert Anderson	PhD, University of Minnesota	MS, Iowa State University BS, Iowa State University
Zhi Yi Zhang	PhD, Rutgers University	MS, Rutgers University BA, Hunter College – CUNY
Mingxin Xu	PhD, Carnegie Mellon University	MS, Syracuse University BS, Shanghai Jiao Tong University

IV.B Need for new faculty for the proposed program for the first four years.

The Department of Finance and Business Law requires three additional faculty positions to support the proposed program. The Department has already recruited faculty to fill two of those positions, to start 2005-2006. The Department will begin recruiting for the third position during the 2006-2007 academic year. The Department of Economics requires two additional faculty positions to support the proposed program. The Department of Economics intends to recruit for one of these faculty positions during the 2005-2006 academic year, and will begin recruiting for the second position during the 2007-2008 academic year.

IV.C Acquisition of funds for new faculty

The program will require resources from both external and internal funds. UNC Charlotte's transition from a comprehensive institution to a Doctoral/Research University-Intensive institution will enable it to draw from expansion funds for partial support of the proposed program. Another source of partial funding is enrollment increase funding within the State appropriations. Additionally, UNC Charlotte's new status as a doctoral institution has attracted research-oriented faculty members and is leading to an increase in external research funds for support of graduate students. Internally, the University will provide support for administration of the program, graduate student support, and enhancement of library resources. Support from industry, state, and federal agencies, and UNC Charlotte's internal resources will be adequate for initiating and operating a highly respected Ph.D. program in Business Administration with a Major in Finance.

Doctoral programs in business administration, unlike many of their counterparts in the arts and sciences, do not generate a large volume of funded research grants from federal government agencies such as the National Science Foundation. Instead, for doctoral programs in business administration, external funding most often comes from private business sources, in the form of gifts and private research projects, or endowments from alumni and other interested private donors.

Individuals and businesses, especially in the financial services sector, have been contacted, and indications are that there is significant support for a program of this type in the Charlotte region. The Charlotte Chamber of Commerce has endorsed doctoral programs at UNC Charlotte in its long-range plan for economic development in the city and region. The Ph.D. in Business Administration is viewed by the business community to be an integral part of graduate education in the region. Funding from business sources will fund graduate assistantships, fellowships, data sources, computer facilities, as well as other needed resources. In addition, there are a number of funding possibilities through other arrangements with businesses and state government agencies, such as research grants and internships.

It is anticipated that there will be significant sources of funding from external sources to support student fellowships, research, data acquisition, etc. Thus, the College is confident that a significant amount of private funding will be forthcoming for this doctoral program.

IV.D The program's effect on faculty activity

It is anticipated that there will be enough hiring of new faculty that faculty activity will not be materially affected by the implementation of this program.

V. Library

V.A Statement as to the adequacy of present library holdings

J. Murrey Atkins Library is the largest library in the Charlotte region. It is a 65 percent federal documents depository, a U. S. Patent & Trademark Office depository (one of two in North Carolina), and a full state documents depository. A summary of estimated overall library holdings as of June 30, 2003 (latest data available) is given below:

Serial and monograph volumes:	834,453
Government documents:	947,004
Current subscriptions:	4,112
Government subscriptions:	7,562
E-journals:	16,875
Microforms:	2,098,506
Miscellaneous (maps, a-v, etc.)	110,664
Special collections:	7,520

In terms of resources for the business collection, library resources were included in the recent AACSB-I reaccreditation and were found to be adequate. Holdings in economics and finance (includes monographs, periodicals, electronic resources, and audiovisuals, as of January 19, 2005), are listed below by Library of Congress subclass:

HB 1- HB 846.8, HB 3711- HB 3840 (economic theory)	3,781
HC (economic history and conditions)	9,767
HG (finance)	9,288

A survey of the 188 journal titles for business/finance and economics in the 2003 *Journal Citations Reports—Social Sciences*, published by ISI, showed that the library currently provides access to 86.7 percent of the titles listed, in either print and/or electronic formats. Of the top one-half of the journal titles (n=94), ranked by impact factor, the library currently provides access to 91 percent of titles in either print and/or electronic formats.

In terms of electronic databases, the library provides access to the following business and economic databases that support finance and economics:

ABI/INFORM (all files)
Business Source Elite
EconLit (electronic version of the *Journal of Economic Literature*)
InfoTrac Expanded Academic Index ASAP

Investext Plus
Mergent Online
Value Line Investment Survey (also available in print)

V.B How the library will meet program requirements for the next five years

The most important need will be to provide access to a leading financial information database (e.g., Bloomberg Professional) to provide real time access and historical data on equities, futures, bonds, interest rates, derivatives, and currencies. Electronic access to resources currently available only in print (e.g., *Standard & Poor's Industry Surveys*) would also enhance support for the Ph.D. program.

In terms of books, periodicals, and reference materials, there will be a need to increase the level of collection development in finance and economics to reflect a Ph.D.-level program. One avenue to achieve this is to investigate revision of the library approval plan to include additional academic publishers in these fields.

V.C The use of other institutional libraries

The Library participates in the following consortial agreements with other institutional libraries:

Association of Southeastern Research Libraries—Virtual Reference Project; Kudzu Interlibrary Loan system
Charlotte Area Education Consortium
University of North Carolina System Coop (borrowing privileges at other UNC System libraries)

UNC Charlotte is within driving distance of the following institutions with Ph.D. programs:

Duke University
University of North Carolina-Chapel Hill
University of South Carolina-Columbia

VI. Facilities and Equipment

VI.A Facilities available for the proposed program.

The proposed program will share facilities already available at UNC Charlotte, including the following:

1. Faculty and department offices and classrooms in the Fretwell and the Friday buildings
2. Library resources through the J. Murrey Atkins Library
3. Faculty support center for computing services
4. Computer labs for students

5. Financial analysis data products available online to support both teaching and research: (available by June 30, 2005)
    a. *Center for Research In Security Prices Database* – The premier academic database containing information on stock prices.
    b. *Research Insight Web* – This product is the Compustat database available through the Web.
    c. *Bloomberg with the Excel API* – This database contains fixed-income, equity, option, derivative and other economic data.
    d. *Reuters* – This product provides real-time and historical coverage of many equity, fixed income, mortgage, foreign exchange, and derivatives markets. In terms of coverage, it does have some overlap with Bloomberg, but there are some European markets for which it has superior coverage. In addition, Reuters has a significantly better news search and retrieval mechanism.
    e. *Execucomp* – This database includes detailed data on executive compensation, including data on salary, bonuses, options and other incentive-based compensation, executive tenure, etc.
    f. *Research Insight Global Web* (available by June 30, 2006) – Allows RI Web information; allows international and comparative research.
6. Graduate student study rooms located in the Friday building
7. Teaching assistants office space located in the Friday building
8. Graduate School of UNC Charlotte, which responds to information inquiries, processes applications for admissions, and monitors progress toward degree completion

VI.B The effect of this new program on existing facilities.

It is estimated that four to five students will be admitted to the program during the first year of operation, and the current facilities will be adequate. As the program grows, so too will the need to expand to include additional facilities. This growth is consistent with future increases in financial support. (See section D below.)

VI.C Computer services needed and/or available.

Current facilities are adequate.

VI.D Sources of financial support for any new facilities or equipment.

As the program grows, so too will the need for additional facilities and equipment. UNC Charlotte intends to make additional space available to both the Belk College and the Department of Mathematics as new buildings are constructed through funding approved in the November 2000 bond referendum.

VII. Administration

The administrative structure of the planned Ph.D. program is illustrated in Figure VII.1 The program will be operated and centrally administered in the Belk College. The program will be led by a Program Director. Each student will have a Doctoral Program Committee chaired by his/her doctoral research adviser who will liaise with the Business Administration Doctoral Committee.

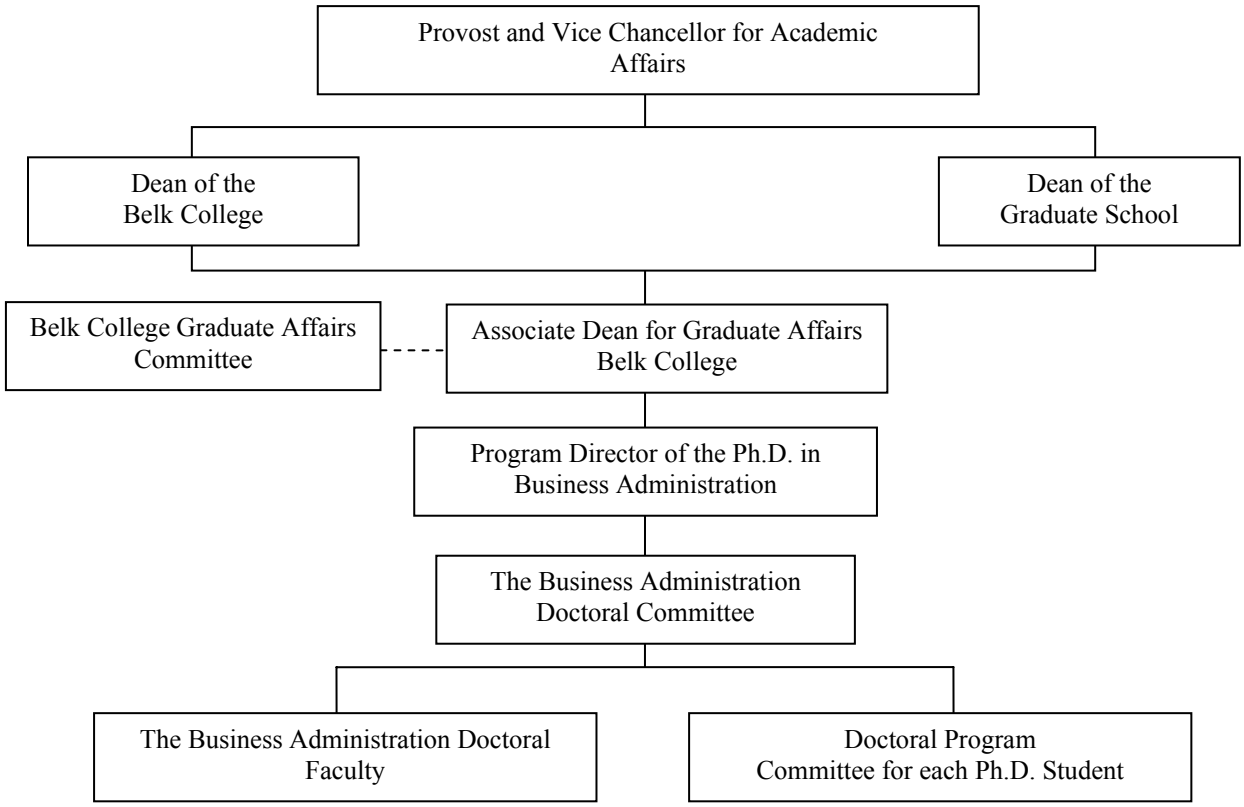

Figure VII.1. The administrative structure of the planned Ph.D. Program in Business Administration with a Major in Finance

VII.A Administrative Structure

The following describes a proposed governance structure and processes of the Ph.D. program in Business Administration; specifically, the roles and responsibilities for the following governing bodies are identified:

- The Graduate School and Dean of the Graduate School
- The Dean of the Belk College
- The Associate Dean for Graduate Affairs in the Belk College
- The Graduate Affairs Committee of the Belk College
- The Business Administration Doctoral Faculty
- The Business Administration Doctoral Committee
- The Program Director

VII.A.1 The Graduate School

The Graduate School is responsible for setting policy regarding the operation of all graduate programs of the University of North Carolina at Charlotte. These policies cover minimum admission standards and performance requirements for successful completion of graduate degree programs. The Business Administration doctoral program will be subject to the rules and policies of the Graduate School. The Graduate School is responsible for collecting the material for applicants to the program and forwarding completed application packets to the Ph.D. Program Director.

VII.A.2 The Dean of the Graduate School

The Dean of the Graduate School is responsible for the supervision of all graduate programs consistent with the policies approved by the UNC Graduate Council, the Graduate Faculty, and the Faculty Council. The Dean is the principal officer with the responsibility of ensuring the high quality of all graduate programs, providing oversight on admission and graduation of graduate students, and appointing faculty to graduate faculty status at the University of North Carolina at Charlotte. It is anticipated that the Dean of the Graduate School will communicate with the Dean of the Belk College on important programmatic issues. The Graduate Dean's main duties include the following:

- Final admission of students
- Final appointment of dissertation and doctoral committees
- Approval of programs of study
- Admission of students to candidacy
- Final approval of dissertations

VII.A.3 Dean and Associate Dean for Graduate Affairs of the Belk College

The ultimate responsibility for administration of the Ph.D. program at the College level will rest with the Dean of the Belk College. The Dean has administrative responsibility for the supervision of all the departments in the College and acts in concert with the chair of each department, the Associate Dean for Graduate Affairs, and the Program Director on matters concerning programs and personnel. The Dean will provide general oversight on the program and will be responsible for the initial appointment, annual evaluations, annual salary adjustments, and dismissal of the Program Director. The Dean of the Belk College will communicate with the Dean of the Graduate School on important programmatic issues.

The Associate Dean for Graduate Affairs in the Belk College will work with the Program Director to coordinate all programmatic activities relating to course approvals and curriculum with the Graduate Affairs Committee of the Belk College. In addition, the Associate Dean will coordinate the course offerings outside the major area upon the request of the Program Director.

VII.A.4 The Program Director

The detailed administration of the program will be the duty of the Program Director who reports to the Dean of the Belk College. The Program Director will serve a three-year renewable term. The Ph.D. Program Director will work in consultation with the Business Administration Doctoral Committee on matters of policies and operations, but will retain final responsibility for the following tasks:

- recommending operating budgets and supervising expenditures
- chairing meetings of the Business Administration Doctoral Faculty
- communicating assessment of the program and personnel to the chairs of participating departments and the Deans of Business and the Graduate School
- overseeing recruitment efforts for the program
- coordinating the scheduling of courses
- assuring proper maintenance of graduate student records
- scheduling dissertation defenses
- representing the program to external constituencies

It is anticipated that the Ph.D. Program Director will be supported by an administrative secretary and may receive one course release per semester.

VII.A.5 The Business Administration Doctoral Committee (BADC)

There will be a Business Administration Doctoral Committee for the major. This committee will consist of five members of the Business Administration Doctoral Faculty. Elected members shall be chosen by the Business Administration Doctoral Faculty. Each elected member will serve three-year renewable terms. The Business Administration Doctoral Committee for the Finance Major will consist of: the Chairperson of the Department of Finance and Business law and elected representatives from the Departments of Finance and Business Law (2), Math (1), and Economics (1).

The Business Administration Doctoral Committee is responsible for:

- recommending to the Graduate School applicants for admission to the program
- approving the student's advisory committee and dissertation topic
- assuring that the qualifying exam is administered appropriately
- recommending to the Graduate School qualified candidates for the degree

- assuring, in conjunction with the Program Director, that all requirements are fulfilled by each candidate
- recommending course additions and alterations as appropriate
- approving participation of faculty in the program
- planning and evaluating the program
- approving minor areas of study
- deciding on waivers of course requirements
- evaluating applicants for admission to the program
- recommending to the doctoral faculty changes in admission requirements and degree requirements
- recommending to the doctoral faculty changes in the governance of the Ph.D. program
- recommending to the Ph.D. Program Director, candidates for teaching assistantships and tuition waivers

All policy decisions (e.g., course proposals, admission and degree requirements) will need to be approved by a majority vote of the Doctoral Faculty. Admission to each major program will likely be limited to three to five students each year. Such selectivity will allow each student to receive individual faculty attention.

All elections and decisions requiring approval of the Doctoral Faculty must have a quorum of two-thirds of the Doctoral Faculty members. Voting can be conducted either at a meeting or via an electronic mechanism. The Business Administration Doctoral Committee will propose any modifications, additions, and deletions to this governance document. A two-thirds majority vote of the Business Administration Doctoral Faculty, conducted in a manner described in this document, will be required for approval.

VII.A.6 The Belk College Graduate Affairs Committee

The Belk College Graduate Affairs Committee is composed of a representative from each Department in the Belk College. The Graduate Affairs Committee reviews and approves all course proposals and major curriculum changes to graduate programs in the Belk College. The Associate Dean for Graduate Affairs in the Belk College will coordinate these curriculum activities between the Program Director and Graduate Affairs Committee. In addition, the Graduate Affairs Committee will serve as an Advisory Committee to the Business Administration Doctoral Committee in each approved major. Beyond the functions of the Graduate Affairs Committee outlined in the Belk College procedures, the Graduate Affairs Committee will have the following responsibilities:

- advising the Business Affairs Doctoral Committee on all matters related to the program; and
- assisting with strategic planning for the program

VII.A.7 The Business Administration Doctoral Faculty

The Business Administration Doctoral Faculty will be composed of those members of the Graduate Faculty at UNC Charlotte who will be expected to participate in the doctoral program as research dissertation advisors and instructors in component courses. It is expected that the credentials presented by a doctoral program graduate faculty member will include a list of journal publications, externally funded research grants and prior experience in supervising master's theses and/or Ph.D. dissertations, as well as a research program relevant to the goals of the program. Appointment to the Business Administration Doctoral Faculty will be made by the Program Director and Business Administration Doctoral Committee. Appointments will be for five-year terms, with reappointment made according to the guidelines established by the Business Administration Doctoral Committee.

VII.A.8 Doctoral Research Advis0r for each student

Each student will be assigned an interim advisor by the Program Director upon admission into the program. The Interim Advisor, along with two other faculty members (at least one from the student's home department) assigned by the Program Director, will comprise the Interim Committee. All faculty members on the Interim Committee must be members of the UNC Charlotte Graduate Faculty. The Interim Committee will advise the student on all matters related to his/her plan of study prior to the formation of the Doctoral Program Committee. The Interim Advisor most commonly will be the faculty member with whom the student has expressed interest to work. This assignment will also depend on the source of the student's financial assistance. Prior to the formation of the student's Doctoral Program Committee and at the request of the student and the Interim Advisor, a permanent adviser will be confirmed by the Program Director as the student's Doctoral Research Advisor. This faculty member must be a member of the Business Administration Doctoral Faculty.

VII.A.9 Doctoral Program Committee for each Ph.D. Student

Each student's Doctoral Program Committee will comprise five members. One committee position will be filled by a UNC Charlotte Graduate Faculty member appointed by the Dean of the Graduate School. The remaining four members will be recommended, before the completion of the student's fourth semester in the program, by the student's Doctoral Research Advisor, with input from the Interim Committee. Recommended faculty members should have expertise in the student's area of research interest. The Program Director will approve, with subsequent concurrence by the Dean of the Graduate School, the four recommended faculty members to serve on the student's Doctoral Program Committee. The doctoral program committee of each student will be chaired by the student's Doctoral Research Advisor. At least two of the Doctoral Program Committee members must be from the student's major department. The inclusion of one member from outside the University of North Carolina Charlotte is acceptable, and this person must also have appointment to the UNC Charlotte Graduate Faculty. The student's Doctoral Program Committee will perform the following functions:

- participate in forming the student's plan of study
- evaluate the student's academic progress
- administer the qualifying examination
- evaluate the dissertation proposal
- administer the dissertation defense and
- certify to the Program Director the candidate's qualifications for the Ph.D. degree

VIII. Accreditation

VIII.A Specific Accreditation

None. There is no professional organization that specifically accredits doctoral programs in business.

VIII.B General Accreditation

UNC Charlotte is accredited by the Commission on Colleges of the Southern Association of Colleges and Schools (1866 Southern Lane, Decatur, Georgia 30033-4097: telephone number 404-679-4501) to award baccalaureate, master's, intermediate, and doctoral degrees.

The proposed program is not at a more advanced level than those previously authorized for UNC Charlotte. The proposed program is not in a new discipline division and does not constitute a significant modification in the nature and scope of the institution.

The Belk College is accredited through the Association to Advance Collegiate Schools of Business – International (AACSB-International) (777 South Harbour Island Boulevard, Suite 750, Tampa, FL 33602 USA, Tel: 813-769-6500 Fax: 813-769-6559).

IX. Supporting Fields

The Ph.D. in Business Administration ith a Major in Finance will have supporting fields from within and outside the Belk College. Outside the Belk College, supporting academic departments include:

1. Computer Science and Software and Information Systems. The Department of Computer Science and Department of Software Information Systems in the College of Information Technology (IT) offer a number of Ph.D. courses for the IT Ph.D. program on data mining, artificial intelligence, and heuristics and optimization.

2. Mathematics and Statistics. The Department of Mathematics and Statistics offers a number of Ph.D. courses for the Applied Mathematics Ph.D. program on optimal

control theory, differential equations, probability, stochastic differential equations, and optimization.

