出國報告（出國類別：考察）

管理一學門赴英國參訪計畫： 財務會計領域前瞻議題之規劃

行政院國家科學委員會出國補助計畫　成果報告

管理一學門赴英國參訪計畫：

財務會計領域前瞻議題之規劃(精簡報告)

計畫類別：個別型計畫
執行期限：99 年 11 月 01 日至 99 年 12 月 31 日
出國期間：99 年 11 月 21 日至 99 年 12 月 03 日

計畫參與人員(計畫編號)：

　　張傳章教授　國立中央大學財務金融學系
　　　　　　　　　(計畫編號：99-2418-H-008-001)
　　林丙輝教授　國立中興大學財務金融學系
　　　　　　　　　(計畫編號：99-2418-H-005-001)
　　張瑞當教授　國立中興大學會計學系
　　　　　　　　　(計畫編號：99-2418-H-005-002)
　　周冠男教授　國立政治大學財務管理學系
　　　　　　　　　(計畫編號：99-2418-H-004-001)
　　張紹基教授　國立成功大學國際企業研究所
　　　　　　　　　(計畫編號：99-2418-H-006-001)
　　何耕宇副教授　國立臺灣大學財務金融學系
　　　　　　　　　(計畫編號：99-2418-H-002-002)
　　陳嬿如副教授　國立成功大學會計學系
　　　　　　　　　(計畫編號：99-2418-H-006-002)
　　陳芳蓉助理研究員　國科會人文及社會科學發展處
　　　　　　　　　(計畫編號：99-2418-H-104-003)
　　謝易儒助理研究員　國科會人文及社會科學發展處
　　　　　　　　　(計畫編號：99-2418-H-104-002)

壹、參訪目的

　　金融海嘯發生後，財務、會計領域學者頗關切此一事件對財務及會計領域未來研究主要議題之影響，其一是學術界關注課題可能隨金融海嘯事件發生變化，例如原本財務工程領域熱門的新產品組成、計價研究熱度可能稍減退；既有的信用風險模型顯然需要大幅修正；投資銀行競爭態勢、功能或許將有顯著變化；政府紓困對企業衝擊成為一新課題。又如會計衡量偏失(accounting irregularity)既為諸多金融機構問題導因，未來應該會成為重要課題。其二是金融海嘯事件中，有若干可供研究之第一手房地產價格、金融資產價量、部門會計資料，未來形成學者可洽購商品，或許需要一段時間，因此國內學者有必要透過實際參訪，以了解金融海嘯發生後對財務及會計領域未來研究主要議題之影響，故特地規劃此一參訪行程。