In the Belk College, supporting academic departments include:

1. Business Information Systems and Operations Management (BISOM). The BISOM department offers a number of Ph.D. courses for the IT Ph.D. program on data mining, management science, systems development, and decision support systems.

2. Marketing. The Department of Marketing offers a number of graduate level courses in the core and as electives in the Master of Business Administration Program, including marketing management, international marketing, marketing research, promotional strategy, e-business marketing, and special topics courses.

3. Accounting. The Department of Accounting offers a number of graduate level courses in the core and as electives in the Master of Accountancy program, including managerial accounting, financial accounting, financial statement accounting, auditing, and a series of courses on taxation.

X. Additional Information

Inside and outside letters of support are provided in Appendices A and ,B respectively.

XI. Budget

The proposed budget of the Ph.D. program in Business Administration is provided in Appendix E of this proposal.

XI.1 Budget Explanation for Permission to Implement

In addition to the two positions filled during the current academic year, 2004-2005, the Belk College plans to hire five new faculty members at the assistant professor level over the next three academic years: three in Finance and two in Economics. These positions are included in the budget projections for the program included in this request for authorization to establish. According to statistics collected by the Association to Advance Collegiate Schools of Business—International, salary levels at the 75th percentile, the level that the College strives to meet, were $128,800 per nine-month contract for new doctorates in Finance, and $74,800 per nine-month contract for new doctorates in Economics. The salary numbers used in the budget projections are $125,000 for Finance faculty and $75,000 for Economics faculty.

XII. Evaluation Plans

XII.A Criteria to be used to evaluate the proposed program

The Ph.D. program will be evaluated annually. The Ph.D. in Business Administration Program Director will conduct the evaluation and report its findings to the Dean of the Belk College, the Dean of the Graduate School, and the Ph.D. in Business Administration Program Committee.

The Program Director will evaluate the program based on five primary criteria:

i. Does the program attract highly qualified students?
ii. Do students make reasonable progress toward the degree?
iii. Do the students establish research agendas?
iv. Do students place in appropriate academic positions?
v. Does the program have adequate resources?

XII.B Measures to be used to evaluate the program:

The Program Director will use multiple metrics to evaluate the program against these criteria. Specific measures for each criterion are listed below.

1. Does the program attract highly qualified students?
   - Number of students applying to the program and the number of students accepted
   - Average GMAT and GRE scores of applicants and accepted students
   - Average undergraduate and graduate grade point averages of applicants and accepted students
   - Distribution of graduate and undergraduate institutions for both applicants and accepted students
   - Number of accepted students who were also accepted at other universities
   - Number of accepted students who earn University-wide or national scholarships or fellowships

2. Do students make reasonable progress toward the degree?
   - Performance on written and oral exams
   - Average time to comprehensive examinations
   - Average time to graduation
   - Number of graduates.

3. Do the students establish research agendas?
   - Number of research papers published by students
   - Number of research projects in which faculty include students
   - Number of grant applications in which faculty include students
   - Amount of funded research used to support students
   - Research productivity of doctoral faculty
   - Number of publications resulting from dissertations

4. Do students place in appropriate academic positions?
   - Number of graduates who accept tenure-track academic appointments
   - Number of graduates who accept post-doctoral fellowships
   - Number of graduates who accept research-oriented government positions
   - Number of graduates who take private-sector positions

5. Does the program have adequate resources?
   - Number of students funded
   - Number of classes offered
   - Amount of funded research
   - Participation of doctoral faculty as measured by:
     - Ratio of faculty serving as dissertation chairs to dissertations
     - Ratio of faculty serving on dissertation committees to dissertations
   - Recommendations for improvements by the Executive Committee should be made to the Doctoral Committee

XII.C Projected productivity levels (numbers of graduates):

	Year 1 (2006-2007)	**Year 2 (2007-2008)**	**Year 3 (2008-2009)**	**Year 4 (2009-20010)**	**TOTALS**
B					
M					
I/P					
D	**0**	**0**	**0**	**4**	**4**

XII.D Recommended consultants/reviewers:

Dr. James B. Kau
Ph.D. Program Director
298A Brooks Hall
Terry College of Business
The University of Georgia
Athens, GA 30602
phd_director@terry.uga.edu
706.542.3805

Dr. Thomas McInish
Finance Ph.D. Program Coordinator
Fogelman College of Business
The University of Memphis
Memphis, TN 38152
tmcinish@memphis.edu
901.678.4662

Dr. William Christiansen
Finance Ph.D. Program Advisor
College of Business
Florida State University
Tallahassee, FL 32306
wchrist@cob.fsu.edu
850.644.8202

Dr. David Mauer
Department Chair
Edwin L. Cox School of Business
Southern Methodist University
Dallas, Texas 75275-0333
dmauer@mail.cox.smu.edu
214.768.4150

Dr Mark Flannery
Bank of America Eminent Scholar in Finance
College of Business
University of Florida
Gainesville, FL 32611
flannery@UFL.edu
850.644.8202

Dr. Stephen D. Smith
Professor and H. Talmage Dobbs, Jr. Chair of Finance
Department of Finance
J. Mack Robinson College of Business
Georgia State University
Atlanta, GA 32306
sdsmith@gsu.edu
404.651.1236

XII.E Plan for evaluation prior to sixth operational year.

Year One: The program evaluation will focus primarily on admission procedures and student recruitment. During the first year, the Program Director will consult with faculty teaching in the program to review the progress of the students and to determine whether changes need to be made in the recruitment and screening process. The Program Director will consult with the students in the program to obtain feedback on the courses and structure of the program. The Program Director will report results to the Ph.D. in Business Administration Program Committee, the Dean of the Belk College, and the Dean of the Graduate School.

Year Two: The program evaluation will continue to focus primarily on admission procedures and student recruitment. The Program Director will begin to assess the degree to which second-year students are beginning to develop research agendas.

Year Three: The program evaluation will begin to broaden its focus to include an in-depth analysis of student quality, progress and scholarship. The Program Director will consider the outcomes of the first set of comprehensive examinations which will have been administered at the beginning of the third academic year. The Program Director will also evaluate the progress that third-year students will have made on their dissertations, and the process through which they selected their dissertation topics. In addition, the evaluation will continue to examine student recruitment and admissions procedures.

Year Four: The program evaluation will focus on the placement outcomes for the first set of students to graduate from the program. This evaluation will focus on the positions taken by the students, the number of interviews and on-campus interviews that they received. Particular attention will be paid to the degree to which the students are able to obtain interviews at research-oriented universities. The evaluation will continue to examine student recruitment, progress and scholarship.

Year Five: In the fifth and subsequent years the evaluation will continue to focus on student placement outcomes, as well as recruitment and progress. The Program Director will also begin to evaluate the longer-term success of program graduates. This will be done by examining their post-graduation research success, specifically focusing on their publications and conference presentations, as well as their success in earning tenure.

XIII. Reporting Requirement

Institutions will be expected to report on program productivity after one year and three years of operation. This information will be solicited as a part of the biennial long-range planning revision.

IV. Starting Date and Institutional Approval

Proposed date of initiation of proposed degree program: 08/2006

This proposal to establish a new program has been reviewed and approved by the appropriate campus committees and authorities.

Chancellor /s/ [signature] Date 4/27/2005

Appendix A

Internal Letters of Support

The University of North Carolina at Charlotte

Charlotte, N.C. 28223

Department of Mathematics and Statistics
E-Mail: adow@uncc.edu 704/687-4560

MEMORANDUM

TO: Professor Steven Ott
Department of Finance and Business Law

FROM: Alan Dow, Chair
Department of Mathematics and Statistics

DATE: January 31, 2005

RE: Ph.D. Program in Business Administration

This note is to confirm the support of the Department of Mathematics and Statistics for the proposed Ph.D. program in Business Administration. As you know several faculty from my department have deep interest in the Mathematics of Finance and they look forward to very substantive participation in this program. The whole department will very much welcome the students from this program in our advanced courses which will play a supporting role in their development.

BELK COLLEGE OF BUSINESS

UNC CHARLOTTE

Department of Finance and Business Law
Belk College of Business Administration
9201 University City Blvd.
Charlotte, NC 28223-0001
Telephone 704-687-2165
Fax 704-687-4014

February 1, 2005

Dr. Steve Ott
Department of Finance and Business Law

The Department of Finance and Business Law is fully supportive of establishing the proposed Ph.D. Program in Business Administration with a Major in Finance. The Department considered your committee's Proposal to Implement the Ph.D. at a recent meeting. The faculty approved the Proposal unanimously. We look forward to its implementation.

C.W. Sealey, Chair
Department of Finance and Business Law

The University of North Carolina at Charlotte
9201 University City Boulevard
Charlotte, N.C. 28223-0001

The Belk College of Business Administration
Department of Business Information Systems and
Operations Management
704-687-2064

February 1, 2005

Dr. Steve Ott
Department of Finance and Business Law

The Department of Business Information Systems and Operations Management is fully supportive of establishing the proposed Ph.D. Program in Business Administration with a Concentration in Finance. We look forward to its implementation.

Moutaz Khouja, Chair
Department of Business Information Systems and Operations Management

The University of North Carolina at Charlotte
9201 University City Boulevard

Charlotte, N.C. 28223-0001

February 2, 2005

Dr. Steven Ott, Chair
Belk College Ph.D. Implementation Committee
Department of Finance and Business Law
UNC Charlotte
Charlotte, NC 28223

Dear Steve:

The Department of Economics is unanimous in its very strong support of the proposed Ph.D. in Business Administration with a Major in Finance Program. The Department of Economics is excited about the prospects of being involved in the first doctoral program to be offered in the Belk College of Business. This proposed program clearly meets key goals in the Mission Statements of both UNC Charlotte and the Belk College of Business. I gladly offer my strong personal support to the program.

Sincerely,

Rick Zuber
Interim Chair and Professor of Economics

Appendix B
External Letters of Support

Duke Energy Corporation
526 South Church St.
Charlotte, NC 28202-1802

Mailing Address
P. O. Box 1006
Charlotte, NC 28201-1006

April 12, 2004

Dr. C. W. Sealey
Head, Department of Finance and Business Law, and
The Torrence E. Hemby Distinguished Professor in Banking
Belk College of Business Administration
The University of North Carolina at Charlotte
9201 University City Boulevard
Charlotte, NC 28223-0001

Dear Dr. Sealey,

I think it is wonderful that UNC-Charlotte is considering offering a Ph.D program in Business Administration with a specialization in Finance. Finance is becoming an increasingly complex field and the Charlotte area is clearly a center for Finance. Having graduates of UNC-Charlotte that have a Ph.D in Finance will be of significant value to corporations in the area.

Please let me know if there is anything I can do to help you be successful in offering this degree.

Sincerely,

David L Hauser

David L. Hauser

DLH/rs

Wachovia Bank, N.A.
301 South Tryon Street
Charlotte, NC 28288-7218

Paul G. Grube
Regional President

Tel 704 383-6008
Fax 704 383-6554

April 30, 2004

WACHOVIA

Dr. Claude C. Lilly, III
Dean
Belk College of Business Administration
UNC Charlotte
9201 University City Boulevard
Charlotte, NC 28223-0001

Dear Dean Lilly:

It gives me great pleasure to write in support of your proposed new program at UNC-Charlotte. Specifically, a Ph.D. in Business Administration with a concentration in Finance. Financial services in the United States, and especially Charlotte, have been growing at a rapid pace over the last two decades. Financial services now play an important role in all advanced economics. This is especially true in the Charlotte region. Concurrent with this growth has been a rapid increase in the sophistication and complexity of the financial services field. These factors have lead to a strong demand for highly trained professionals in the finance field at the doctoral level. Regrettably, the Charlotte region has not kept pace with doctoral educational opportunities in finance. A Ph.D. program with a concentration in Finance at UNC-Charlotte would represent an important step in correcting this problem.

Please let me know if I can be of further assistance.

Sincerely,

Paul G. Grube

charlotte CHAMBER

April 29, 2004

Dr. Claude C. Lilly
Dean
Belk College of Business Administration
University of North Carolina at Charlotte
9201 University City Boulevard
Charlotte, NC 28223

Dear Dean Lilly:

The Charlotte Chamber is aware that the Belk College of Business/UNCC is considering adding a Ph.D. in finance to your expanding curriculum. Please consider this letter a strong endorsement from the Charlotte Chamber for this much-needed new level of study.

The financial community in Charlotte and our state is providing numerous jobs and tax revenues for our communities and state. The Ph.D. program at UNCC would only accelerate this positive trend.

Furthermore, as our banks recruit new businessmen and women to the community, the existence of a Ph.D. program in finance would be of great assistance in gaining and keeping key management talent.

In closing, I am confident that a Ph.D. program in finance at UNCC would add further to Charlotte and North Carolina stature as a state which is committed to growing its business clusters. Financial service has meant a great deal to our community for many years and we trust the addition of this key Ph.D. program will further accelerate its growth within the Tar Heel State.

Best wishes,

Carroll Gray
President

cc: Dr. Jim Woodward, Chancellor

CHARLOTTE USA

330 South Tryon Street • P. O. Box 32785 • Charlotte, NC 28232 • Telephone (704) 378-1300 • Fax (704) 374-1903 • www.charlottechamber.com

Joe L. Price
Risk Management Executive
GCIB Risk Management

Bank of America
NC1-007-14-20
100 N. Tryon Street
Charlotte, NC 28255-0001

Tel 704.386.0303
Fax 704.386.2222

April 23, 2004

Dr. Claude C. Lilly, III
Dean of Belk College of Business Administration
UNC Charlotte
9201 University City Boulevard
Charlotte, NC 28223-0001

Dear Dean Lilly:

I would like to express my support for your proposal to establish a Ph.D. in Business Administration with a concentration in Finance at UNC-Charlotte. The financial services industry in Charlotte has experienced enormous growth over recent years, and now plays a vital role in the prosperity of both the Charlotte region and the State. Unfortunately, access to advanced education in finance is not readily available in Charlotte. Such education is especially important given the fact that the practice of finance has become increasingly complex and sophisticated. Creating a Ph.D. program with a concentration in Finance in Charlotte would fill an important gap in the educational opportunities available in the region. This would certainly be beneficial to both our citizens and businesses.

Charlotte is a major financial center on the world stage. Doctoral education in finance is needed to nurture and maintain that status.

If I can be of further assistance in this matter, please contact me.

Sincerely,

Joe L. Price

Bank of America

Alvaro G. de Molina
President
Global Corporate and Investment Banking

Bank of America Corporation
NC1-007-57-14
100 North Tryon Street
Charlotte, NC 28255

Tel 704.386.1500
Fax 704.386.9990

April 26, 2004

Dr. Claude C. Lilly III
Dean of Belk College of Business Administration
The University of North Carolina at Charlotte
9201 University City Boulevard
Charlotte, North Carolina 28223-0001

Dear Dr. Lilly:

I would like to express my support for your proposal to establish a Ph.D. in Business Administration with a concentration in Finance at UNC-Charlotte. The financial services industry in Charlotte has experienced enormous growth over recent years, and now plays a vital role in the prosperity of both the Charlotte region and the State. Unfortunately, access to advanced education in finance is not readily available in Charlotte. Such education is especially important given the fact that the practice of finance has become increasingly complex and sophisticated. Creating a Ph.D. program with a concentration in Finance in Charlotte would fill an important gap in the educational opportunities available in the region. This would certainly be beneficial to both our citizens and businesses.

Charlotte is a major financial center on the world stage. Doctoral education in finance is needed to nurture and maintain that status.

If I can be of further assistance in this matter, please contact me.

Best regards,

Alvaro G. de Molina

USA
2000-2004
US Olympic Teams

Bank of America

RECEIVED

MAY 3 2004

OFFICE OF
ACADEMIC AFFAIRS

Marc D. Oken
Chief Financial Officer

Bank of America Corporation
NC1-007-57-04
100 North Tryon Street
Charlotte, NC 28255-0001

Tel 704.386.8676

April 28, 2004

Dr. Claude C. Lilly III
Dean of Belk College of
Business Administration
The University of North Carolina at Charlotte
9201 University City Boulevard
Charlotte, NC 28223-0001

Dear Dean Lilly:

I would like to express my personal support for your proposal to establish a Ph.D in Business Administration with a concentration in Finance at UNC-Charlotte.

The financial services industry in Charlotte has experienced enormous growth over recent years, and now plays a vital role in the prosperity of both the Charlotte region and the State. Unfortunately, access to advanced education in Finance is not readily available in Charlotte. Such education is especially important given the fact that the practice of Finance has become increasingly complex and sophisticated.

Creating a Ph.D. program with a concentration in Finance in Charlotte would fill an important gap in the educational opportunities available in the region. This would certainly be beneficial to both our citizens and businesses.

Charlotte is a major center on the world stage. Doctoral education in Finance is needed to nurture and maintain that status.

If I can be of further assistance, please contact me.

Sincerely,

Marc D. Oken

ljm

USA
2000-2004
US Olympic Teams

Appendix C
Faculty Vitas

Department of Finance and Business Law

Bennie H. Nunnally, Jr.
Professor
Department of Finance and Business Law
Belk College of Business

1. EDUCATION

DBA	Finance; The University of Virginia, Charlottesville, VA, 1982.
MBA	Finance Concentration; Atlanta University, Atlanta, GA, 1973.
BS	Business Administration; Virginia Union University, Richmond, VA, 1972.

2. PROFESSIONAL EXPERIENCE

The University of North Carolina at Charlotte 1979 to present

Chairperson-Department of Finance and Business Law
The University of North Carolina at Charlotte 1988-1997

Morris Visiting Professor of Business Administration

Darden Graduate Business School, University of Virginia 1995-1996

Acting Assistant Professor-McIntire School of Commerce
The University of Virginia 1978-1979

Lecturer-Evening College: School of Business
The University of Akron 1974-1975

Construction Accountant (Capital Budgeting)
The B.F. Goodrich Company 1973-1975

3. REFEREED JOURNAL PUBLICATIONS

B. Nunnally, Thomas O'Brien, Summer 1983, "A 1982 Survey of Corporate Leasing Analysis," Financial Management, Vol. 12, No. 13.

B. Nunnally, Robert Stokes, Fall 1986, "The Accuracy of Earnings Forecasts," Southern Business Review.

B. Nunnally, D. A. Plath, Winter 1989, "Leasing Versus Borrowing: Evaluating Alternative Forms of Consumer Credit," Journal of Consumer Affairs, Vol. 23, No. 2.

B. Nunnally, D. A. Plath, 1992, "Measuring the Effective Cost of Consumer Credit: Is Leasing Cheaper than Borrowing?" Financial Services Review.

B. Nunnally, B. Gup, R. Bruner, L. Pettit, Fall/Winter 1999, "Teaching With Cases to Graduate and Undergraduate Students," Financial Practice And Education.

B. Nunnally, M. D. Evans, Spring 2003, "Case Teaching and the Integrative Process," Journal of Financial Education, Vol. 29.

4. REFEREED CONFERENCE PUBLICATIONS

B. Nunnally, T. B. Michael, 2000, "A Survey of Risk Adjustments in Capital Budgeting," Financial Management Assoc. Meeting, Seattle, WA.

B. Nunnally, T. O'Brien, 1982, "An Objective Method for Finding Risk-Adjusted Hurdle Rates: A Synthesis," with Thomas O'Brien, Proceedings, S.E. American Institute for Decision Sciences, 1982.

B. Nunnally, S. Allison, 1984, "Bank Branch Profitability and Strategic Planning," S.E. American Institute for Decision Sciences Meeting, Savannah, GA, (Selected As Best Finance Paper)

5. GRANTS, CONTRACTS, AND AWARDS

Freedoms Foundation Award – Valley Forge, Pennsylvania with Robert Hornaday and Stella Nkomo, for the Black Enterprise Summer Training (B.E.S.T.) Program, 1988.

Finalist: 1998 Nationsbank Award for Excellence in Teaching; UNCC.

6. PROFESSIONAL ACTIVITIES

Member of: Financial Management Association/Financial Education Association
Associate Editor for: Journal of Finance Case Research
Reviewer for: Journal of Financial Education/Journal of Finance Case Research

7. THESIS SUPERVISION: No graduate theses supervised.

Steven H. Ott
John Crosland, Sr., Distinguished Professor of Real Estate and Development
Department of Finance and Business Law
Belk College of Business

1. EDUCATION

University of Wisconsin-Madison, 1988-1992. Ph.D. in Business, Major in Finance, Minor in Economics.

University of Wisconsin-Madison, 1987. Master of Science in Business, Major in Finance and Real Estate.

University of Wisconsin-Whitewater, 1974-1978. Bachelors of Business Administration, Major in Accounting

2. PROFESSIONAL EXPERIENCE

Kenneth Leventhal and Company, Real Estate Consulting Firm. 1987-1988.

Madison Real Estate Group, Real Estate Developer. 1984-1987.

Grant Thornton International, Public Accounting Firm. 1980-1984.

3. REFEREED JOURNAL PUBLICATIONS (SINCE 2002)

Finance, Investment and Investment Performance: Evidence from the REIT Sector, co-authored with Tim Riddiough and Ha-Chin Yi, forthcoming *Real Estate Economics*.

Interactions of Corporate Financing and Investment Decisions: The Effect of Growth Options to Replace or Expand, co-authored with Paul D. Childs and David C. Mauer, forthcoming *Journal of Financial Economics*.

Effects of Noise on Optimal Exercise Decisions: The Case of Risky Debt Secured by Renewable Lease Income, co-authored with Paul D. Childs and Tim Riddiough, *Journal of Real Estate Finance and Economics,* May 2004, 28(2-3), 109-121.

Optimal Valuation of Noisy Real Assets, co-authored with Paul D. Childs and Tim Riddiough, *Real Estate Economics,* Fall 2002, Vol. 30, (3), 385-414.

Optimal Valuation of Claims on Noisy Real Assets: Theory & an Application, co-authored with Paul D. Childs and Tim Riddiough, *Real Estate Economics,* Fall 2002, Vol. 30, (3), 415-444.

Real Options and Real Estate: A Review and Valuation Illustration. *Real Estate Valuation Theory*, an American Real Estate Society Monograph, 2002, Volume 8, 411-423.

Ott vita - continued

4. GRANTS, CONTRACTS, AND AWARDS (SINCE 2001)

Participated in the Fundraising and Establishment of The Center for Real Estate at UNC Charlotte: $3,000,000 initial endowment coming from varied individuals and institutions.

Research grant awarded for 2005 ($50,000) by the National Housing Endowment.

Awarded Distinguished Fellow, 2004-2007, National Association of Office and Industrial Properties.

Edwin Mills Best Paper Award for 2002, presented by the American Real Estate and Urban Economics Association.

Research grant awarded for 2001 ($39,500) by the TIAA-CREF Institute, for "The Impact of Retirement Plan Choice on Employer Labor Costs."

Research grant awarded for 2001 ($59,500) by the TIAA-CREF Institute, for "Defined Benefit vs. Defined Contribution? Determining the Optimal Benefit Plan Choice Using a Real Options Framework."

Kentucky Real Estate Commission Education Grants for the 6 fiscal years beginning 6-30-94 and made annually through the year ending 6-30 99 totaling $254,372.

6. PROFESSIONAL ACTIVITIES

Review/Referee Services for Academic Journals

Financial Management
Global Finance Journal
Journal of Applied Business Research
Journal of Financial Research
Journal of Real Estate Finance and Economics
Journal of Real Estate Portfolio Management
Journal of Real Estate Research
Journal of Urban Economics
Managerial and Decision Economics
Management Science
Real Estate Economics
Real Estate Finance
Review of Financial Studies
Quarterly Review of Economics and Finance

Editorial and Advisory Boards

Real Estate Economics Editorial Board
Journal of Real Estate Portfolio Management Editorial Board
Real Estate Research Institute Advisory Board

Calvin W. Sealey
Professor
Department of Finance and Business Law
Belk College of Business

1. EDUCATION

University of Georgia	1974	PhD
University of Georgia	1970	MA
University of North Carolina-Asheville	1969	BA

2. PROFESSIONAL EXPERIENCE

University of North Carolina-Charlotte, The Torrence E. Hemby, Sr., Distinguished Professor in Banking (1996-Present), Department Chair (1997-Present)

McGill University, Faculty of Management, The Bank of Montreal Professor of Bank and Finance (1988-1996), Professor of Finance (1985-1988), Associate Professor of Finance (1980-1985)

University of British Columbia, Division of Finance, Visiting Assistant Professor of Finance (1978-1980)

Arizona State University, Department of Finance, Assistant Professor of Finance (1976-1978)

University of Richmond, Department of Economics, Assistant Professor of Economics (1974-1976)

3. SELECTED REFEREED PUBLICATIONS

Sealey, C. and Gandar, J., "Alternative Regulatory Mechanisms for an Insurance Market with Moral Hazard and a Guaranty Fund," *Financial Services Exchange*, Research Paper, 2003.

Duan, J., Sealey, C., and Yan, Y., "Managing Banks' Duration Gaps When Interest Rates are Stochastic and Equity Has Limited Liability," *International Review of Finance and Economics*, 1999.

Nagarajan, S. and Sealey, C., "State Contingent Bank Regulation and the Fair Pricing of Deposit Insurance," *Journal of Banking and Finance,* 1998.

Nagarajan, S. and Sealey, C., "Forbearance, Deposit Insurance Pricing, and Incentive Compatible Bank Regulation," *Journal of Banking and Finance*, 1995.

Duan, J., Moreau A., and Sealey, C., "Deposit Insurance and Bank Interest Rate Risk: Pricing and Regulatory Implications," *Journal of Banking and Finance*, 1995.

Duan, J., Moreau A., and Sealey, C. "A Note on the Implications of Traded Options on the Pricing of the Underlying Stock: A Reply," *International Review of Finance and Economics*, 1994.

Duan, J., Moreau A., and Sealey, C., "Incentive Compatible Deposit Insurance Pricing and Bank Regulatory Policies," *Research in Finance*, 1993.

Moreau, A. and Sealey, C., "Spanning and Efficiency in an Economy with Collective and Individual Risk," *Journal of Quantitative Finance and Accounting*, 1993.

Duan, J., Moreau A., and Sealey, C., "Spanning with Index Options," *Journal of Financial and Quantitative Analysis*, 1992.

Duan, J., Moreau A., and Sealey, C., "Some Implications of Traded Options on the Pricing of the Underlying Stock," *International Review of Finance and Economics*, 1992.

Duan, J., Moreau A., and Sealey, C., "Fixed-Rate Deposit Insurance and Risk-Shifting Behavior at Commercial Banks," *Journal of Banking and Finance,* 1992.

Duan, J., Moreau A., and Sealey, C., "The Pricing of European Options on Discretely Traded Assets," *Advances in Investments and Portfolio Management*, 1990.

Sealey, C., "Portfolio Separation for Shareholder Owned Depository Financial Intermediaries," *Journal of Banking and Finance*, 1985.

Sealey, C. and Heinkel, R., "Asymetric Information and a Theory of Compensating Balances," with R. Heinkel, *Journal of Banking and Finance*, 1985.

Sealey, C., "Valuation, Capital Structure and Shareholder Unanimity for Depository Financial Intermediaries," *Journal of Finance*, 1983.

4. SELECTED REFEREED CONFERENCE PROCEEDINGS

Nagarajan, S. and Sealey, C., "Subordinated Debt, Moral Hazard and Bank Regulation," *Bank Structure and Competition*, Federal Reserve Bank of Chicago, 1997.

Nagarajan, S. and Sealey, C., "Forbearance, Prompt Closure, and Incentive Compatible Bank Regulation," *Bank Structure and Competition*, Federal Reserve Bank of Chicago, 1993.

5. SELECTED GRANTS, CONTRACTS AND AWARDS

Principal Investigator, Social Sciences and Humanities Research Council of Canada, 1992-1995, extended to 1996, $42,000, "Deposit Insurance Pricing, Bank Failure and Bank Regulation: Theoretical and Empirical Perspectives." Co-investigators: J.-C. Duan and A. Moreau.

Principal Investigator, Fonds pour la Formation de Chercheurs et l'Aide á la Recherche, 1993-1996, $72,000, "Deposit Insurance Pricing, Bank Failure and Bank Regulation: Theoretical and Empirical Perspectives." Co-investigators: J.-C. Duan and A. Moreau.

Principal Investigator, Fonds pour la Formation de Chercheurs et l'Aide á la Recherche, 1996—1999, $125,000, "Systemic Risk and Derivatives Activities in the Banking System." Co-investigator: S. Nagarajan.

Principal Investigator, Financial Services Exchange, 2001-2003, $25,000, "Alternative Regulatory Mechanisms for an Insurance Market with Moral Hazard and a Guaranty Fund." Co-investigators: J. Gandar and C. Lilly.

6. PROFESSIONAL ACTIVITIES

Reviewer for: *Journal of Finance; Journal of Money, Credit and Banking; Journal of Financial Research; Journal of Financial and Quantitative Analysis; Journal of Banking and Finance; Journal of the American Real Estate Association; Financial Review; Journal of Risk and Insurance; Financial Management; Review of Quantitative Finance and Accounting; Journal of Financial Services Research; International Review of Finance and Economics;* and *Journal of Financial Intermediation.*

Associate Editor for: *International Review of Finance and Economics* (1992-present)

7. THESIS SUPERVISION

Huia Zhang (1992), Claude Matheu (1995), Yuxing Yan (1995)

Lloyd P. Blenman
Associate Professor
Department of Finance and Business Law
Belk College of Business

1. EDUCATION

Ohio State University	1986	PhD
University of Western Ontario	1976	MA
University Of Guyana	1974	BSocSc

2. PROFESSIONAL EXPERIENCE

Manager- International Division - Guyana National Cooperative Bank

3. SELECTED REFEREED JOURNAL PUBLICATIONS

Blenman, L. P., Leo Bin and Dar-Hsin Chen, (2004), "Valuation Impact of Currency Crises: Evidence from the ADR Market," *International Review of Financial Analysis*, 13, 411-432.

Blenman, L. P, and Dar-Hsin Chen, (2003), "An Extended Model of Serial Covariance Bid-Ask Spread Estimator," *International Journal of Business and Economics*, 2, 75-83.

Blenman, L. P. and Dar-Hsin, Chen, (2001), "Optimal Spread Determination: A Dealer's Perspective," *International Journal of Finance*, 2021-2044.

Blenman, L. P. and Thatcher, J. S., (2001), "Synthetic Trades, Market Turbulence and Calendar Day Patterns: The Case of the Dollar /Sterling Markets," *Financial Review*, 33, 177-2001.

Blenman, L. P., 2001, "Non-Reversed Trade and Equilibrium in Forward Exchange Markets," with Jiang Guo Chen, *Quarterly Review of Economics and Finance*, 41, 259-277.

Blenman, L. P., 2000, "Non-Reversed Trades: Further Implications For Currency Trading,", *International Review of Economics and Finance*, 9, 243-255.

Blenman, L. P., Henock Louis and J. Thatcher, 1999, "Interest Rate Parity and the Behavior of the Bid- Ask Spread," *Journal of Financial Research*, 22, 189-206.

Blenman, L. P., Cantrell, R. P., Fennell, D. F., Reneke, J. A., Wang, L. F. S., and Womer, N. K., 1995, "An Alternative Approach to Stochastic Calculus For Economic and Financial Models," *Journal of Economic Dynamics and Control*, 19, No.3, 553-568.

Blenman, L. P., "A Model of Covered Interest Arbitrage Under Market Segmentation," *Journal of Money, Credit and Banking, November 1991*, 706-717.

4. REFEREED CONFERENCE PUBLICATIONS

Blenman, L. P., Ayadi, F and Chatterjee, A., "Is the Secondary Mortgage Market Segmented From Other Financial Markets?" in the 1999 Proceedings of the Association of Global Business.

Blenman. L. P., Ayadi, F. and Obi, P., "Return Performance in Emerging Stock Markets," in the 1994 Proceedings of the Global Business Association, Houston, TX.

Blenman, L. P. and Thatcher, J. S., "An Empirical Investigation of Arbitrage Opportunities," 1993 Proceedings of the Urban Business Association, Baltimore, MD.

Blenman, L. P., Young-Sik, K. and Lin, S., "An Evaluation of Constant Proportion Portfolio Rules," 1993 Proceedings of the Urban Business Association, Baltimore, MD.

Blenman, L. P., "An Integrated View of Interest Parity Theory," 1993 Proceedings of the Urban Business Association, Baltimore, MD.

5. GRANTS, CONTRACTS, AND AWARDS

Hi-Bred Pioneer Prize, Derivatives and Risk Management, 2004 Midwest Finance Association.
McGraw-Hill Prize, Multinational Finance, 1998 Eastern Finance Association Meetings.

6. PROFESSIONAL ACTIVITIES

Member of: American Finance Association, American Economic Association, Financial Management Association, Eastern Finance Association, Midwest Finance Association, Southern Finance Association.

Associate Editor for: Associate Editor - The International Journal of Finance (1996- present), The Financial Review (2003- present), International Review of Financial Analysis (2003- present). Special Issue Editor- International Review of Financial Analysis (2003), Journal of Multinational Financial Management (2003)

Reviewer for: Journal of Finance, Journal of Money, Credit and Banking, Journal of Futures Markets, Financial Management, Financial Review, Applied Economics, Journal of Applied Business Research, Journal of Economics and Finance, Journal of International Money, Institutions and Finance, International Journal of Finance, International Review of Economics and Finance, Journal of Business Disciplines

7. THESIS SUPERVISION

Jiang Guo Chen (1999) - (Massey University, New Zealand), Dar-Hsin Chen 1998 - (Tamkang University-Taiwan), Henoch Louis (1997) - (Penn State University)

Richard Buttimer
Associate Professor
Finance and Business Law
Belk College of Business

1. EDUCATION

University Of Georgia	1993	PhD
University Of Georgia	1987	BBA

2. PROFESSIONAL EXPERIENCE

The University of North Carolina at Charlotte, Associate Professor, 2002-Present
The University of Texas at Arlington, Assistant Professor, 1993-1999, Associate Professor, 1999-2002
PriceWaterhouseCoopers, Principal Consultant, 1999
First Imperial Advisors, Director, Computer Sciences, 1987-1989

3. REFEREED JOURNAL PUBLICATIONS

Richard J. Buttimer Jr., Anthony Y. Gu, and Tyler Y. Yang, 2005, "The Chinese Housing Provident Fund," *International Review of Real Estate*, Forthcoming.

Brent W. Ambrose and Richard J. Buttimer, 2005, "GSE Impact on Rural Mortgage Markets," *Regional Science and Urban Economics*, Forthcoming.

Richard J. Buttimer Jr., David C. Hyland, and Anthony B. Sanders, 2005, "Reits, Ipo Waves, and Long-Run Performance," *Real Estate Economics*, 33(1), 51-87.

Brent W. Ambrose, Richard J. Buttimer Jr., and Tom Thibodeau, (2001), "A New Spin on the Jumbo-Conforming Loan Differential," *The Journal of Real Estate Finance and Economics,* Volume 23, Number 3, pp. 309-336

Brent W. Ambrose, Richard J. Buttimer Jr., (2000), "Embedded Options in the Mortgage Contract," *The Journal of Real Estate Finance and Economics* 21:2, Fall, pp. 95-111.

Richard J. Buttimer Jr., Ronnie Shaw, and Steve Swidler, (1999), "Government Hedging: Motivation, Implementation, and Evaluation," *The Journal of Public Budgeting and Finance*, V19, N4 75-90.

Richard J. Buttimer Jr., and Steve Swidler, (1999), "Foreign Equity Options and Exchange Rate Volatility," *Emerging Markets Quarterly*, pp. 1-7.

Richard J. Buttimer Jr., and Steve Swidler, (1998), "The Informational Content of Us Listed Options on Foreign Equity Securities: The Case of Telmex and the Peso Devaluation," *The Journal of International Financial Markets, Institutions & Money*, Volume 8, Number 2, pp. 189-204.

Richard J. Buttimer Jr., (1998), "A Contingent Claims Analysis of Real Estate Listing Contracts," *The Journal of Real Estate Finance and Economics,* Volume 16, Number 3, pp. 257-268.

Richard J. Buttimer Jr., Ronald C. Rutherford, and Ron Whitten, (1998), "Industrial Rent Determinants in the Dallas/Fort Worth Area," with R. C. Rutherford and R. Whitten, *The Journal of Real Estate Research*, Volume 13, Number 1, pp. 47-56.

Brent W. Ambrose, Richard J. Buttimer Jr., and Charles Capone, (1997) "Pricing Mortgage Default and Foreclosure Delay," *The Journal of Money, Credit and Banking*, Volume 29, Number 3, pp.314-325.

Buttimer vita - continued

4. REFEREED CONFERENCE PUBLICATIONS
NONE

5. GRANTS, CONTRACTS, AND AWARDS
Richard J. Buttimer Jr., and Tyler Y. Yang, 2003, "*Mortgage Prepayment Modeling Issues,*" Federal Housing Finance Board.
Richard J. Buttimer Jr., Charles Calhoun, 2003, "*GSE Rulemaking Support, Estimation of Guarantee Adjusted Spreads,*" U. S. Department of Housing and Urban Development through a sub-grant with the Urban Institute.
Brent W. Ambrose, Richard J. Buttimer Jr., 2001-2002, "*GSE Impact on Rural Mortgage Markets,***"** U.S. Department of Housing and Urban Development.
Brent W. Ambrose, Richard J. Buttimer Jr., and T. Thomas Thibodeau, 2000, "*A Reexamination of the Conforming Loan-Rate Differential,*" Mortgage Bankers Association of America.
Richard J. Buttimer Jr., 2000, "*The Role of Financial Risk Management in Government,"* PriceWaterhouseCoopers Endowment for the Business of Government.

6. PROFESSIONAL ACTIVITIES
Member of American Real Estate and Urban Economics Association, American Finance Association, Financial Management Association.
Associate Editor, *Journal of Real Estate Literature*. Editorial Board Member, *Real Estate Economics*, *Journal of Real Estate Finance and Economics*.
Reviewer for *The Financial Review, The Asian Real Estate Journal, The Journal of Real Estate Finance and Economics, The Journal of Banking and Finance, The Journal of Futures Markets, The Journal of Real Estate Research, The Journal of Real Estate Literature, The Journal of Financial Engineering, The Journal of Housing Research, Real Estate Economics.*

7. THESIS SUPERVISION
Doctoral Dissertation Committees in Mathematics, The University of North Carolina at Charlotte
Xian Wang, Graduate School Representative on Committee, 2004-2005.
Doctoral Dissertation Committees in Finance at the University of Texas at Arlington
Nusanne Mmeekagong, Chair of Committee, completed 2002.
Cary Lin, Chair of Committee, completed 2001.
Sheri Faircloth, Chair of Committee, completed 1997.
Parvez Ahmed, Reading Member of Committee, completed 1996.
Lisa Schwartz, Reading Member of Committee, completed 1996.
Maggie Garcia, Reading Member of Committee, completed 1996.
Ronnie Shaw, Reading Member of Committee, completed 1995.
Masters Thesis Committees in Real Estate at the University of Texas at Arlington
Richard Elsassaer, Chair of Committee, completed 2002.
Steve Isbell, Chair of Committee, completed 2000.
John Brookby, Chair of Committee, completed 2000.
James Foley, Reading Member of Committee, completed 1993.
Other master's thesis committees at the University of Texas at Arlington
John St. Clair, Masters of Landscape Architecture, Committee Member, 2001.

Steven P. Clark
Assistant Professor
Department of Finance and Business Law
Belk College of Business

1. EDUCATION

Clemson University	2003	PhD in Applied Economics
Clemson University	2000	PhD in Mathematical Sciences
University of Georgia	1995	MA in Mathematics
Valdosta State University	1992	BA in Mathematics
Valdosta State University	1992	BA in Philosophy

2. PROFESSIONAL EXPERIENCE

University of North Carolina at Charlotte, Department of Finance and Business Law,
Assistant Professor of Finance, 2002-Present

University of Virginia, Department of Economics,
Lecturer in Economics, 2001-2002

University of Alberta, Department of Mathematical Sciences,
Postdoctoral Fellow in Mathematical Finance, 2000-2001

3. REFEREED JOURNAL PUBLICATIONS

Lloyd P. Blenman and Steven P. Clark, 2005, "Power Exchange Options", *Finance Research Letters*, Forthcoming.

Steven P. Clark and Peter C. Kiessler, 2002, "On the Convexity of the Value Functions of a Certain Class of Stochastic Dynamic Programming Problems", *Stochastic Analysis and Applications*, vol. 20, number 4, pp. 783-789.

4. REFEREED CONFERENCE PUBLICATIONS

"Exercise Price Uncertainty, Risk-Scaling Options, and Payoff Allocations," 2004 FMA Annual Meeting, New Orleans, Louisiana, October 9, 2004.

"Exercise Price Uncertainty, Risk-Scaling Options, and Payoff Allocations," 53rd Annual Meeting of the Midwest Finance Association, Chicago, Illinois, March 18, 2004.