貳、參訪路線
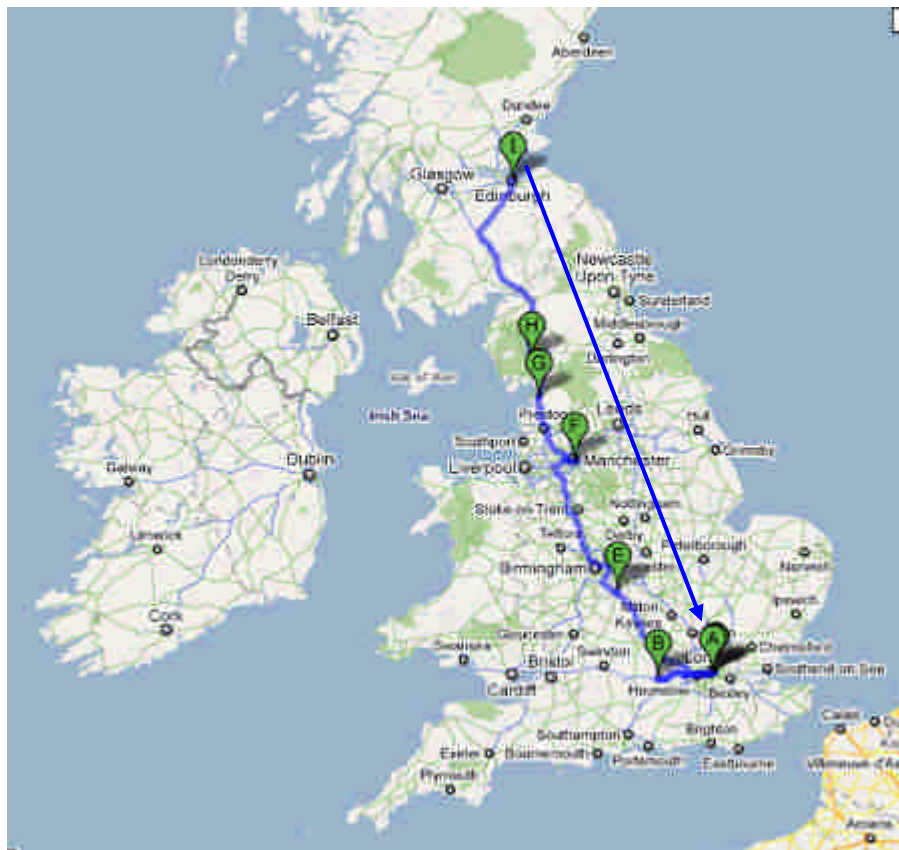
參、參訪重點與成員

(一)以開拓學術發展的功能性參訪為主。
(二)以提升學術發展的目的為導向，並以學術發展的未來性為考量重點。

(三)成員以財務及會計學門的複審委員為主，希望未來也能繼續參與合作計畫
的學者為優先，除資深教授外，並引介年輕學者參與。

(四)參訪成員：

張傳章教授　國立中央大學財務金融學系
林丙輝教授　國立中興大學財務金融學系
張瑞當教授　國立中興大學會計學系
張紹基教授　國立成功大學國際企業研究所
周冠男教授　國立政治大學財務管理學系
何耕宇副教授　國立臺灣大學財務金融學系
陳嬿如副教授　國立成功大學會計學系

肆、參訪行程

日期	行程
第一天 11 月 21 日（日）	中華航空 CI 69 台北 09：30→倫敦 16：10(14h40m)
第二天 11 月 22 日（一）	**University of Reading-Henley Business School** Whiteknights, Reading RG6 6UD, UK (ICMA Center) Tel：+44 (0)118 987 5123 http://www.reading.ac.uk/
	City University London-Cass Business School 106 Bunhill Row, London EC1Y 8TZ http://www.cass.city.ac.uk/
第三天 11 月 23 日（二）	**中央銀行駐倫敦代表辦事處** (London Representative Office, Central Bank of the Republic of China (Taiwan)) 5th Floor, Basildon House, 7 Moorgate London EC2R 6AF Tel：002-44-20-7606 6666
第四天 11 月 24 日（三）	**The University of Warwick- Warwick Business School** Coventry CV4 7AL, UK Tel：+44 (0) 2476 150171 http://www2.warwick.ac.uk/
第五天 11 月 25 日（四）	**University of Manchester- Manchester Business School** Oxford Road Manchester M13 9PL Tel：+44 (0) 161 306 6000 http://www.manchester.ac.uk/
第六天 11 月 26 日（五）	**Lancaster University-Management School** Bailrigg, Lancaster. UK LA1 4YW

日期	行程
	Tel：+44 (0) 1524 65201 http://www.lancaster.ac.uk/
第七天 11 月 27 日（六）	Windermere 召開會議整理及研擬財務會計學門前瞻議題
第八天 11 月 28 日（日）	Windermere→Edinburgh(車程 4 小時)
第九天 11 月 29 日（一）	**University of Edinburgh-Business School** 29 Buccleuch Place (Old College) Edinburgh EH8 9JS UK Tel：+44 (0)131 651 3198 http://www.ed.ac.uk/home
第十天 11 月 30 日（二）	英國航空 BA1455 愛丁堡 16：40→倫敦 18：05(1h25m) 因暴風雪襲擊，航班延誤起飛，致未能順利轉搭中華航空 CI 70 倫敦 21：00→台北 18：35 班機 (行李直接轉掛台北當日無法領取)
第十一天 12 月 1 日（三）	處理回程機位及行李提領問題 (11：00-17：00) 感謝**國科會駐英國台北代表處科技組**協助處理後續事宜 50 Grosvenor Gardens, London SW1W 0EB Tel: +44-020-7881 2667、7881 2670
第十二天 12 月 2 日（四）	中華航空 CI 70 倫敦 21：00→台北 18：35(13h35m)
第十三天 12 月 3 日（五）	

伍、參訪過程、心得與建議事項

(一)日期：2010年11月22日
地點：University of Reading-Henley Business School(ICMA Center)

約於上午11:30抵達 ICMA Center, Henley Business School, Reading University。首先由 Ms. Hilary Feltham（Director of Administration and Student Affairs）導覽該中心、該中心擁有全英國第一的交易教室，以該中心的專任教師撰寫交易程式來進行交易的模擬與訓練，本次亦參觀其中一個上課中的教室、由授課教師直接進行說明。爾後，與商學院院長 Prof. John Board 及其他教師一起用餐，並在餐後進行實質財務研究議題討論，約於午後三時許離開該中心。