"Management vs. Equity: Stochastic Control-Theoretic Foundations for the Free Cash Flow Hypothesis," 52nd Annual Meeting of the Midwest Finance Association, St. Louis, Missouri, March 27, 2003

5. GRANTS, CONTRACTS, AND AWARDS
Childress Klein Grant, 2002-2003

Best Paper Award in Derivatives and Risk Management, 53rd Annual Meeting of the Midwest Finance Association, Chicago, Illinois.

6. PROFESSIONAL ACTIVITIES
Member of: *The American Finance Association*
Reviewer for: *The Quarterly Journal of Business and Economics*

7. THESIS SUPERVISION
Jennifer Hill, University of North Carolina at Charlotte, Applied Mathematics, Dissertation committee member, 2003-04.

Hua Fang, University of Virginia, Financial Economics, Dissertation committee member, 2001-02.

Faith R. Neale
Assistant Professor
Department of Finance and Business Law
Belk College of Business

1. EDUCATION

Florida State University	2004	PhD
Georgia Southwestern State University	1996	MSA
University Of Florida	1987	BSBA

2. PROFESSIONAL EXPERIENCE

Research Consultant – Governor's (Florida) Select Task Force on Healthcare Professional Liability
Insurance, 2002-2003
Project Manager – Center for Business and Economic Development, Georgia Southwestern State University, 1998-1999
Resident Adjuster – Lumbermen's Mutual Casualty Company, 1989-1995
Claims Examiner – National Insurance Company, 1987-1989

3. SELECTED REFEREED JOURNAL PUBLICATIONS

Neale, F. R., and Pamela P. Peterson, (2005), "The Effect of the Passage of the Gramm-Leach-Bliley Act on the Insurance Industry," *Journal of Economics and Business*, 57 (Forthcoming).

4. PRESENTATIONS

Neale, F. R., Kevin L. Eastman and Pamela P. Peterson, 2004, "Is There a Crisis in Healthcare Professional Liability Insurance?" Southern Risk and Insurance Association Meeting, Charleston, SC.

Neale, F. R., Wendy D. Habegger and Pamela P. Peterson, 2003, "Management Response to Financial Distress: The Case of Property and Liability Insurers," American Risk and Insurance Association Meeting, Denver, CO.

Neale, F. R. and Pamela P. Peterson, 2003, "The Effect of the Gramm-Leach-Bliley Act on the Insurance Industry," Eastern Finance Association Meeting, Orlando, FL.

Neale, F. R. And Pamela P. Peterson, 2002, "The Effect of the Gramm-Leach-Bliley Act on the Insurance Industry," American Risk and Insurance Association Meeting, Montreal, Canada.

Neale, F. R. And Pamela P. Peterson, 2001, "The Financial Services Industry and the Modernization Legislation," And "The Effect of the Gramm-Leach-Bliley Act on the Insurance Industry from 1996-1998," Southern Finance Association Meeting, Destin, FL.

5. WORKING PAPERS

Neale, F. R. And Pamela P. Peterson, "The Financial Services Industry and the Modernization Legislation," Under Review at *The Journal of Risk and Insurance*.

Neale, F. R., Kevin L. Eastman and Pamela P. Peterson, "Is There a Crisis In Healthcare Professional Liability Insurance?" Under Review at *The Journal of Risk and Insurance*.

Neale, F. R., "The Differential Effects of Caps on Non-Economic Damages on Insurer Performance in Healthcare Professional Liability Insurance."

6. PROFESSIONAL ACTIVITIES

Member Of: American Risk and Insurance Association, Financial Management Association, Southern Risk and Insurance Association, Southern Finance Association, Southwestern Finance Association.

Reviewer For: Journal of Insurance Issues (2003)

Marcelo Pinheiro
Assistant Professor
Department of Finance and Business Law
Belk College of Business

1. EDUCATION

Princeton University	2003	PhD
Pontifical Catholic University of Rio De Janeiro	1999	MA
Pontifical Catholic University of Rio De Janeiro	1995	MA

2. PROFESSIONAL EXPERIENCE

University of North Carolina at Charlotte, Department of Finance and Business Law, Assistant Professor of Finance, Beginning July 2005

University of Chicago, July, 2003—June 2004, Post Doctoral Fellow, and Instructor in the Finance and Financial Mathematics

Princeton University, 2001—2003, Teaching Assistant

Galanto Economic Research, Associate Consultant, January 1999—July 1999

BBM Bank, Risk Analyst and Economist, November 1994—July 1999

3. REFEREED PUBLICATIONS

Pinheiro, Marcelo, *Investment and Price Caps in an Imperfectly Competitive Market: A Continuous-Time Stochastic Approach*, Research Monograph, BNDES, 2001.

Heil, T., Duarte, A., and Pinheiro, Marcelo, "Estimating the Volatility of Brazilian Financial Indices and Assets," Resenha BM&F, 1996.

4. SEMINARS AND CONFERENCES

"Liquidity and Dividend Policy," *Princeton University Civitas Foundation Finance Seminar*, 2004.

"Ownership Structure and Analyst' Bias, *Faculty Seminar, Wharton School of Business, University of Pennsylvania,* 2004.

"Social Interactions and the Conflicts of Interest of Informed Traders," *North American Summer Meeting of the Econometric Society*, 2003.

"Loyalty, Peer Group Effects, and 401(k)," *Princeton University Civitas Foundation Finance Seminar*, 2002.

"Informational Asymmetries and a Multiplier Effect on Price Correlation and Trading," *North American Summer Meeting of the Econometric Society*, 2002.

5. AWARDS

Princeton University Fellowship, 1999-2003
Goldfeld Summer Fellowship, 2000
BNDES Award, Best Master's Thesis in Brazil, 1999
CNPq Fellowship for Masters Degree, 1997
CORECON Award for Undergraduate Thesis, 1995
Unibanco Award for Best Undergraduate Student, 1994, 1995

Judson W. Russell
Assistant Professor
Department of Finance and Business Law
Belk College of Business

1. EDUCATION

University of Alabama	1998	PhD
University of Alabama	1997	MA
University of Southern Mississippi	1993	MBA
University of Southern Mississippi	1992	BSBA

2. PROFESSIONAL AND ACADEMIC EXPERIENCE

University of North Carolina at Charlotte, Department of Finance and Business Law, Assistant Professor of Finance, Beginning July 2005.

Principal, Global Corporate & Investment Banking Training & Development, Bank of America, 2000-Present.

University of North Carolina at Charlotte, Department of Finance and Business Law, Part-Time Instructor of Finance, 1998-Present.

Board of Directors, North Carolina Society of Financial Analysts, Chair of Education Committee, 2004-Present.

Vice President, Industry Research, Bank of America, 1999-2000.

Senior Research Associate, Industry Research, NationsBank Corporation, 1998-1999.

3. PUBLICATIONS

Russell, J., "Relative Value Analysis," *Bank of America Portfolio Management*, June 2001.

Russell, J., "The International Diversification Fallacy of Exchange-Listed Securities," in *Wealth Management,* Investment Management Consultants Association, July 2001.

Russell, J., "The International Diversification Fallacy of Exchange-Listed Securities," *Financial Services Review,* Vol. 7, 1999.

Brooks, R., and Russell, J., "Managing Prepaid College Tuition Plans Using A Surplus Framework Methodology," *Financial Services Review,* Vol. 7, 1999.

Russell, J., "Estimating Default Probabilities Using KMV Credit Monitor," *Bank of America Quantitative Research,* October 1999.

Russell, J., "Using KMV Credit Monitor's EDF Calculator," *Bank of America Quantitative Research,* October 1999.

4. SEMINARS AND CONFERENCES

Russell, J., "Fixed Income Analytics," Banc of America Securities High Grade Sales Conference, London, UK, November 2004
Russell, J., "Credit Risk Measurement and Management," Banc of America Securities, New York, NY, August 2004.
Russell, J., "Equity Derivatives Trading Strategies," Banc of America Securities, New York, NY, August 2004.
Russell, J., "Credit Default Swaps," African Development Bank, Tunis, Tunisia, July 2004.
Russell, J., "Credit Default Swaps", Banc of America Securities High Grade Sales Team, London, UK, January 2004.
Russell, J., "Student Managed Investment Funds Panel," Southern Finance Association Annual Meeting, Key West, FL, 2002.
Russell, J., "The International Diversification Fallacy of Exchange-Listed Securities", Southwestern Finance Association Annual Meeting, Dallas, TX, 1998.
Russell, J., "The Valuation of Futures Contracts On Us Inflation-Indexed Securities," Eastern Finance Association Annual Meeting, Williamsburg, VA, 1998.
Russell, J., "Empirical Findings in Market Microstructure: Fragmentation and Competition," Academy Of Economics and Finance Annual Meeting, Lafayette, LA, 1997.
Brockman, C., and Russell, J., "Investor Reaction to S&P Creditwatch Placement," Academy of Economics and Finance, Annual Meeting, Lafayette, LA, 1997.
Brockman, C., and Russell, J., "Transitory Price Effects of Extreme Daily Price Jumps," Academy of Economics and Finance, Annual Meeting, Lafayette, LA, 1997.
Russell, J., "The Diminishing Effect of Monetary Policy on Economic Growth," Midsouth Academy of Economics and Finance Annual Meeting, Hot Springs, AR, 1993.

5. PROFESSIONAL DISTINCTIONS AND ASSOCIATIONS

Chartered Financial Analyst (CFA) Charter holder, 2000
Portfolio Model Risk- Three-Day Course Taught by Moody's KMV, London, UK, 2002

Member of the Academy of Economics and Finance, Financial Management Association, Association for Investment Management and Research, North Carolina Society of Financial Analysts, and Academy of Financial Services, Robert Morris Associates Member, Charlotte Economics Club

6. AWARDS AND HONORS

Best Doctoral Student Paper Award, Southwestern Finance Association
Graduate Council Research Fellowship
Fred Bostick Fellow
Past NASD Series 6, 7, and 63 Licenses (Stockbroker)
Financial Management Association National Honorary Society
Beta Gamma Sigma

Department of Economics

Louis H. Amato
Professor
Department of Economics
Belk College of Business

1. EDUCATION

University of South Carolina	1980	PhD Economics
University of North Carolina-Greensboro	1976	MA Economics
Lenoir-Rhyne College	1974	AB Economics

2. PROFESSIONAL EXPERIENCE

University Of North Carolina-Charlotte, 1980-Present

3. REFEREED JOURNAL PUBLICATIONS (SELECTED)

Tucker, Irvin B. and Louis H. Amato, "A Reinvestigation of the Relationship Between Big-Time Basketball Success and Average SAT Scores," Journal of Sports Economics (forthcoming).

Amato, Christie H. and Louis H. Amato", Myers Briggs Personality Profile and Student Team Performance," Journal of Marketing Education, (forthcoming).

Amato, Louis H. and Christie H. Amato, (2004) "Firm Size, Strategic Advantage, and Profit Rates In U. S. Retailing," Journal of Retailing and Consumer Services, Volume 11, Issue 3, pp. 181-193.

Amato, Louis H. and Ronald P. Wilder, (2004) "Global competition and global markets: some empirical results," International Business Review, Volume 13, pp. 401-416.

Amato, Louis H. and Christie H. Amato (2004), "Productivity, Innovation and Antitrust Policy," Academy of Marketing Studies Journal, Volume 8, No. 2, pp 45-56.

Amato, Louis H., Christie H. Amato and Timothy E. Burson, (2003) "Productivity, Firm Size and Concentration In the Financial Services," Journal of Business and Behavioral Sciences, Volume 10, Number 1, pp 18-26.

Davis, William Y. Jr., Louis H. Amato, and Christie H. Amato, (2003) "Mock Labor Negotiations and a Group Rawlsian Experiment," Economics and Economic Education Research Journal , Volume, Number 1, pp. 35-48.

Amato, Christie H. and Louis H. Amato, (2002) "Corporate Commitment to Quality of Life: Evidence From Company Mission Statements," Journal of Marketing Theory and Practice, Volume 10, Number 4, pp. 69-87.

Amato, Christie H. and Louis H. Amato, (2001) "Advertising, Firm Size and Profitability In the Service Sector", Academy of Marketing Studies, Volume 5, Number 2, pp. 69-84.

Amato, Louis H. And Christie H. Amato, (2000) "The Impact of High Technology on Productivity and Profitability in Selected U. S. Manufacturing Industries," Review of Industrial Organization, Volume 16, Number 4, pp. 327-342.

Amato, Louis and Ronald P. Wilder, (1995) "Alternative Profitability Measures and Tests of the Structure- Performance Relationship. Review of Industrial Organization, Volume 10, Number 1, pp. 21-31.

Amato, Louis, (1995) "The Choice of Structure Measure and the Structure-Performance Model," Quarterly Journal of Business And Economics, Volume 34, Number 2, pp. 39-52.

Amato, Louis, John Gandar, Irvin B. Tucker, and Richard A. Zuber, (1996) "Athletics Vs Academics: Testing The Relationship Between Football Success and Football Player Graduation Rates in The National Collegiate Athletic Association," Economics of Education Review, Vol 15, No 2, pp. 187-195.

Tucker, Irvin B. And Louis Amato, (1993) "Does Big-Time Success in Football or Basketball Affect Sat Scores?", Economics of Education Review, Vol 12, No 2, pp. 177-181.

Amato, Louis and Ronald P. Wilder, (1990) "On Firm and Industry Effects," Southern Economic Journal, pp. 93-105.

Amato, Louis and Ronald P. Wilder, (1988) "Market Concentration, Efficiency, and Antitrust Policy: Demsetz Revisited," Quarterly Journal of Business and Economics, pp. 3-19.

Amato, Louis and Ronald P. Wilder, (1985) "The Effects of Firm Size On Profitability In U. S. Manufacturing," Southern Economic Journal, pp. 181-190.

6. PROFESSIONAL ACTIVITIES
Member Of: American Economic Association
Associate Editor For: Studies in Economics and Finance
Reviewer For: Journal of Sports Economics, Southern Economic Journal

7. THESIS SUPERVISION
I supervised approximately 60 Masters Student Research Method projects, 1991-1997. Students complete an original research project comparable to a Masters thesis.

Masters Thesis Supervised: Nicholson, Todd, "Magnet School Choice In Charlotte-Mecklenburg," Completed May 2003.

John M. Gandar
Professor, Department of Economics
Interim Associate Dean, Belk College of Business

1. EDUCATION

PhD in Economics, University of Missouri, 1982
MA, Victoria University, New Zealand, 1972.
BA, Massey University, New Zealand, 1969.

2. PROFESSIONAL EXPERIENCE

University of North Carolina at Charlotte, 1982-present

3. REFEREED JOURNAL PUBLICATIONS

Richard A. Zuber, Patrick Yiu, Reinhold P. Lamb, and John M. Gandar, 2005. "Investor-Fans? An Examination of the Performance of Publicly Traded English Premier League Teams." *Applied Financial Economics*, forthcoming.

William H. Dare, John M. Gandar, Richard A. Zuber, and Robert Pavlik, 2005. "An Examination of the Source of Informed Trader Information in the College Football Betting Market." *Applied Financial Economics*, forthcoming.

John M. Gandar, Richard A. Zuber, and R. Stafford Johnson, 2004. "A Reexamination of the Efficiency of the Betting Market on National Hockey League Games." *Journal of Sports Economics*, 5 (2).

Reinhold P. Lamb, Richard A. Zuber**,** and John M. Gandar, 2004. "Don't Lose Sleep On It: A Reexamination of the Daylight Savings Time Anomaly." *Applied Financial Economics*, 16 (6).

John M. Gandar and Richard A. Zuber, 2004. "An Evaluation of the Debate Over Testing Efficiency in the Major League Baseball Over-Under Betting Market." *Journal of Sports Economics*, 5 (1).

Benjamin Russo and John M. Gandar, 2003. "Interest-Sensitive Wealth and the Life-Cycle Hypothesis: Implications for Fiscal Policy." *Quarterly Review of Economics and Finance*, 43 (4).

R. Stafford Johnson, Richard A. Zuber, and John M. Gandar, 2002. "Mortgage-Backed Securities: A Synopsis." *International Review of Economics and Business*, 49 (4).

John M. Gandar, Richard A. Zuber, R. Stafford Johnson, and William Dare, 2002. "Reexamining the Betting Market on Major League Baseball Games: Is There a Reverse Favorite-Longshot Bias?" *Applied Economics*, 34 (10).

R. Stafford Johnson, Richard A. Zuber, and John M. Gandar, 2001. "Binomial Interest Rate Trees: A Synopsis of Uses and Estimation Approaches." *Journal of Financial Education*, 27 (3).

John M. Gandar, Richard A. Zuber, and R. Stafford Johnson, 2001. "Searching for the Favorite-Longshot Bias Down Under: An Examination of the New Zealand Pari-Mutuel Betting Market." *Applied Economics*, 33 (13).

John M. Gandar, Reinhold P. Lamb, and Richard A. Zuber, 2001. "The Home Field Advantage Revisited: A Search for the Bias In Other Sports Betting Markets." *Journal of Economics and Business*, 53 (4).

Louis A. Amato, John M. Gandar, and Richard A. Zuber, 2001. "The Impact of Proposition 48 on the Relationship between Bowl Appearances and Football Player Graduation Rates." *Journal of Sports Economics*, 2 (2).

John M. Gandar, Richard A. Zuber, and William Dare, 2000. "The Search for Informed Traders in the Totals Betting Market for NBA Games." *Journal of Sports Economics*, 1 (2).

Reinhold P. Lamb, Lawrence Blose, John M. Gandar, and Richard A. Zuber, 1999. "The Impact of Investor-Fan Ownership on the Value of Publicly Traded Sports Franchises: The Case of the Boston Celtics." *Academy of Accounting and Financial Studies Journal*, 3 (1).

John M. Gandar, Richard A. Zuber, William Dare, and Craig Brown, 1998. "Informed Traders and Price Variations in the Betting Market for Professional Basketball Games." *Journal of Finance*, 53 (1).

John M. Gandar, Louis Amato, Irvin B. Tucker, and Richard A. Zuber, 1996. "Athletics versus Academics: Testing the Relationship between Football Success and Football Player Graduation Rates in the NCAA." *Economics of Education Review*, 15 (2).

David Loschky and John M. Gandar, 1995. "The Impact of the Paasche-Laspeyres Choice Upon Econometric Results." *Empirical Economics*, 20 (2).

John M. Gandar, Richard A. Zuber, and Benjamin Russo, 1993. "Testing Efficiency in Gambling Markets: A Comment." *Applied Economics*, 25 (7).

R. Stafford Johnson, Richard A. Zuber, and John M. Gandar, 1990. "Foreign Currency Options: *Ex Post* and *Ex Ante* Market Efficiency Tests." *Southern Business Review*, 16 (1).

John M. Gandar, Richard A. Zuber, and Benjamin Russo, 1989. "Market Rationality Tests Based on Cross-Equation Restrictions." *Journal of Monetary Economics*, 24 (1).

John M. Gandar, Richard A. Zuber, Tom O'Brien, and Benjamin Russo, 1988. "Testing Rationality in the Point Spread Betting Market." *Journal of Finance*, 43 (2).

4. SELECTED PROFESSIONAL ACTIVITIES

Reviewer for:

American Economic Review, Journal of Business, Journal of Finance, Journal of Financial Economics, Journal of Political Economy, *Journal of Sports Economics,* and *Review of Economics and Statistics,*

5. THESIS SUPERVISION

I have co-supervised (with Dr. Rick Zuber) approximately 75 research projects in the Master's of Science in Economics program. Please note that the research project is substituted for the thesis in our Master's program.

Richard A. Zuber
Interim Chair and Professor
Department of Economics
Belk College of Business

1. EDUCATION

Wake Forest University, 1974, BA
University of Kentucky, 1976, MA
University of Kentucky, 1978, PhD

2. PROFESSIONAL EXPERIENCE

University of North Carolina at Charlotte, 1978- present

3. REFEREED JOURNAL PUBLICATIONS- SELECTED

Richard A. Zuber, Patrick Yiu, Reinhold P. Lamb, and John M. Gandar, 2005. "Investor-Fans? An Examination of the Performance of Publicly Traded English Premier League Teams." *Applied Financial Economics*, forthcoming.

William H. Dare, John M. Gandar, Richard A. Zuber, and Robert Pavlik, 2005. "An Examination of the Source of Informed Trader Information in the College Football Betting Market." *Applied Financial Economics*, forthcoming.

John M. Gandar, Richard A. Zuber, and R. Stafford Johnson, 2004. "A Reexamination of the Efficiency of the Betting Market on National Hockey League Games." *Journal of Sports Economics*, 5 (2).

Reinhold P. Lamb, Richard A. Zuber**,** and John M. Gandar, 2004. "Don't Lose Sleep On It: A Reexamination of the Daylight Savings Time Anomaly." *Applied Financial Economics*, 16 (6).

John M. Gandar and Richard A. Zuber, 2004. "An Evaluation of the Debate Over Testing Efficiency in the Major League Baseball Over-Under Betting Market." *Journal of Sports Economics*, 5 (1).

R. Stafford Johnson, Richard A. Zuber, and John M. Gandar, 2002. "Mortgage-Backed Securities: A Synopsis." *International Review of Economics and Business*, 49 (4).

John M. Gandar, Richard A. Zuber, R. Stafford Johnson, and William Dare, 2002. "Reexamining the Betting Market on Major League Baseball Games: Is There a Reverse Favorite-Longshot Bias?" *Applied Economics*, 34 (10).

R. Stafford Johnson, Richard A. Zuber, and John M. Gandar, 2001. "Binomial Interest Rate Trees: A Synopsis of Uses and Estimation Approaches." *Journal of Financial Education*, 27 (3).

John M. Gandar, Richard A. Zuber, and R. Stafford Johnson, 2001. "Searching for the Favorite-Longshot Bias Down Under: An Examination of the New Zealand Pari-Mutuel Betting Market." *Applied Economics*, 33 (13).

John M. Gandar, Reinhold P. Lamb, and Richard A. Zuber, 2001. "The Home Field Advantage Revisited: A Search for the Bias In Other Sports Betting Markets." *Journal of Economics and Business*, 53 (4).

Louis A. Amato, John M. Gandar, and Richard A. Zuber, 2001. "The Impact of Proposition 48 on the Relationship between Bowl Appearances and Football Player Graduation Rates." *Journal of Sports Economics*, 2 (2).

John M. Gandar, Richard A. Zuber, and William Dare, 2000. "The Search for Informed Traders in the Totals Betting Market for NBA Games." *Journal of Sports Economics*, 1 (2).

Reinhold P. Lamb, Lawrence Blose, John M. Gandar, and Richard A. Zuber, 1999. "The Impact of Investor-Fan Ownership on the Value of Publicly Traded Sports Franchises: The Case of the Boston Celtics." *Academy of Accounting and Financial Studies Journal*, 3 (1).

John M. Gandar, Richard A. Zuber, William Dare, and Craig Brown, 1998. "Informed Traders and Price Variations in the Betting Market for Professional Basketball Games." *Journal of Finance*, 53 (1).

John M. Gandar, Louis Amato, Irvin B. Tucker, and Richard A. Zuber, 1996. "Athletics versus Academics: Testing the Relationship between Football Success and Football Player Graduation Rates in the NCAA." *Economics of Education Review*, 15 (2).

John M. Gandar, Richard A. Zuber, and Benjamin Russo, 1993. "Testing Efficiency in Gambling Markets: A Comment." *Applied Economics*, 25 (7).

R. Stafford Johnson, Richard A. Zuber, and John M. Gandar, 1990. "Foreign Currency Options: *Ex Post* and *Ex Ante* Market Efficiency Tests." *Southern Business Review*, 16 (1).

John M. Gandar, Richard A. Zuber, and Benjamin Russo, 1989. "Market Rationality Tests Based on Cross-Equation Restrictions." *Journal of Monetary Economics*, 24 (1).

John M. Gandar, Richard A. Zuber, Tom O'Brien, and Benjamin Russo, 1988. "Testing Rationality in the Point Spread Betting Market." *Journal of Finance*, 43 (2).

4. SELECTED PROFESSIONAL ACTIVITIES

Reviewer for:

Journal of Finance, Journal of Financial Economics, European Journal of Finance, and *Journal of Business*.

5. THESIS SUPERVISION

I have co-supervised (with Dr. John Gandar) approximately 75 research projects in the Master's of Science in Economics program. Please note that the research project is substituted for the thesis in our Master's program.

Hwan C. Lin
Associate Professor
Department of Economics
Belk College of Business

1. EDUCATION

University of Illinois at Urbana-Champaign, 1990, PhD in Economics
University of Illinois at Urbana-Champaign, 1986, MS in Economics
National Chung Hsing University (Taiwan), 1980, BA in Business Administration

2. PROFESSIONAL EXPERIENCE

1999 - Present: Associate Professor, University of North Carolina at Charlotte
1993 - 99: Assistant Professor, University of North Carolina at Charlotte
1992 - 93: Assistant Professor, Portland State University, Portland, Oregon
1991 - 92: Visiting Assistant Professor, University of North Carolina at Charlotte
1990 - 91: Assistant Professor, Campbell University, Buies Creek, North Carolina

3. REFEREED JOURNAL PUBLICATIONS

Grinols, L. Earl and **Hwan C. Lin**. 2005. Global Patent Protection: Channels of North & South Welfare Gain. *Journal of Economic Dynamics and Control*. (forthcoming)

Lin, Hwan C. 2002. Shall the Northern Optimal R&D Subsidy Rate Inversely Respond to Southern Intellectual Property Protection? *Southern Economic Journal.* Vol. 69, No. 2, 381-397, October.

Lin, Hwan C. and Benjamin Russo. 2002. Growth Effects of Capital Income Taxes: How Much Does Endogenous Innovation Matter? *Journal of Public Economic Theory*. Vol. 4, No.4, 613-640, October.

Lin, Hwan C. and Benjamin Russo. 1999. A Taxation Policy toward Capital, Technology, and Long-Run Growth. *Journal of Macroeconomics*. Vol. 21, No. 3, 463-491.

Lin, Hwan C. 1998. Import-Subsidy Coordination and the Gains from International Diffusion of Differentiated Middle Products. *International Economic Journal*. Vol. 12, No. 2, 55-76.

Lin, Hwan C. 1996. Coordinating Bilateral Export Subsidies under Monopolistic Competition. *Journal of International Trade and Economic Development*. Vol. 5, No. 3, 319-339.

Lin, Hwan C. 1996. Targeted Tariff Protection, Monopolistic Competition and Demand Interdependence. *International Economic Journal*. Vol. 10, No. 2, 25-49.

Lin, Hwan C. 1994. Foreign Monetary Shocks, Differentiated Products and International Transmission: A Two-Country Model with Intra-Industry Trade. *Journal of International Trade and Economic Development*. Vol. 3, No. 1, 73-92.

Lin, Hwan C. and H. K. Tseng. 1993. Exchange Rate Shocks and the Current Account under Monopolistic Competition. *Open Economies Review* 4: 133-150.

4. REFEREED CONFERENCE PUBLICATIONS

"Optimal Protection of Intellectual Property rights," Western Economic Association International 78th Annual Conference, Denver, Colorado, July 11-15, 2003.

"Shall the Northern optimal R&D subsidy inversely respond to Southern intellectual property protection?" *The Hawaii Conference on Business and Economics.* Honolulu, June 14-17, 2001.

"A Taxation Policy toward Capital, Technology, and Long-Run Growth" (with Benjamin Russo), presented at the ASSA annual conference, January 1999.

"Asymmetric Intellectual Property rights Protection and North-South Welfare," Western Economic Association International 73rd Annual Conference, Lake Tahoe, Nevada, June 28 - July 2, 1998.

"Asymmetric Intellectual Property Rights Protection and North-South Welfare," The Taiwan International Conference *Dynamics, Economic Growth, and International Trade*, Taipei, Taiwan, August 24 – 26, 1998 (Organizing units: Sinica Academy, Taipei, Taiwan; Copenhagen School of Business, Copenhagen, Denmark; Economics Department, University of Washington).

"Innovation, Imitation, and International R&D Subsidies," Western Economic Association International 72nd Annual Conference, Seattle, July 9 - July 13, 1997.

"Import-Subsidy Coordination and the Gains from International Diffusion of Specialized Middle Products," Western Economic Association International 71st Annual Conference, San Francisco, June 28 - July 2, 1996.

5. GRANTS, CONTRACTS, AND AWARDS

BarclaysAmerican Summer Research Awards, 1997 & 1999

6. PROFESSIONAL ACTIVITIES

Member of American Economic Association

Reviewer for: Review of Economic studies
Journal of Macroeconomics
International Economic Journal
Journal of International Trade and Economic Development
Journal of Economic Integration
Bulletin of Economic Research

7. THESIS SUPERVISION

Heesun Kwoun, 2005, M.S. thesis, "Computing Transitional Dynamics and the North-South Welfare Effects of Tightening Intellectual Property Rights Protection."

Rob Roy McGregor
Associate Professor of Economics
Department of Economics
Belk College of Business

1. EDUCATION

University of South Carolina	1991	PhD
Clemson University	1984	MA
Clemson University	1982	BA

2. PROFESSIONAL EXPERIENCE

University of North Carolina at Charlotte: Associate professor of economics since July 1, 1997; assistant professor of economics, 1991-1997; lecturer in economics, 1984-1987.

Clemson University: Visiting associate professor of economics, 2000-2001.

3. PUBLICATIONS

Chappell, Henry W. Jr., **Rob Roy McGregor**, and Todd Vermilyea. 2005. *Committee Decisions on Monetary Policy: Evidence from Historical Records of the Federal Open Market Committee*. Cambridge, MA: The MIT Press.

Chappell, Henry W. Jr., and **Rob Roy McGregor**. 2004. Did Time Inconsistency Contribute to the Great Inflation? Evidence from the FOMC Transcripts. *Economics and Politics* 16: 233-251.

Chappell, Henry W. Jr., **Rob Roy McGregor**, and Todd Vermilyea. 2004. Majority Rule, Consensus Building, and the Power of the Chairman: Arthur Burns and the FOMC. *Journal of Money, Credit, and Banking* 36: 407-422.

McGregor, Rob Roy, and Gaines H. Liner. 2002. Municipal Economic Growth, 1960-1990. *Quarterly Journal of Business and Economics* 41: 105-116.

Liner, Gaines H., and **Rob Roy McGregor**. 2002. Optimal Annexation. *Applied Economics* 34: 1477-1485.

Chappell, Henry W. Jr., and **Rob Roy McGregor**. 2000. A Long History of FOMC Voting Behavior. *Southern Economic Journal* 66: 906-922.

Chappell, Henry W. Jr., Thomas M. Havrilesky, and **Rob Roy McGregor**. 1997. Monetary Policy Preferences of Individual FOMC Members: A Content Analysis of the *Memoranda of Discussion*. *Review of Economics and Statistics* 79: 454-460.

McGregor, Rob Roy. 1996. FOMC Voting Behavior and Electoral Cycles: Partisan Ideology and Partisan Loyalty. *Economics and Politics* 8: 17-32.

Liner, Gaines H., and **Rob Roy McGregor**. 1996. Institutions and the Market for Annexable Land. *Growth and Change* 27: 55-74.

4. GRANTS, CONTRACTS, AND AWARDS

Charlotte-Mecklenburg Arts and Science Council Grant: *The Net Economic Impact on the Charlotte Metropolitan Economy of Six Priority One Projects from the Cultural Facilities Master Plan*, with co-principal investigators John E. Connaughton and Ronald A. Madsen, University of North Carolina at Charlotte, 2003-2004.

Charlotte-Mecklenburg Arts and Science Council Grant: *The Economic Impact of the Affiliated Members of the Charlotte Arts and Science Council*, with co-principal investigator John E. Connaughton, University of North Carolina at Charlotte, 2000.

North Carolina Zoological Park, Yadkin/Pee Dee Lakes Project, and Uwharrie Capital Corporation Grant: *The Central Park Vision for the Uwharrie Lakes Region of North Carolina*, with co-principal investigator John E. Connaughton, University of North Carolina at Charlotte, 1998-1999.

North Carolina State Commissioner of Banks Grant: *Optimal Sampling Plans in Commercial Bank Loan Review and Credit Analysis Activities*, with co-principal investigator Tony Plath, University of North Carolina at Charlotte, 1998-2000.

National Science Foundation Grant: *More Collaborative Research on Politics and Monetary Policy: Evidence from Individual FOMC Members' Reaction Functions*, with co-principal investigators Henry W. Chappell, Jr. (University of South Carolina) and Thomas M. Havrilesky (Duke University), 1995-1997.

5. PROFESSIONAL ACTIVITIES

Member of: American Economic Association, Southern Economic Association, Western Economic Association, National Association for Business Economics, Charlotte Economics Club.

Reviewer for: *American Journal of Political Science*; *Contemporary Economic Policy*; *Economic Inquiry*; *Economics and Politics*; *Journal of Macroeconomics*; *Journal of Money, Credit, and Banking*; *Public Choice*; *Southern Economic Journal*; *Studies in Economics and Finance* (formerly *Studies in Economic Analysis*).

6. THESIS SUPERVISION

Chairman of the thesis committees of Salim Darwish, Patrick Rishe, Ann M. Poovey, and Matthew Birmingham, University of North Carolina at Charlotte.

Benjamin Russo
Associate Professor
Department of Economics
Belk College of Business

1. EDUCATION

University of Iowa	May 1985	PhD
SUNY at Stony Brook	August 1974	BA

2. PROFESSIONAL EXPERIENCE

1992-present, Associate Professor of Economics, University of North Carolina at Charlotte.

3. REFEREED JOURNAL PUBLICATIONS

B. Russo, "A Cost-benefit Analysis of *R&D* Tax Incentives," 2004, *Canadian Journal of Economics*, 37, 313-335.

B. Russo and J. Gandar, "Interest-Sensitive Wealth and the Life-Cycle Hypothesis: Implications for Fiscal Policy," 2003, *Quarterly Review of Economics and Finance*, 43, 418-32.

B. Russo, "Taxes, the Speed of Convergence, and Implications for Welfare Effects of Fiscal Policy," 2002, *Southern Economic Journal*, 69, 444-56.

H. Lin and B. Russo, "Growth Effects of Capital Income Taxes: How Much Does Endogenous Innovation Matter?" 2002, *Journal of Public Economic Theory*, 4, 613-40.

H. Lin and B. Russo, "A Tax Policy Toward Capital, Technology and Long-run Growth," 1999, *Journal of Macroeconomics*, 21, 463-92.

J. Gandar, R. Zuber, and B. Russo, "Testing Efficiency in Gambling Markets," 1993, *Applied Economics*, 25, 937-43.

B. Russo and R. Tiwari, "Stochastic Inflation and Demand for Nominal Assets," 1992, *Atlantic Economic Journal*, 20, 40-7.

B. Russo, "An Analysis of Stability in a Keynesian Economy with Ricardian Consumers," 1992, *Studies in Economic Analysis*, 14, 49-69.

B. Russo, J. Gandar, and R. Zuber, "Market Rationality Tests Based on Cross-Equation Restrictions," 1989, *Journal of Monetary Economics*, 24, 445-70.

J. Gandar, R. Zuber, T. O'Brien, and B. Russo, "Testing Rationality and the Point Spread Betting Market," 1988, *Journal of Finance*, 43, 995-1008.

B. Russo, "Bayesian Estimation of Inflation Expectations and Uncertainty," 1988, *Journal of Economics*, 13, 74-79.

6. PROFESSIONAL ACTIVITIES

Member of: American Economic Association, Canadian Economic Association, National Tax Association, Southern Economic Association.

Reviewer for: *Canadian Journal of Economics, Economica, Economic Inquiry, Energy Journal, Journal of Macroeconomics, Journal of Economic Growth, Southern Economic Journal*

7. THESIS SUPERVISION

Michael Rife, 1993; Sing Heng Ho, 1994; Jackie Howard, 1994; Xin Wei, 2004.

Jennifer L. Troyer
Assistant Professor
Department of Economics and Department of Health Behavior and Administration
Belk College of Business and College of Health and Human Services

1. EDUCATION

Florida State University	1999	PhD, Economics
Florida State University	1996	MS, Economics
University of Memphis	1993	BBA, Economics

2. PROFESSIONAL EXPERIENCE

1999-Present, Assistant Professor, UNC Charlotte, Department of Economics.

3. REFEREED JOURNAL PUBLICATIONS

Troyer, J. L. and Tim R. Sass. 1999. "Affirmative Action, Political Representation, Unions, and Female Police Employment," *Journal of Labor Research,* 20, 571-587.

Troyer, J. L. 2002. "Cross-Subsidization in Nursing Homes: Explaining Rate Differentials Among Payer Types," *Southern Economic Journal,* 68, 750-773.

Troyer, J. L. 2002. "Decomposing the Effect of Marital Status on Migration," 9 *Applied Economics Letters,* 9, 641-644.

Troyer, J. L., and Alexander Krasnikov. 2002. "The Effect of Price Regulation on Innovation in the Pharmaceutical Industry," *Journal of Applied Business Research,* 18, 87-96.

Troyer, J. L. and Herbert Thompson. 2004. "The Impact of Litigation on Nursing Home Quality," *Journal of Health Politics, Policy and Law,* 29, 11-42.

Troyer, J. L. 2004. "Examining Differences in Death Rates for Medicaid and Non-medicaid Nursing Home Residents," *Medical Care*, 42, 985-991.

4. REFEREED CONFERENCE PUBLICATIONS

Not Applicable.

5. GRANTS, CONTRACTS, AND AWARDS

Principal Investigator (with Jim McAuley) on a proposal funded by the Administration on Aging, Department of Health and Human Services, October 2002 – February 2005. "The SOS Nutrition Project: MNT and Therapeutic Meals for Homebound Seniors with Three Chronic Diagnoses." UNC Charlotte portion of grant: $791,486.

BarclaysAmerican Summer Research Award, The Belk College of Business Administration, UNC Charlotte, 2005.

Distinguished Scholarship Award, Belk College of Business Administration, 2002-2003.

Health Services Research Academy, Junior Investigator Award, 2003.

John H. Biggs Fellow, UNC Charlotte, 2003. This fellowship is sponsored by TIAA-CREF.

Awarded Georgescu-Roegen Prize for best paper published in the Southern Economic Journal during the year 2001-2002 (volume 68).

Childress Klein Research Fellowship, The Belk College of Business Administration, UNC Charlotte, 2000, 2004.

Faculty Research Support Grant, UNC Charlotte, awarded for academic year 2001-2002.

Junior Faculty Summer Research Fellowship, UNC Charlotte, 2001, 2002.

Principal Investigator, Dissertation Fellowship Grant, U.S. Department of Health and Human Services, Health Care Financing Administration, 1998, $21,580.

6. PROFESSIONAL ACTIVITIES

Member of: American Economic Association, Southern Economic Association, International Health Economics Association, Committee on the Status of Women in the Economics Profession

Associate Editor for: Not applicable.

Reviewer for: *Health Services Research, Managerial and Decision Economics, Medical Care, Southern Economic Journal*

7. THESIS SUPERVISION

Committee Member, Ashley Dunham (Doctoral Student), Public Policy Program with Concentration in Health Policy, defended proposal Fall 2004.

Committee Member, Mary B. Ellis (Doctoral Student), Department of Educational Leadership, graduated Fall 2004.

Committee Member, Xin (Shannon) Wei (Master's Student), Department of Economics, graduated Fall 2004.

Stanislav I. Radchenko
Assistant Professor of Economics
Economics Department
Belk College of Business

1. EDUCATION

PhD	Economics Department, Rutgers University, New Brunswick, NJ, 2002
MA	Economics Department, Rutgers University, New Brunswick, NJ, 2000
BA	Donetsk State Academy of Management, Donetsk, Ukraine, 1998

2. REFEREED JOURNAL PUBLICATIONS

"Limited Information Bayesian Analysis of a Simultaneous Equation with an Autocorrelated Error Term and its Application to the U.S. Gasoline Market" (with Hiroki Tsurumi), forthcoming in the Journal of Econometrics.

"Lags in the response of gasoline prices to changes in crude oil prices: the role of short-term and long-term shocks," tentative acceptance to *Energy Economics*, December 2004.

"A Bayesian Approach to Decomposing Wage Differentials" (joint with Myeong-Su Yun), 2003. Economics Letters 78(3), p. 431-436

"Oil Stock Management and Futures Prices. Empirical Analysis." (joint with Salah Abosedra), 2003. *The Journal of Energy and Development* 28(2), p. 173-188

4. REVISE AND RESUBMIT TO REFEREED JOURNALS

"Anticipated and unanticipated effects of crude oil price and oil inventory changes on gasoline prices", revise and resubmit to *Energy Journal*, September 2004.

"The role of permanent and transitory components in business cycle volatility moderation" (with O. Korenok), revise and resubmit to *Empirical Economics*, December 2004.

5. CONFERENCE PRESENTATIONS

"The oil price volatility and the asymmetric response of gasoline price to oil price increases and decreases," accepted for the presentation at 28th Annual IAEE International Conference, Taipei, June 2005.

"Anticipated and unanticipated effects of crude oil price and oil inventory changes on gasoline prices." ASSA meetings, US/International Association for Energy Economics, Philadelphia, January 2005.

"Monetary policy effect on the business cycle fluctuations: output vs. index measures of the cycle." Presented by coauthor at Washington University in St. Louis, St. Louis, August 2004.