ICMA Center 是 Henley Business School 旗下四個教研單位之一，主要授與財務金融相關的學位。在其他英國的主要大學中，財務與會計多同屬於一個系所，但在 Reading，僅有財務金融相關的研究。該中心目前約有 250 位碩士班學生，涵蓋八種不同財金專業的碩士學位，但主要集中於國際財管、投資、及財務風險管理，也因此該中心教師的教研專長多集中於此領域。市場微結構、資產評價、信用風險都是研究的重點。與會的一位資深教授提出了以保險公司為中介機構的退休計劃研究，主因是英國的保險產業相對穩健、較能提供長期性的保障。此外較為特殊的研究在於財務歷史的研究，這與英國資本市場的發展有很大的關係。此外，公司理財領域的研究較少，但是近年來年輕的學者有逐步重視此領域的研究，例如研究企業併購的成功因素、時間點，及經理人的過度自信行為。

　　由於該中心擁有不錯的高階實務課程及募款能力，因此有充足的資源來支持教師的研究。而同仁間的頻繁互動也是該中心提升研究的一個動力，24 位博士生的培育更提供該中心教師研究的基礎。

圖 1-1：Henley Business School
(ICMA Center)

圖 1-2：參觀交易模擬教室
(Thomson Reuters 贊助)

圖 1-3：研究議題討論

圖 1-4：參訪結束合影

(二)日期：2010年11月22日

地點：City University London-Cass Business School

下午參訪 Cass Business School, City University of London。 Cass 強調與其他商學院不同之處在於利用其位於倫敦市中心之地理優勢。由於 Cass 正位於倫敦金融區，吸引大量金融從業人員到其商學院進修，因此 Cass 強調理論與實務結合的重要性，著重於可以直接被實務界應用之學術研究發展。其財務金融研究領域涵蓋財務市場、金融機構、公司理財、國際財管、精算、行為財務學、財務計量、運輸及能源經濟、運動經濟及新興市場財務等領域。

　　由此觀之，Cass 充分利用其地理及倫敦傳統經濟特點及優勢，發展獨特的研究及教學特色，其研究領域除了一般常見的財務領域，也包含如運輸及能源經濟等特色領域，並強調發展對政策及實務界具有意義的研究。在國內大學充斥的環境中，或可提供一個如何發展多元特色大學的借鏡。此外 Cass 也強調發展與創造可以傳播到全世界的知識，並急於建立一個國際性的交流網路。Cass 於精算學界具有知名的世界級學者，可以提供國內精算學界未來合作的機會。

圖 2-1：City University London-Cass Business School

圖 2-2：簡報臺灣財務領域研究現況

圖 2-3：致贈感謝牌

圖 2-4：參訪結束合影

(三)日期：2010年11月23日

　　地點：(London Representative Office, Central Bank of the Republic of China (Taiwan))中央銀行駐倫敦代表辦事處

在央行郭代主任的安排下，國科會代表團一行人和各銀行駐倫敦代表（經理）會面，並進行深入會談。金融海嘯對英國經濟和金融市場的確皆造成不小的負面影響，尤其是金融業更是面臨了前所未有的嚴峻局面。央行駐倫敦代表處除了操作一部份外匯存底外，也藉地利之便幫國內央行做即時之外幣資金調度，並提供最新的國際金融市場訊息，給總行做決策參考。和國內各銀行在台灣經營模式最大不同之處，各銀行駐倫敦分行（代表處），採取緊密合作策略，尤其在爭取大額國外聯貸案上，更是群策群力通力合作，因此，國內各銀行之駐倫敦分行彼此之間合作非常緊密。會談結束後，央行郭代表偕同各銀行駐倫敦代表和國科會代表團團員餐敘，兩方成員相談甚歡，而代表團團員也透過席間之彼此對話，更進一步了解英國在金融海嘯之後的金融市場現況。總而言之，和央行郭代主任等一行人之會談，對國科會代表團成員而言獲益良多，建議日後國科會參訪團應和本國駐當地各相關單位多互動。

圖 3-1：與央行及各銀行駐倫敦代表餐敘

圖 3-2：致贈感謝牌

(四)日期：2010年11月24日

地點：The University of Warwick- Warwick Business School

會議資料：雙方成員簡介、議程、議題討論(附件一)

University of Warwick 成立於西元 1965 年，是英國二次大戰後新興大學中的佼佼者。目前有超過兩萬名學生,近五千位教職員。Warwick 商學院亦為相當有潛力的商學院，長期以來的排名名列英國前十名、歐洲前二十名及全球前五十名；該院亦取得 AACSB 及 EQUIS 等重要機構認證。目前 Warwick 商學院有近五千名學生，其中超過六成為國際學生。此外，該院有約兩百位教授，每年的教研預算達七百萬英鎊。