"The role of permanent and transitory components in business cycle volatility moderation." Presented at 2004 North American Summer Meeting of the Econometric Society, Providence, June 2004

"The microeconomics of macroeconomic asymmetries: sectoral driving forces and firm level characteristics." Presented by coauthor at 12th annual symposium of Society of Nonlinear Dynamics and Econometrics, Atlanta, March 2004.

"Limited Information Bayesian Analysis of a Simultaneous Equation with an Autocorrelated Error Term and its Application to the U.S. Gasoline Market." Presented at Valencia Bayesian Statistics Meetings 7, Tenerife, Spain, June 2002.

"A Bayesian Test of Stationarity in a Regression Model with an ARMA-GARCH Error Term." Presented by coauthor at ISBA Regional Meeting, Laguna Beach, California, January 2001.

6. GRANTS, CONTRACTS, AND AWARDS

BarclaysAmerican Summer Research Awards, Belk College of Business Administration, 2005.
Junior Faculty Summer Research Fellowship, UNC Charlotte, 2003.

7. PROFESSIONAL ACTIVITIES:

Member of: United States Association for Energy Economics, The Econometric Society, American Economic Association.

Reviewer for: Communication in Statistics, the Journal of Empirical Finance, Studies in Nonlinear Dynamics and Econometrics.

Department of Math

Robert F. Anderson
Associate Professor
Department of Mathematics and Statistics
College of Arts and Sciences

1. EDUCATION

University of Minnesota	1972	PhD
Iowa State University	1966	MS
Iowa State University	1964	BS

2. PROFESSIONAL EXPERIENCE

Associate Professor of Mathematics, University of North Carolina Charlotte, North Carolina, 1983-present

Assistant Professor of Mathematics, University of Pittsburgh, Pittsburgh, PA 1971-1980

3. REFEREED JOURNAL PUBLICATIONS

1. Comparison of Two Modes of Order Convergence, (with J. C. Mathews), Pro. A.M.S., Vo. 18 (1967) p. 100-104.

2. Diffusions with Second Order Boundary Conditions, Part I, Indiana University Math. Jr., Vo. 25 (1976), p. 367-395. Part 2, Indiana University Math. Jr., Vo. 25 (1976), p. 403-441.

3. Small Random Perturbation of Dynamical Systems with Reflecting Boundary, (with S. Orey), Nagoya Math. Jr., Vo. 60 (1976), p. 184-216.

4. A Quality Control Problem with Quasi Variational Inequalities, (with A. Friedman), Arch. Rational Mech. Annl.,Vo. 63 (1977), p. 205-252.

5. A multi-dimensional Quality Control Problem and Quasi Variational Iequalities, (with A. Friedman), Trans. A.M.S., Vo. 246 (1978), p. 31-76.

6. Quality Control for Markov Chains and Free Boundary Value Problems, (with A. Friedman), Trans. A.M.S., Vo. 246 (1978), p. 77-94.

7 Optimal Inspection in a Stochastic Control Problem with Costly Observations, Part 1, (with A. Friedman), Math. of Operations Research , Vo. 2, (1977), p. 155-196. , Part 2, (with A. Friedman), Math. of Operations Research, Vo. 3, (1978), p. 67-81.

8. Dynamics of Bayes Estimates for the Rate of Poisson Processes with Gamma priors and Convex Loss, Statistics and Probability Letters, Vo. 2 (1984), p. 147-187.

9. Replacement with Non-Constant Operating Cost, SIAM Jr. of Control and Optimization, Vo. 26 (1988), p. 1076-1098.

4. REFEREED CONFERENCE PUBLICATIONS

1. Small Random Perturbation of Dynamical Systems with Reflecting Boundary, (with S. Orey), Proc. of Symposia in Pure Math., Vo. 31 (1977), p. 1-4.

2. Optimal Stopping in a Reliability Problem, Stochastic Analysis, Edited M. Pinsky, Academic Press (1978), p. 1-23.

3 One Dimensional Random Walk in a Random Medium (with S. A. Molchanov) , pp25-56, Stochastic Models in Geosystems, Vo 85 IMA Volumes in Mathematics and its Applications, Edited by S. A. Molchanov and W. A. Woyczynski, Spring Verlag (1997)

4. Martingale Methods in Real Analysis (with S. Molchanov) PP66-80, Skorokhod's Ideas in Probability Theory, Vol. 32 Proceeding of the Institute of mathematics of the national Academy of Sciences of Ukraine, Kyiv (2000)

5. GRANTS, CONTRACTS, AND AWARDS

6. PROFESSIONAL ACTIVITIES

MEMBER OF:
ASSOCIATE EDITOR FOR:
REVIEWER FOR:

7. THESIS SUPERVISION

Zongwu Cai
Professor
Department of Mathematics and Statistics
College of Arts and Sciences

1. EDUCATION

• 1995 Ph.D. in Statistics, University of California, Davis
• 1988 M.S. in Statistics, Zhejiang University, Hangzhou, China
• 1982 B.S. in Mathematics, China University of Geosciences, Wuhan, China

2. ACADEMIC AND PROFESSIONAL POSITIONS

Professor: Department of Mathematics & Statistics, University of North Carolina at Charlotte, 2005

Associate Professor: Department of Mathematics & Statistics, University of North Carolina at Charlotte, 2002 -2005

Assistant Professor: Department of Mathematics & Statistics, University of North Carolina at Charlotte, 1998 -2002

Assistant Professor: Department of Mathematics, Southwest Missouri State University, 1995 - 1998

Instructor, TA and RA: Department of Statistics, University of California, Davis, 1991 -1995

Special-Term Professor, Department of Economics and Finance, Aetna School of Management, Shanghai Jiaotong University, China, April, 2004 _

3. RESEARCH INTERESTS

Business Statistics, Econometrics, Financial Statistics, and Risk Management; Nonlinear Time Series Modeling; Quantitative Methods in the Social Sciences; Nonparametric Curve Estimation and Tests; Data-Analytic Modeling; Survival and Longitudinal Analysis

4. RECENT PUBLICATIONS

1. Local quasi-likelihood method for generalized random curve models with longitudinal data. Revised for Journal of the American Statistical Association (2002) (with H. Wu, Department of Biostatistics, Rochester University).

2. Strong Uniform Consistency of Nonparametric Estimation of The Censored Conditional Mode Function. Journal of Nonparametric Statistics (2003) (with E. Ould-Said), forthcoming.

3. Trending varying-coeffcient models with serially correlated errors. Journal of Econometrics (2003), forthcoming.

4. Nonlinear seasonal time series models. Advances in Econometrics Volume Honoring Engle and Granger, Volume B (2005) (T. Fomby and D. Terrell, eds.) (with R. Chen), forthcoming.

5. Functional coeffcient instrumental variables models. Journal of Econometrics (2003) (with M. Das, H. Xiong and Z. Wu), forthcoming.

6. Local quasi-likelihood approach to varying-coe cient discrete-valued time series mod_els. Journal of Nonparametric Statistics, 15 (2003), 693-711.

7. Local M-estimator for nonparametric time series. Statistics and Probability Letters, 65 (2003), 433-449 (with E. Ould-Said).

8. Weighted local linear approach to censored nonparametric regression. In Recent Advances and Trends in Nonparametric Statistics (M.G. Akritas and D.M. Politis, eds.) (2003), 217-231.

9. Nonparametric methods in continuous-time finance: A selective review. In Recent Advances and Trends in Nonparametric Statistics (M.G. Akritas and D.M. Politis, eds.) (2003), 283-302 (with Y. Hong).

10. Nonparametric estimation equations for time series data. Statistics and Probability Letters, 62 (2003), 379-390.

6. RECENT INVITED TALKS and CONFERENCE PRESENTATIONS

• College of Economics, Shanghai University of Finance and Economics, 2004
• School of Management, Fudan University, 2004
• Department of Economics, Columbia University, 2004
• Department of Economics, Syracuse University, 2004
• Institute of Economics, Academia Sinica, 2003
• Graduate School of Business, University of Chicago, 2003
• School of Management, Syracuse University, 2002
• Department of Economics, Cornell University, 2002

7. PROFESSIONAL ACTIVITIES

• Chair of the Local Committee for ENAR/IMS Meeting in March, 2001 at Charlotte, NC
• Member of the American Statistical Association (ASA)
• Member of the Institute of Mathematical Statistics (IMS)
• Member of the International Econometrics Society
• Member of the Screening Panel of the Statistics Program of the National Sciences Foundation, December, 2004

8. PH.D. DISSERTATION SUPERVISION

• Huaiyu Xiong, "Semiparametric Instrument Variable Models," December, 2004.
• Xiaoping Xu, "Semiparametric Dynamic Quantile Regression Models," May 2005.
• Hongwei Huang, "Nonparametric Panel Models with Intercorrelation and Their Test," May 2005.

Isaac M. Sonin
Professor
Department of Mathematics and Statistics
College of Arts and Sciences

1. EDUCATION

1960-1965	M.S. in Mathematics, Moscow State University, Summa Cum Laude
1966-1968	Moscow State University, Department of Mechanics and Mathematics (Graduate Work)
1970	PhD., Probabiity and Statistics, Moscow State University

2. PROFESSIONAL EXPERIENCE

1969 - 1991	Research Scientist, Senior Research Scientist, Central Economics Mathematical Institute, Russian Academy of Sciences
1991 - present	Professor University of North Carolina at Charlotte
2001 (2 months)	Carnegie Mellon University, Department of Mathematics and Center for Computational Finance

3. REFEREED PUBLICATIONS

Books
Sequential Control with Incomplete Information: The Bayesian Approach to Multi-Armed Bandit Problems (with E.L. Presman), Academic Press, New York, 1990.

4. PAPERS IN REFEREED JOURNALS (Recent)

1. The allocation of expenditures between projects on realization of common blocks (with P.K. Katyshev). In: Studies on Mathematical Economics. Central Econom. Math. Insti., Moscow, 1991 (in Russian).
2. Any nonhomogeneous Markov chain with bounded number of states can be decomposed into asymptotically disconnected components with mixing property. Theory Probability Appl., 1991, 36, no. 1, pp. 65-77.
3. On an extremal property of Markov chains and sufficiency of Markov strategies in Markov decision processes with the Dubins-Savage criterion. Annals. of Operations Research, 1991, 29, pp. 417-426.
4. Growth rate, internal rates of return and turnpikes in an investment model. Economic Theory 5, 383-400, 1995.
5. The "Join the Club" interpretation of some graph algorithms (joint with H. Reiter), College Math. Journal, 27, 54-58, 1996.
6. Increasing the reliability of a machine reduces the period of its work. J. Appl. Prob. 33, 217-223, 1996.
7. Notes on Equivalent Stationary Policies in Markov Decision Processes with Total Rewards (joint with E. Feinberg), Math. Meth. Oper. Res., (1996) 44: 205-221.
8. The Asymptotic Behaviour of a General Finite Nonhomogeneous Markov Chain (The Decomposition-Separation Theorem), Institute of Mathematical Statistics, Lecture Notes-Monograph Series, v. 30, Statistics, Probability and Game Theory, papers in Honor of David Blackwell, eds. T. S. Fergusson, L. S. Shapley and J. B. MacQueen, 337-346, 1996.

9. On Some Asymptotic Properties of Nonhomogeneous Markov Chains and Random Sequences with Countable Number of Values, pp. 297--313, in Statistics and Control of Stochastic Processes, The Liptser Festschrift, Proceedings of Steklov Mathematical Institute Seminar, Editors Y. Kabanov, B. Rozovskii, A. Shiryaev, World Scientific, 1997.
10. The Elimination Algorithm for the Problem of Optimal Stopping, Math. Meth. Oper. Res., 49, pp.111-123, 1999.
11. The State Reduction and Related Algorithms and their Applications to the Study of Markov Chains, Graph Theory and the Optimal Stopping Problem, Advances in Mathematics, 145, pp. 159-188, 1999.
12. I. M. Sonin and J. R. Thornton, Computational properties of algorithm ``REFUND'' for the fundamental/group inverse matrix of a Markov chain. Proc. of the Third Int. Conf. on the Numerical Solution of Markov Chains, Saragoza, Spain, PUZ. pp. 131-148, 1999.
13. Growth rate, internal rates of return and financial bubbles. Publ. of Central Econom. Math. Inst., RAS, Moscow, pp. 1-33, 2000.
14. Recursive Algorithm for the Fundamental/Group Inverse Matrix of a Markov Chain from an Explicit Formula, SIAM J. on Matrix Analysis and Appl., 23, 1, pp. 209-224, 2001.

5. REFEREED CONFERENCE PUBLICATIONS

1. The Elimination Algorithm and its Applications, (joint with J. Thornton), Ninth INFORMS Applied Probability Conference, Boston, MA, June 1997.
2. The elimination algorithm and its application to the optimal stopping problem, 36th IEEE Conference on decision and control, December 1997, San Diego, CA.
3. The elimination algorithm for the optimal stopping problem: properties and applications, 10th INFORMS Applied Probability Conference, Ulm, Germany, 1999.
4. Recursive Computation of the Fundamental/Group Inverse Matrix of a Markov Chain, 5th World Congress of the Bernouilli Society for Math. Statistics and Probability, Guanajuato, Mexico, 2000.
5. The Existence and Uniqueness of Nash Equilibrium point in an m-player Game “Shoot Later, Schoot First!”, First World Congress of the Game Theory Society, Bilbao, Spain, 2000.
6. The Optimal Stopping of “Seasonal” Observations, 11th INFORMS Applied Probability Conference, New York, USA, 2001.

6. THESIS SUPERVISION

Jennifer Hill, UNC Charlotte, 2004 Ph. D. graduate

Volker Wihstutz
Professor
Department of Mathematics and Statistics
College of Arts and Sciences

1. EDUCATION

University of Bremen	1975	PhD
University of Frankfurt	1969	Diploma in Math

2. PROFESSIONAL EXPERIENCE

1992.2005	Professor, University of North Carolina at Charlotte
1987.1992	Associate Professor, University of North Carolina at Charlotte
1986.1987	Visiting Associate Professor, Northwestern University
1985.1986	Visiting Researcher, Courant Institute
1982.1987	Research Associate, University of Bremen

3. REFEREED JOURNAL PUBLICATIONS

1. Noise induced rotation, Zeitschrift f. Angew. Math. Mech., Festschrift P. Sagirov, 70 (1990), 247-253.
2. Lyapunov exponents for white and real noise driven two-dimensional systems, Maths of Random Media: AMS Lectures in Applied Mathematics 27 (1991, 201-214 (with M. Pinsky).
3. Lyapunov exponents of real noise driven nilpotent systems and harmonic oscillators, Stochastics and Stochastic Reports 35 (1991), 93-110 (with M. Pinsky).
4. Lyapunov exponents and rotation numbers of linear systems with real noise, Proceedings of the Singapore Probability Conference 1989, Walter de Gruyter Verlag, 1992, 109-119 (with Pinsky).
5. The growth and energy of a free particle of small mass. Diffusion Processes and Related Problems in Analysis, Vol II: Stochastic Flows, Birkhäuser 1992, 259-282.
6. Lyapunov exponents of linear stochastic systems with large diffusion term, Stoch. Proc. Applic. 40 (1992), 289-308 (with E. Pardoux).
7. Stabilization of companion form systems by mean zero noise, Stochastics and Stochastic Reports 49 (1994), 1-25 (with J. Kao).
8. Stabilization by random vibration ASME Design Engineering 84 (1995), 881-892.
9. Large noise asymptotics of invariant measures with applications to Lyapunov exponents, Stochastics and Stochastic Reports 59 (1996), 71-142, (with L. Arnold and A. Eizenberg)
10. The order of convergence of invariant measures associated with stabilizing versus destabilizing noise, Zeitschrift f. Angene. Math. Mech. 76 (1996), 29-31.
11. Numerics for Lyapunov exponents of hypoelliptic linear stochastic systems, Field Inst. Communications 9 (1996), 203-217.
12. Review on S.P. Meyn and R.L. Tweedie, Markov Chains and Stochastic Stability.
13. Perturbation Methods for Lyapunov exponents, in H. Crauel and M. Gundlach (eds): Stochastic Dynamics, Springer-Verlag 1999, Chapter 9, 209-239.

Whihstutz vita – continued

14. Characterization of stochastic processes which stabilize linear companion form systems; Stoch. Proc. Applic. 89 (2000), 49-68.
15. Communication Structure of discretized degenerate diffusion processes and approximation of Lyapunov exponents, J. Monte Carlo Methods and Applications, Dec. 2000.
16. On stabilizing the double oscillator by random vibration. Submitted, Aug.2002

5. GRANTS, CONTRACTS, AND AWARDS

1990 NSF - $7,546 "Special Month and Conference on Stochastic Flows"
1991 NSF - $8,980 (Post doctoral support) "Simplicity of the Lyapunov Spectrum"
1991.1993 NSF - $47,380 "Asymptotics of Lyapunov Spectrum and Stabilization, by Noise"
1994.1997 NSF -$60,000 "Large Noise Asymptotics and Numerics for Degenerate Stochastic Differential Systems"

6. PROFESSIONAL ACTIVITIES

Editing:

1. Lyapunov exponents, Springer Lecture Notes in Mathematics, #1186 (1986) (with L. Arnold).
2. Diffusion Processes and Related Problems in Analysis: Stochastic Flows. V. Wihstutz, ed. Birkhäuser (Progress in Probability, Volume 27), 1992 (with M. Pinsky).

Reviewing: Zentralblatt für Mathematik, Mathem. Reviews

Refereeing: Regularly for several Math. Journals, and NSF

Mingxin Xu
Assistant Professor
Department of Mathematics and Statistics
College of Arts and Sciences

1. EDUCATION

Shanghai Jiao Tong University	1996	BS
Syracuse University	1998	MS
Carnegie Mellon University	2004	PhD

2. PROFESSIONAL EXPERIENCE

University of North Carolina at Charlotte, Department of Mathematics and Statistics, July 2004 – present.

3. REFEREED JOURNAL PUBLICATIONS

Jan Večeř, Mingxin Xu (2004) "Pricing Asian options in a semimartingale model", Quantitative Finance, 4, 170-175.

Jan Večeř, Mingxin Xu (2004) "Mean comparison theorem cannot be extended to Poisson case", Journal of Applied Probability, 41, 4, 1199-1202.

4. REFEREED CONFERENCE PUBLICATIONS

5. GRANTS, CONTRACTS, AND AWARDS

6. PROFESSIONAL ACTIVITIES

Member of:

Associate Editor for:

Reviewer for: Applied Mathematical Finance, International Journal of Theoretical and Applied Finance

7. THESIS SUPERVISION

Senior thesis for Mayo Suzuki.

Zhiyi Zhang
Associate Professor
Department of Mathematics and Statistics
College of Arts and Sciences

1. EDUCATION

Ph.D. in Statistics Rutgers University, 1990
M.S. in Statistics Rutgers University, 1987
B.A. in Mathematics Hunter College, CUNY, 1985

2. PROFESSIONAL EXPERIENCE

Associate Professor	UNC Charlotte, 1996-Current
Assistant Professor	UNC Charlotte, 1990-1996
Statistical Advisor	OSAM, UNCC, 1990-Current
Statistical Advisor	Katz Healthcare Services, NC, 97-Current
PSC Member	Water Environmental Research Foundation, DC
Member	Expert Panel, Office of Water, US EPA, 96-98
Statist. Consultant	Ortho Pharmaceutical Corporation, J & J, 88-89

3. REFEREED JOURNAL PUBLICATIONS

Recovery of interblock information in BIBDs with interaction, with Arthur Cohen, Journal of Statistical Planning and Inference, Vol. 31, No. 3, pp.373-386, 1992.

The robustness of ANOVA with respect to interactions in some orthogonal block designs, Communications in Statistics - Theory and Methods, Vol. 21, No. 1, pp.233-240, 1992.

Recovery tests in BIBDs with very small degrees of freedom for interblock errors, Statistics and Probability Letters, Vol. 15, No. 3, pp.197-202, 1992.

A spectral form of dispersion model in block designs with arbitrarily unequal block sizes, Statistics and Probability Letters, Vol. 15, No. 4, pp.313-319, 1992.

Effects of prenatal litter size in inbred mice on morphometric characters with different developmental patterns, Growth, Development & Aging, with Larry Leamy, Vol. 57, No. 1, pp.13-23, 1993.

On improving omnibus tests in Meta-analysis using vote-counts, Communications in Statistics - Simulation and Computation, Vol. 23, 3, pp. 803-812, 1994.

Combining Wilcoxon tests with censored data: an application to well water contamination, Environmetrics, with L.R. Korn, E.A. Murphy, Vol. 5, No. 4, pp.463-472, 1994.

Weighted combination of Wilcoxon tests with interlaboratory lifetime data, Sankhya Series A, Vol. 58, Part 2, pp. 311-327, 1996.

Zhang vita-continued

A simple quantile approach to the two-sample problem under a location-scale model with random right censorship, Journal of Nonparametric Statistics, with G. Li, Vol. 6, pp.323-335, 1996.

On robust estimation of effect size under semiparametric models, Psychometrika, with N. Schoeps, Vol. 62, No. 2, pp. 201-214, 1997.

The effect of patient characteristics on response to focal laser treatment for diabetic macular edema, Ophthalmology, with D.J. Browning, J.M. Benfield, and A.Q. Scott, Vol. 104, No. 3, pp. 466-472, 1997.

The risk of missing angle neovascularization by omitting gonioscopy in central retinal vein occlusion, Ophthalmology, with D.J. Browning, A.Q. Scott, C. B. Peterson, and J. Warnock, Vol. 105, No. 5, pp. 776-784, 1998.

Measurement precision of body composition variables using the lunar DPX-L densitometer, Journal of Clinical Densitometry, with G.M. Kiebzak, L.M. Pierson, L.J. Leamy, Vol. 3, No. 1. pp. 35-41. 2000.

4. REFEREED CONFERENCE PUBLICATIONS

Quantifying the impact of maintenance activities on SSO via statistical modeling, Water Environmental Federation Conference Proceedings (Compact Disk), with A.E. Gallaher, Collection Systems Rehabilitation and O&M Specialty Conference, Salt Lake City, Utah, August 1-4, 1999.

5. GRANTS, CONTRACTS, AND AWARDS

1997-1998	US EPA Grant, $90,000	PI
1996-1998	NIST ATP Grant, $1.1 M	Co-PI
1995	ONR Research Grant, $50 K	Co-PI
1991-1994, 1997	UNCC Faculty Res. Grant.	PI

6. PROFESSIONAL ACTIVITIES

SELECTED CONSULTING ACTIVITIES:
Nutech Solutions, Inc., Response Model, Investment Attrition Model, 2001.
Bank of America, Response Model, Balance Diminishment Model, 2000-2001.
First Union National Bank, ATM Queuing Model, Credit Risk Model, 1996-2001.
GE Capital, Credit Risk Model, 1992-1995.
The Franklin Mint, Response Model, 1988.

You-lan Zhu
Professor
Department of Mathematics and Statistics
College of Arts and Sciences

1. EDUCATION Tsinghua University in Beijing, China, 1963

2. PROFESSIONAL EXPERIENCE

Aug. 1990 - present	Department of Mathematics University of North Carolina at Charlotte
July 1990 - Aug. 1990	Stanford University
Dec. 1989 - June 1990	University of Heidelberg
May 1989 - Nov. 1989	Computing Center, Academi_ Sinic_
Apr. 1989 - May 1989	IMA, University of Minnesota_
Oct. 1988 - Apr. 1989	University of Heidelberg
Apr. 1988 - Sep. 1988	Computing Center, Academia Sinica
Dec. 1987 - Mar. 1988	University of Heidelberg
Dec. 1986 - Nov. 1987	Computing Center, Academia Sinica_
Sep. 1986 - Dec. 1986	IMA, University of Minnesota
Apr. 1986 - Sep. 1986	Computing Center, Academia Sinica
Jun. 1986 - Apr 1986	University of Heidelberg
June 1985 - Jun. 1986	Computing Center, Academia Sinica
Apr. 1985 - May 1985	California Institute of Technology
July 1981 - Mar. 1985	Computing Center, Academia Sinica
Apr. 1981 - June 1981	Uppsula University
July 1980 - Mar. 1981	Computing Center, Academia Sinica
Apr. 1980 - June 1980	University of California, Berkeley
Jun. 1980 - Mar. 1980	California Institute of Technology
May 1979 - Dec. 1979	Courant Institute, NYU
May 1978 - Apr. 1979	Computing Center, Academia Sinica
Sep. 1963 - Apr. 1978	Institute of Computing Technology, Academia Sinica

3. REFEREED JOURNAL PUBLICATIONS

1. You-lan Zhu (2003), Three-factor interest rate models, Communications in Mathematical Sciences, Vol.1, pp. 557–573.

2. You-lan Zhu and Jinliang Li (2003), Multi-factor financial derivatives on finite domains, Communications in Mathematical Sciences, Vol.1, pp. 343–359.

3. You-lan Zhu, Bin-mu Chen, Hongliang Ren and Hanping Xu (2003), Application of singularity-separating method to American exotic option pricing, Advance in Computational Mathematics, Vol. 19, pp. 147–158.

4. You-lan Zhu and Ying-jun Sun (1999), The singularity-separating method for two-factor convertible bonds, Journal of Computational Finance, Vol. 3, pp. 91–110.

Zhu vita-continued

4. BOOKS

1. You-lan Zhu, Xiaonan Wu and I-Liang Chern, Derivative Securities and Difference Methods, Springer-Verlag, New York, 2004.

2. You-lan Zhu, Xi-chang Zhong, Bing-mu Chen and Zuo-min Zhang, Difference methods for initial-boundary value problems and flow around bodies, Science Press, Beijing, China, 1980 (in Chinese); the English edition with some supplements, Springer-Verlag, Heidelberg and Science Press, Beijing, 1988.

5. REFEREED CONFERENCE PUBLICATIONS

1. You-lan Zhu and Ben-yu Guo (Eds.), Lecture Notes in Mathematics, Vol. 1297, Proceedings of the First Chinese Conference on Numerical methods for Partial Differential Equations, Springer-Verlag, Heidelberg, 1987.

2. F.G. Zhuang and Y.L. Zhu (Eds.), Lecture Notes in Physics, Vol. 264, Proceedings of the Tenth International Conference on Numerical Methods in Fluid Dynamics, Springer-Verlag, Heidelberg, 1986.

6. THESIS SUPERVISION

The following persons got their PHDs under my supervision : Xionghua Wu, Zhi-zhong Sun, Xiangdong Guo, Taehoon Park, Yingjun Sun, Jinliang Li, Rasoul Behboudi.

Appendix D
Proposed Catalog Copy

BUSINESS ADMINISTRATION

Director
To Be Determined
209 Friday Building
704-687-2569

Degrees
Ph. D.

Graduate Faculty
Accounting
Alan Blankley, Associate Professor of Accounting
Hughlene A. Burton, Chair and Associate Professor of Accounting
Jack M. Cathey, Associate Professor of Accounting
Nabil Elias, Associate Professor of Accounting
L. Howard Godfrey, Professor of Accounting
Richard G. Schroeder, Professor of Accounting
Suzanne K. Sevin, Assistant Professor of Accounting

Business Information Systems and Operations Management
Frank C. Barnes, Professor of Operations Management
W. Douglas Cooper, Professor of Operations Management
Moutaz J. Khouja, Chair and Associate Professor of Operations Management
Ram L. Kumar, Associate Professor of Management Information Systems
John R. O'Malley, Jr., Assistant Professor of Management Information Systems
Gordon H. Otto, Visiting Professor of Operations Management
Baba C. Prasad, Assistant Professor of Management Information Systems
Stephanie S. Robbins, Associate Professor of Management Information Systems
Cem Saydam, Professor of Operations Management
Michael A. Smith, Assistant Professor of Management Information Systems
Anthony C. Stylianou, Associate Professor of Management Information Systems
Chandrasekar Subramaniam, Assistant Professor of Management Information Systems
Susan J. Winter, Assistant Professor of Management Information Systems

Economics
Louis "Ted" Amato, Professor of Economics
John E. Connaughton, Professor of Economics
William Y. Davis, Jr., Professor of Economics
Phillip Jeon, Adjunct Lecturer
Hwan C. Lin, Associate Professor of Economics
Gaines H. Liner, Associate Professor of Economics
Ronald A. Madsen, Professor of Economics
Rob Roy McGregor, Associate Professor of Economics
Stanislav I. Radchenko, Assistant Professor of Economics
Benjamin Russo, Associate Professor of Economics

Peter M. Schwarz, Professor of Economics
Ellen M. Sewell, Assistant Professor of Economics
Jennifer Troyer, Assistant Professor of Economics
Hui-Kuan Tseng, Associate Professor of Economics
Richard A. Zuber, Interim Chair, and Professor of Economics

Finance and Business Law
Lloyd P. Blenman, Associate Professor of Finance
Richard J. Buttimer Jr., Associate Professor of Finance
Steven P. Clark, Assistant Professor of Finance
Faith R. Neale, Assistant Professor of Finance
William F. Kennedy, Associate Professor of Finance
Ben H. Nunnally Jr., Professor of Finance
Steven H. Ott, John Crosland, Sr., Distinguished Professor of Real Estate and Development
D. Anthony Plath, Associate Professor of Finance
Judson W. Russell, Adjunct Faculty, Finance and Principal, Global Corporate & Investment Banking Bank of America
Calvin W. Sealey, Chair and The Torrence E. Hemby, Sr., Distinguished Professor in Banking
Louis A. Trosch, Professor of Business Law

Management
Joyce M. Beggs, Associate Professor of Management
Rosemary Booth, Associate Professor of Management
Claudio Carpano, Associate Professor of Management
Kent E. Curran, Professor of Management
Francis H. Fabian, Assistant Professor of Management
Christine Henle, Assistant Professor of Management
I. Edward Jernigan III, Associate Professor of Management
Daryl L. Kerr, Associate Professor of Management
Gary F. Kohut, Professor of Management
John G. Michel, Assistant Professor of Management
Herman A. Ndofor, Assistant Professor of Management
Doug Pugh, Assistant Professor of Management
Beth A. Rubin, Associate Professor of Management
Bennett J. Tepper, Professor of Management
Kelly L. Zellars, Assistant Professor of Management

Marketing
Christie H. Amato, Professor of Marketing
Charles D. Bodkin, Associate Professor of Marketing
Fred H. Campbell, Professor of Marketing
Sunil Erevelles, Associate Professor of Marketing
Alan T. Shao, North Carolina Ports Professor of Marketing and International Business
Thomas H. Stevenson, Charles E. Cullen Distinguished Professor of Marketing
Linda E. Swayne, Chair and Professor of Marketing

Ph.D. in BUSINESS ADMINISTRATION (Ph.D.)

The Ph.D. in Business Administration is a research-oriented program designed to prepare graduates for teaching and research careers in academia. The program includes core courses covering all business specialties combined with an in-depth study in both theoretical and empirical aspects of the major and minor field. Students also receive training in pedagogy. Students are expected to demonstrate mastery of the existing body of knowledge in their major field and to develop new knowledge through original independent research. With the educational background provided by the program, graduates are qualified for tenure-track professor positions at both national and international research and teaching universities and other educational institutions.

Additional Admission Requirements

All applicants seeking admission into the Ph.D. in Business Administration must fulfill the University's general requirements for graduate admission at the Ph.D. level. Additional requirements for admission into the program are listed below.

1. A baccalaureate or master's degree in Business, Economics, or a related field with a minimum undergraduate GPA of 3.5 (A=4.0) overall. In the case a candidate presents a master's degree at application, a minimum graduate GPA of 3.25 (A=4.0) on all graduate coursework is required.
2. A GMAT score of at least 650 or GRE scores with scores on the quantitative section of at least 700 and on the verbal section of at least 500.
3. For non-native speakers of English that do not hold degrees from a US university, a score of 220 on the computer-based TOEFL, a score of 557 on the paper-based TOEFL, or 85% on the MELAB.
4. Non-native speakers of English may be required, at the discretion of the Graduate School or the Program Director for the Ph.D. in Business Administration, to enroll in English as a Second Language (ESL) courses at the English Language Training Institute.
5. Three positive letters of recommendation, one of which must be from a former professor.
6. A Statement of Purpose from the applicant explaining why they wish to pursue a Ph.D. in Business Administration and why they wish to study the specific area to which they are applying.
7. To insure their preparation for doctoral coursework, students may be required to take additional undergraduate or graduate courses, as determined by the Ph.D. in Business Administration Program Committee and the Program Director. Such courses will be specified prior to the time of admission into the program and may include courses in finance, economics, accounting, marketing, management, operations management, management information systems, mathematics, or statistics.

Students are admitted to the program by the Dean of the Graduate School based on the recommendation of the Belk College of Business Doctoral Program Director, in consultation with the Belk College of Business Doctoral Program Committee. Recommendations are based on the assessments of the Program Director and the Program Committee of the candidate's ability to complete the program, as supported by the application materials. The Program Director, in consultation with the Program Committee, may waive certain requirements if they judge the candidate to be capable of completing the program. If there are more candidates than can be accommodated, candidates are recommended in order of their perceived ability, promise of success, and suitability to the program.

Degree Requirements

The degree of Doctor of Philosophy in Business Administration is awarded for completion of scholarly research that advances knowledge in the field of research. Evidence of this is demonstrated by a successful dissertation defense. Additionally, recipients of this degree must demonstrate mastery of the body of knowledge within their major field and potential for success in future teaching and research.

Students that enter the program must work with the Program Director to develop a Plan of Study during their first two semesters in the program. This Plan of Study will determine the exact coursework that the student must meet in order to be eligible to take the Qualifying Examination. The Plan of Study must meet all Graduate School and Belk College of Business requirements. The Graduate School requires that any student earning a Ph.D. must complete at least 72 post-baccalaureate semester-hours, including at least 18 hours of dissertation credit. Some of these graduate credit hours may include courses taken while enrolled in other graduate programs. It is a Belk College of Business requirement that any program of study within the Ph.D. in Business Administration must contain at least 42 semester-hours of doctoral coursework, regardless of other graduate hours that the student may have previously earned. These 42 semester hours are in addition to the minimum 18 hours of dissertation credit that the Graduate School requires. The Plan of Study must contain a minimum of 18 hours in the major field, a minimum of 15 hours in the minor field, and a minimum of 9 hours in research-support courses.

In addition to the general requirements above, if a student enters the program without a Master's degree, the Plan of Study must include an additional 30 hours of coursework. This coursework must be taken at the graduate level and will generally include courses that are part of the Master of Accountancy, Master of Business Administration, Master of Science in Economics, or Master of Science in Mathematical Finance programs. These 30 hours of additional coursework are subject to the approval of the Program Director.

To insure that all students are ready for doctoral courses in Business Administration, the program has two distinct sets of prerequisites. First, students entering the program must either demonstrate or attain proficiency in each of the business specialties. Second, students must also demonstrate or attain mathematical proficiency. Students entering the program will be evaluated for these proficiencies by the Program Director. If a student is found to be deficient then the Plan of Study must include appropriate courses, as determined by the Program Director, from the

Business Core and Mathematical prerequisites listed below. These courses are in addition to the major, minor, and research support courses.

Business Core
To insure their preparation for doctoral level coursework in all business specialties, students most demonstrate proficiency in the Business Core. Students may satisfy this requirement either by taking the following courses,

1. Accounting and Financial Management (MBAD 5131)
2. Foundations of Microeconomic (MBAD 5112)
3. Foundations of Macroeconomics (MBAD 5113)
4. Financial Management (MBAD 6152)
5. Marketing Management (MBAD 6171)
6. Management Policy (MBAD 6194)
7. Business Information Systems (MBAD 6121),

or by having previously taken equivalent courses. For the 5000-level courses listed above, graduate or undergraduate courses may count as equivalent courses. For the 6000-level courses listed above, only graduate courses may count as equivalent courses.

Mathematics Prerequisites
The only major available to students enrolled in the Ph.D. in Business Administration program is finance, and all finance students must minor in economics. Finance and economics are mathematically intensive fields. To ensure that students are prepared for doctoral level coursework they are required to have had, at the graduate or undergraduate level, the equivalent of the following courses:

1. Calculus I (MATH 1241)
2. Calculus II (MATH 1242)
3. Calculus III (MATH 2241)
4. Linear Algebra (MATH 2164)
5. Probability and Statistics (MATH 3122/MATH 3123)

Students lacking these mathematics courses will generally be allowed to take those courses at either the graduate or undergraduate level. At the Program Director's discretion, a student may be permitted to take combined courses to meet multiple prerequisites.

Although unlikely, it is possible that a student may enter the program who has not taken a specific prerequisite or business core course but has, nevertheless, acquired the same skill and technical abilities that the course would convey. In such cases the Program Director may waive the course.

Finance Major Courses
The Plan of Study for a finance major must consist of a minimum of six courses in finance. Normally these courses are:

1. BPHD 8200 – Financial Economic Theory
2. BPHD 8210 – Investments and Portfolio Theory
3. BPHD 8220 – Asset Pricing
4. BPHD 8230 – Theory of Corporate Finance
5. BPHD 8240 – Derivatives
6. BPHD 8650 – Advanced Seminar in Finance

Two of these courses, BPHD 8200 and BPHD 8240, are cross-listed with courses that are part of the Master of Science in Economics and the Master of Science in Mathematical Finance programs. Ph.D. students in these cross-listed courses will be required to complete the master's level requirements of the course and in addition, will be required to take separate exams, prepare a research paper, and complete additional readings. Students that have taken those equivalent courses may, at the discretion of the Program Director, substitute additional sections of BPHD 8650 on their Plan of Study for those courses. In addition, the Program Director may require a student to list BPHD 8650 more than once in their Plan of Study as topics change.

Economics Minor Courses
The Plan of Study for an economics minor must consist of five courses in economics. These courses are:

1. BPHD 8100 – Microeconomic Theory I
2. BPHD 8110 – Microeconomic Theory II
3. BPHD 8120 – Econometrics I
4. BPHD 8130 – Econometrics II
5. BPHD 8140 – Econometrics III

Exceptions to the economics minor courses may only be made with the permission of the Ph.D. Program Director.

Research Support Courses
The Ph.D. in Business Administration requires that students have at least nine hours of research support courses in their Plan of Study. For the finance major these research support courses must come from the Department of Mathematics. These courses are:

1. MATH 8202 – Partial Differential Equations for Finance
2. MATH 8203 – Stochastic Calculus for Finance
3. MATH 8204 – Numerical Methods for Financial Derivatives.

The research support courses are cross-listed with courses used in the Master of Mathematical Finance program. Students that have taken those equivalent courses may, at the discretion of the Program Director, take other mathematics, statistics, economics, finance or related courses in place of the courses specified above.

Grades
A student is expected to earn A's and B's in all courses included in the program of study and must have at least a 3.0 GPA to graduate. The dissertation is graded on a pass/unsatisfactory basis and, therefore, will not be included in the cumulative average. An accumulation of more than two marginal (C) grades will result in suspension of the student's enrollment in the program. If a student earns a grade of U in any course, their enrollment will be suspended and the student cannot take further coursework without being readmitted to the program. Readmission to the program requires approval of the Dean of the Graduate School upon the recommendation of the Program Director.

Teaching Mentor and Pedagogy Training
To insure that graduates of the program are prepared for a career in both teaching as well as in research, a formal system of pedagogical training is required. Students that enter the program without prior teaching experience will be assigned a faculty Teaching Mentor and will be required to attend a teaching workshop. Most students entering the program will also initially be employed as teaching assistants. Normally after one year in the program students will begin to teach their own sections of undergraduate courses. The combination of mentoring, apprenticeship training through the teaching assistantships, formal pedagogy, and actual instructor experience will allow students in the program to develop their teaching skills along with their research skills.

Diagnostic Evaluation
Students entering the program will take a diagnostic evaluation at the end of their first full year in the program. The diagnostic examination will be administered by the Program Director, in consultation with the Program Committee. The format of the diagnostic examination will be determined by the Committee, but might consist of a review of the student's work in classes, a written exam, or an oral exam. The purpose of the diagnostic evaluation will be to determine whether the student is making sufficient progress toward the degree. Students that are determined not to be making satisfactory progress toward the degree will be suspended from the program.

Dissertation Advisor and Advisory Committee
Every student in the program must have a Dissertation Advisor and an Advisory Committee prior to being admitted to Candidacy. The student should select a dissertation advisor before the end of the second year of residency. The student and the dissertation advisor jointly determine the advisory committee. The Dissertation Advisor serves as Chair of the Advisory Committee and must be a member of the Graduate Faculty of UNC Charlotte. Normally the Dissertation Advisor for a student majoring in finance will be a member of the Department of Finance and Business Law. A student may petition the Program Director to allow a member of another Department within the Belk College, or a member of the Mathematics Department, to serve as their Dissertation Advisor.

The advisory committee must have at least four members, three of which are chosen by the student. Normally two members will be from the student's major field, and one from the student's minor field. A student may petition the Program Director to allow a member of another Department within the Belk College, or a member of the Mathematics Department to serve on

the Committee. The fourth member of the committee will be the Graduate School representative to the Committee. That member will be appointed by the Dean of the Graduate School. All members of the Committee must be members of the UNC Charlotte Graduate Faculty.

Qualifying Examination
Upon completion of all required coursework on their Plan of Study, a student must take the Qualifying Examination. The Qualifying Examination is held once a year during June. Students that have completed their Program of Study must take the qualifying examination the first time that it is offered. The Comprehensive Exam will be a written exam consisting of two four-hour sessions, administered on consecutive days. The intent of the qualifying exam is to test the student's mastery of the body of knowledge in their major, and to demonstrate their familiarity with current research in the field. The qualifying exam will, therefore, cover topics addressed during doctoral coursework, seminars, and in the recent scholarly literature. The qualifying examination will be written and graded by an Examination Committee appointed by the Program Director. This committee will normally consist of faculty from the student's major, minor, and research support fields.

If a student fails the qualifying exam, they must wait until the following June to retake the exam. During the interim period the student will be required to retake courses in which, in the eyes of the Examination Committee, they have a deficiency. A student failing the qualifying exam a second time will be suspended from the program.

Admission to Candidacy
The dissertation topic may be proposed after the student has passed the Qualifying Examination. Pursuant to Graduate School rules, a doctoral student advances to candidacy after the student's Advisory Committee and the Dean of the Graduate School approve the dissertation topic. Further pursuant to Graduate School rules, candidacy must be achieved at least six months before the degree is conferred.

Dissertation
The student must complete and defend a dissertation based on a research program approved by the student's Dissertation Advisor and Advisory Committee which results in a high-quality, original and substantial piece of research. The student must orally present and defend the dissertation before the Advisory Committee in a defense that is open to the University Community. A copy of the dissertation must be made available to the Graduate Faculty of the Belk College at least three weeks prior to the public defense. While the defense is open to the University Community, the deliberations of the Advisory Committee are held in Executive Session. The dissertation will be graded on a pass/unsatisfactory basis by the Advisory Committee and the Dean of the Graduate School.

The dissertation defense is the final examination. It is a Graduate School requirement that a student that fails the final examination twice will be terminated from the program.

Residency Requirement
The Ph.D. in Business Administration is a full-time program. Normally students must enroll for at least nine credit hours during each semester of the regular academic year (i.e. fall and spring)

and at least six hours in the summer semester. Students may petition the Program Director for permission to enroll in less than nine semester hours (six semester hours in summer) in cases of hardship or other emergencies. Students that have passed their Qualifying Examinations must enroll in BPHD 8999 – Doctoral Dissertation Research for at least 9 hours during the fall and spring semester and 6 hours during the summer semester. It is a Graduate School requirement that a student must enroll in at least 18 total hours of Dissertation Research in order to graduate from the program.

Students that have completed all degree requirements, including the Dissertation Defense, may enroll once in BPHD 9999 –Dissertation Residency Credit in order to meet Graduate School Residency requirements.

Assistantships
A number of graduate assistantships are available each year for qualified applicants. The Graduate School also has a limited number of fellowships available for highly qualified applicants.

Language Requirement
The program has no foreign language requirement.

Transfer Credit
Only courses with grades of A or B from an appropriate doctoral program at an AACSB accredited school may be accepted for transfer credit. Transfer credit must be approved by the Program Director, and cannot exceed the limit set by the Graduate School.

Time Limit for Degree Completion
The student must achieve candidacy for the Ph.D. degree within six years of enrolling in the program, and the student must complete all degree all requirements within eight years of enrolling in the program. All courses listed on the Plan of Study must also meet Graduate School time requirements.

Application for Degree
An Application for Degree form must be submitted to the Graduate School by the published deadline.

COURSES IN BUSINESS ADMINISTRATION

Graduate Only

BPHD 8100. Microeconomic Theory I. (3) Prerequisite: Admission to Ph.D. in Business Administration or Permission of Instructor. Theories of the firm, of the consumer, and of resource owners; determination of prices under different market structures; general equilibrium analysis and welfare economics. (*Fall*)

BPHD 8110. Microeconomic Theory II. (3) Prerequisite: BPHD 8100. Study of game theory, its applications in microeconomic theory and finance, and topics on market equilibrium and market failure. The topics cover simultaneous-move games, dynamic games, analysis of competitive markets, market power, adverse selection and the principal-agent problem. (*Spring*)

BPHD 8120. Econometrics I. (3) Prerequisites: Admission to the Ph.D. in Business Administration or Permission of Instructor. Advanced study of the theory and application of statistics to economic problems. Topics include the derivation of least squares estimators, maximum likelihood estimation, and problems of multicollinearity, heteroskedasticity, and autocorrelation. (*Fall*)

BPHD 8130. Econometrics II. (3) Prerequisite: BPHD 8120. Advanced course in time series econometrics. The course focuses on time series methods that have become popular and are widely used in applied economics. The course focuses on estimation of univariate and multivariate models (VAR, FAVAR, ECM, and SEM), estimation of dynamic factor models, construction of optimal forecasts and their properties, combination of forecasts. Issues of nonstationarity, cointegration are also examined. (*Spring*).

BPHD 8140. Econometrics III. (3) Prerequisite: BPHD 8130. Advanced study of the econometric methods applicable to financial economic modeling. Examines the predictability of stock market returns, the event study methodology, single factor and multifactor models, basic principles of portfolio theory and portfolio evaluation. The course also covers topics on volatility modeling and fixed-income securities. (*Fall*)

BPHD 8200. Financial Economic Theory. (3) Prerequisites: Admission to Ph.D. in Business Administration or Permission of Instructor. Studies the main themes of financial economics using discrete-time models. Topics include risk measurement, choice under uncertainty, portfolio selection, capital asset pricing model (CAPM), Arrow-Debreu pricing, options and market completeness, the Martingale measure, the arbitrage pricing theory, consumption-based CAPM, and financial structure and firm evaluation. (*Fall*)

BPHD 8210. Investments and Portfolio Theory. (3) Prerequisites: BPHD 8200. Detailed introduction to modern investment and portfolio theory, including asset pricing. Covers standard and non-standard CAPM analysis, APT, stochastic dominance, efficient frontier analysis, optimal portfolio selection, fixed income and bond portfolios, options, futures pricing and evaluation of portfolio performance. The goal of the course is to provide a solid foundation in investments for students who will take further advanced courses in asset pricing. (*Spring*)

BPHD 8220. Asset Pricing. (3) Prerequisites: BPHD 8210. Introduction to multi-period models in finance, mainly pertaining to optimal portfolio choice and asset pricing. The course begins with discrete-time models for portfolio choice and security prices, and then moves to a continuous-time setting. The topics then covered include the Black-Scholes model of asset pricing and some of its extensions, models of the term structure of interest rates, valuation of corporate securities, portfolio choice in continuous-time settings, and finally, general-equilibrium asset pricing models. (*Fall*)

BPHD 8230. Theory of Corporate Finance. (3) Prerequisites: BPHD 8200. The course covers the theory and evidence concerning major corporate financial policy issues including capital structure, payout policy, security design and issuance, capital budgeting, mergers and acquisitions, agency theory and financial contracting, and the market for corporate control. (*Spring*)

BPHD 8240. Derivatives. (3) Prerequisites: BPHD 8200. Theory and practice of financial derivatives markets including forwards, futures, options and interest rate markets. Topics include the economics of derivatives markets, pricing models for instruments in these markets, strategies for hedging and speculation, as well as regulatory and governance issues. Special attention is placed on the development of pricing models and advanced analytic techniques. (*Fall*)

BPHD 8650 Advanced Seminar in Finance (3) Prerequisites: Permission of Instructor. This course covers advanced topics in Finance. Topics will vary. May be repeated for credit for different topics. (*On Demand*)

BPHD 8999 – Doctoral Dissertation Research. (1-9) Prerequisite: Admission to Candidacy for the Ph.D. in Business Administration. Each student will initiate and conduct an individual investigation culminating in the preparation and presentation of a doctoral dissertation. (*On Demand*).

BPHD 9999. Doctoral Residence. (1) Meets Graduate School requirement for continuous enrollment during final term prior to graduation when all course work has been completed. Pass/no credit grading. Credit for this course does not count toward the degree. (*On Demand*).

RESEARCH SUPPORT COURSES OFFRED BY THE DEPARTMENT OF MATHEMATICS

MATH 8202. Partial Differential Equations for Finance. (3) This course deals with those partial differential equations which are associated with financial derivatives based on factors such as equities and spot interest rates. (Same as MATH 6202) (*Fall*)

MATH 8203. Stochastic Calculus for Finance. (3) An introduction to those aspects of partial differential equations and diffusion processes most relevant to finance, Random walk and first-step analysis, Markov property, martingales and semi-martingales, Brownian motion. Stochastic differential equations: Ito's lemma, backward and forward Kolmogorov equations, the Feynman-Kac formula, stopping times, Hull and White Models, Cox-Ingersoll-Ross Model. Applications to finance including portfolio optimization and option pricing. (Same as MATH 6203) *(Spring*)

MATH 8204. Numerical Methods for Financial Derivatives. (3) This course will introduce students to numerical and computational techniques for solving both European- and American-style financial derivatives. The approach will be the finite difference method and the basic theoretical concepts will be introduced. Final projects will involve implementing the techniques on computers. Some spectral and Monte Carlo methods will also be discussed. (Same as MATH 6204) (*Fall*).

Appendix E
Library Consultation

Course/Program:_____PhD in Business_____

Summary of Librarian's Evaluation of Holdings:

Evaluator: _____Jeanie M. Welch_____ Date: ___January 21, 2005__
Please Check One:

Holdings are superior	_____
Holdings are adequate	_____
Holdings are adequate only if Dept. purchases additional items.	__X__
Holdings are inadequate	_____

Comments:

Please see attached comments for Program Proposal Section V.

Appendix F
Projected Budgets

Projected Funding for New Degree Program
Doctor of Philosophy in Business Administration
Regular Term 2006-2007
(Based on 2005-2006 Change in Student Credit Hours)

Program Category	Change in Student Credit Hours			Instructional - Position Funding Factors			Instructional Positions Required		
	Undergrad	Masters	Doctoral	Undergrad	Masters	Doctoral	Undergrad	Masters	Doctoral
Category I				643.72	171.44	138.41	0.000	0.000	0.000
Category II			0	487.37	249.94	146.74	0.000	0.000	0.000
Category III				364.88	160.93	122.95	0.000	0.000	0.000
Category IV				230.52	102.45	70.71	0.000	0.000	0.000

	Total Positions Required		**0.000**
	Instructional - Position Salary Rate	(FY 02)	$65,191
101-1310	Instructional Salary Amount		$0
	Other Academic Costs	44.89300%	0
Purpose 101	Total Academic Requirements		$0
Purpose 151	Library	11.48462%	0
Purposes 152, 160, 170 180	General Instit Support	54.04980%	0
	Neg Adj Factor	50.00000%	n/a
	In-state SCHs	0	
	Financial Aid (in-state)	67.99800%	0
	Total Requirements		**$0**

Fringes for faculty salaries	
FICA @ 7.65%;	*$0*
*Retirement @ **10.485%***	*$0*
Medical @ $3,432	*$0*
	$0

SUMMARY OF ESTIMATED ADDITIONAL COSTS FOR PROPOSED PROGRAM/TRACK

Institution **UNC Charlotte** *Date* **April 27, 2005**

Program (API#, Name, Level) **52.0201 Business Administration**

Degree(s) to be Granted **Ph.D.** *Program Year* **2006-07**

	ADDITIONAL FUNDING REQUIRED - BY SOURCE				
	Reallocation of Present Institutional Resources	Enrollment Increase Funds	Federal/State or Other Non-state Funds (Identify)	New Allocations	Total
101 Regular Term Instruction					
1210 SPA Regular Salaries	$13,354				$13,354
Secretary (Grade 59) (.5)	13,354				
1110 EPA Non-teaching Salaries					0
1310 EPA Academic Salaries	250,000	0	0		250,000
Program Director (.5)	65,000				
New Assistant Professor--Economics (1)	95,000				
Graduate Assistants (4@ $18000)	90,000				
1810 Social Security	20,147		0		20,147
1820 State Retirement	26,989				26,989
1830 Medical Insurance (3432*X)	10,296				10,296
2000 Supplies and Materials	12,000				12,000
2300 Educational Supplies(Compustat Data)	10,500				10,500
2600 Office Supplies	1,500				1,500
3100 Travel					
3200 Communications					
3400 Printing & Binding					
4000 Fixed Charges	4,200				4,200
5200 EDP Equipment	4,200				4,200
TOTAL Regular Term Instruction	**$342,386**	**$0**	**$0**	**$0**	**$342,386**
151 Libraries					
5000 Capital Outlay (Equipment)	3,000				3,000
TOTAL Libraries	**$6,000**	**$0**	**$0**	**$0**	**$6,000**
189 General Institutional Support					
1210 SPA Regular Salaries					0
3200 Communications					
3400 Printing & Binding					
5200 EDP Equipment					
TOTAL General Inst. Support	**$0**	**$0**	**$0**	**$0**	**$0**
999 Multiactivity					
0123 Graduate Assistant Tuition Waivers (2 in-state and 2 out-of-state)	**$35,822**	**$0**	**$0**	**$0**	**35,822**
TOTAL ADDITIONAL COSTS	**$384,208**	**$0**	**$0**	**$0**	**$384,208**

Projected Funding for New Degree Program
Doctor of Philosophy in Business Administration
Regular Term 2007-2008
(Based on 2006-2007 Change in Student Credit Hours)

Program Category	Change in Student Credit Hours			Instructional - Position Funding Factors			Instructional Positions Required		
	Undergrad	Masters	Doctoral	Undergrad	Masters	Doctoral	Undergrad	Masters	Doctoral
Category I				643.72	171.44	138.41	0.000	0.000	0.000
Category II			90	487.37	249.94	146.74	0.000	0.000	0.613
Category III				364.88	160.93	122.95	0.000	0.000	0.000
Category IV				230.52	102.45	70.71	0.000	0.000	0.000

	Total Positions Required		**0.613**
	Instructional - Position Salary Rate	(FY 02)	$65,191
101-1310	Instructional Salary Amount		$39,984
	Other Academic Costs	44.89300%	17,950
Purpose 101	Total Academic Requirements		$57,934
Purpose 151	Library	11.48462%	6,653
Purposes 152, 160, 170 180	General Instit Support	54.04980%	31,313
	Neg Adj Factor	50.00000%	n/a
	In-state SCHs	0	
	Financial Aid (in-state)	67.99800%	0
	Total Requirements		**$95,900**

Fringes for faculty salaries	
FICA @ 7.65%;	*$3,059*
Retirement @ 10.485%	*$4,192*
Medical @ $3,432	*$2,105*
	$9,356

SUMMARY OF ESTIMATED ADDITIONAL COSTS FOR PROPOSED PROGRAM/TRACK

Institution **UNC Charlotte** *Date* **April 27, 2005**

Program (API#, Name, Level) **52.0201 Business Administration**

Degree(s) to be Granted **Ph.D.** *Program Year* **2007-08**

	ADDITIONAL FUNDING REQUIRED - BY SOURCE				
	Reallocation of Present Institutional Resources	Enrollment Increase Funds	Federal/State or Other Non-state Funds (Identify)	New Allocations	Total
101 Regular Term Instruction					
1210 SPA Regular Salaries					$0
1110 EPA Non-teaching Salaries					0
1310 EPA Academic Salaries	180,016	39,984	0		220,000
New Assistant Professor-- Finance (1)	90,016	39,984			
1810 Social Security	13,771	3,059	0		16,830
1820 State Retirement	9,438	4,192			13,630
1830 Medical Insurance	4,759	2,105			6,864
2000 Supplies and Materials		2,400			2,400
2300 Educational Supplies		1,200			
2600 Office Supplies		1,200			
3000 Current Services		3,600			3,600
3100 Travel		2,000			
3200 Communications		800			
3400 Printing & Binding		800			
4000 Fixed Charges					0
5100 Office Equipment		1,300			
5200 EDP Equipment		1,294			
TOTAL Regular Term Instruction	**$207,984**	**$57,934**	**$0**	**$0**	**$265,918**
151 Libraries					
1210 SPA Regular Salaries					0
5600 Library Book/Journal		6,653			
TOTAL Libraries	**$0**	**$6,653**	**$0**	**$0**	**$6,653**
189 General Institutional Support					
1210 SPA Regular Salaries					0
2600 Office Supplies		8,000			
3000 Current Services		10,000			10,000
3200 Communications		5,000			
3400 Printing & Binding		5,000			
4000 Fixed Charges					0
5100 Office Equipment		5,331			
5200 EDP Equipment		7,800			
TOTAL General Inst. Support	**$0**	**$31,313**	**$0**	**$0**	**$31,131**
999 Multiactivity					
0123 Graduate Assistant Tuition Waivers (2 in-state and 2 out-of-state)	**$35,822**		**$0**	**$0**	**$35,822**
TOTAL ADDITIONAL COSTS	**$243,806**	**$95,900**	**$0**	**$0**	**$339,524**

NOTE: Accounts may be added or deleted as required.

Projected Funding for New Degree Program
Doctor of Philosophy in Business Administration
Regular Term 2008-2009
(Based on 2007-2008 Change in Student Credit Hours)

Program Category	Change in Student Credit Hours			Instructional - Position Funding Factors			Instructional Positions Required		
	Undergrad	Masters	Doctoral	Undergrad	Masters	Doctoral	Undergrad	Masters	Doctoral
Category I				643.72	171.44	138.41	0.000	0.000	0.000
Category II			72	487.37	249.94	146.74	0.000	0.000	0.491
Category III				364.88	160.93	122.95	0.000	0.000	0.000
Category IV				230.52	102.45	70.71	0.000	0.000	0.000

	Total Positions Required		**0.491**
	Instructional - Position Salary Rate	(FY 02)	$65,191
101-1310	Instructional Salary Amount		$31,987
	Other Academic Costs	44.89300%	14,360
Purpose 101	Total Academic Requirements		$46,347
Purpose 151	Library	11.48462%	5,323
Purposes 152, 160, 170 180	General Instit Support	54.04980%	25,050
	Neg Adj Factor	50.00000%	n/a
	In-state SCHs	0	
	Financial Aid (in-state)	67.99800%	0
	Total Requirements		**$76,720**

Fringes for faculty salaries

FICA @ 7.65%;	*$2,447*
Retirement @ ***10.485%***	*$3,354*
Medical @ $3432	*$1,684*
	$7,485

SUMMARY OF ESTIMATED ADDITIONAL COSTS FOR PROPOSED PROGRAM/TRACK

Institution **UNC Charlotte** *Date* **April 27, 2005**

Program (API#, Name, Level) **52.0201 Business Administration**

Degree(s) to be Granted **Ph.D.** *Program Year* **2008-09**

	ADDITIONAL FUNDING REQUIRED - BY SOURCE				
	Reallocation of Present Institutional Resources	Enrollment Increase Funds	Federal/State or Other Non-state Funds (Identify)	New Allocations	Total
101 Regular Term Instruction					
1210 SPA Regular Salaries					$0
1110 EPA Non-teaching Salaries					0
1310 EPA Academic Salaries	63,013	31,987	0		95,000
New Assistant Professor--Economics (1)	63,013	31,987			
1810 Social Security	4,820	2,447	0		7,267
1820 State Retirement	6,607	3,354			9,961
1830 Medical Insurance	1,748	1,684			3,432
2000 Supplies and Materials		2,000			2,000
2300 Educational Supplies		1,200			
2600 Office Supplies		800			
3000 Current Services		2,875			2,875
3100 Travel		1,500			
3200 Communications		725			
3400 Printing & Binding		650			
5000 Capital Outlay (Equipment)		2,200			2,200
5100 Office Equipment		1,200			
5200 EDP Equipment		1,000			
TOTAL Regular Term Instruction	**$76,188**	**$46,347**	**$0**	**$0**	**$122,735**
151 Libraries					
5000 Capital Outlay (Equipment)		5,323			5,323
5600 Library Book/Journal		5,323			
TOTAL Libraries	**$0**	**$5,323**	**$0**	**$0**	**$5,323**
189 General Institutional Support					
2000 Supplies and Materials		6,000			6,000
2600 Office Supplies		6,000			
3000 Current Services		8,000			8,000
3200 Communications		4,000			
3400 Printing & Binding		4,000			
5000 Capital Outlay (Equipment)		11,050			11,050
5100 Office Equipment		5,000			
5200 EDP Equipment		6,050			
TOTAL General Inst. Support	**$0**	**$25,050**	**$0**	**$0**	**$25,050**
999 Multiactivity					
0123 Graduate Assistant Tuition Waivers	**$0**	**$0**	**$0**	**$0**	**$0**
TOTAL ADDITIONAL COSTS	**$76,188**	**$76,720**	**$0**	**$0**	**$153,108**

NOTE: Accounts may be added or deleted as required.