Warwick 商學院共有十個領域學群，本次參訪著重於財務及會計兩個學群。在財務學群方面，共有十八位教授，其中有十五位是研究型教授；他們的研究領域十分多元，主要分為四大領域。首先，在公

司理財領域上，資本結構、公司治理、所有權人結構及股利政策等為實證研究的主要議題，近年來論文發表於 Journal of Finance、Journal of Corporate Finance 及 Journal of Comparative Economics 等期刊。在理論研究的議題上，博弈理論及實質選擇權則為重點，發表的期刊包括 Journal of Finance、Management Science 及 Journal of Economic Dynamic and Control 等。其次，就資產評價領域而言，研究重點為外匯與債券評價模型及股票報酬預測，論文則發表於 Review of Financial Studies、Journal of Financial Economic 及 Journal of Financial Quantitative and Analysis 等。第三，在財務計量領域上，亦有許多論文發表於 Journal of Financial Econometrics。最後，就財務工程領域而言，研究議題包括破產風險、選擇權評價及運算方法，發表的期刊包括 Management Science、Journal of Financial Quantitative and Analysis、Journal of Econometrics、Journal of International Money and Finance 及 Mathematical Finance 等。在會計學群方面，共有十六名教授，其中大部分為研究型教授。會計學群中成員的研究領域主要著重在公司治理、財務資訊揭露、審計及分析師預測等，其論文發表於 Journal of Accounting and Economics、Journal of Corporate Finance、Journal of Accounting and Public Policy 及 Journal of Business Finance and Accounting 等。

綜合而論，Warwick 商學院的財務及會計學群具有穩定發表於國際頂尖期刊之能力。而這樣的現象在近五年來更加明顯，主要的原因在於其所提供的研究資源及個人薪資得以吸引北美優秀學校的畢業生加入其研究團隊。在進一步了解其財源後，發現財務彈性化以及以教學（主要為 MSc 及 MBA 學位）收入大力支持研究費用為主要因素。此外，就 University of Warwick 整體而言，也有很大部分的財源來自於學校的餐飲服務、超市、會議中心及藝文中心。這一點十分值得政府及國內大學參考及借鏡。

圖 4-1：The University of Warwick-Warwick Business School

圖 4-2：簡報臺灣財務領域研究現況

圖 4-3：簡報臺灣會計領域研究現況　　　　圖 4-4：參訪結束合影

(五)日期：2010年11月25日
地點：University of Manchester- Manchester Business School

　　曼徹斯特商學院（Manchester Business, MBS）是英國規模最大的商學院，擁有超過 250 位專任師資，研究領域完整。此次訪問 MBS 主要由財務資深教授 Dean Paxson 安排並擔任主持，上午進行討論會有三位教授參與，先聽取博士班主任的簡報，介紹 MBS 的博士研究訓練狀況，與研究議題趨勢。MBS 在財務會計的研究師資陣容相當堅強，共有超過 60 位專任師資，素質優良，研究成果表現亦相當不錯，尤其在會計領域研究在全世界排名表現優異。

　　接著午餐會，參與的教授有八位，其中主要有 Dean Paxson, Richard Stapleton, Michael Brennan 等財務與會計領域大師級教授參加。他們在資產定價領域有卓著的貢獻，如 Brennan 與 Stapleton 的 risk-neutral valuation 的理論模型應用甚廣，在 term structure of interest rates 理論亦有經典著作。Paxson 在 real option 的研究亦有傑出的貢獻，在 derivative pricing 領域亦有相當的成果。此外，MBS 在 financial econometrics、corporate finance、capital markets 方面亦有不錯的研究。

圖 5-1：University of Manchester　　　圖 5-2：Manchester Business School

圖 5-3：雙方自我介紹

圖 5-4：林丙輝教授與指導教授(Dean Paxson)於圖書館合影

(六)日期：2010年11月26日
　地點：**Lancaster University-Management School**

　　一早離開住宿的 Crown Plaza Airport ，非常準時地在 10:30 左右看到一所建築典雅優美、很有特色、具 50 年歷史的英格蘭名校-Lancaster University。當我們車子一靠近該校管理學院大樓時，會計財務系系主任 Mark Shackleton 教授已經滿臉笑容地迎接我們。此時的 Lancaster 已經下了一場大雪，天氣很冷了，Mark Shackleton 教授的熱情迎接讓我們感受到備受歡迎。

　　首先，由 Mark Shackleton 教授為我們簡介該校的管理學院大樓，參觀各軟硬體設施，我們對該學院的研究與教學設施都留下非常良好的印象，深覺在這裡進行教學與研究工作實在是很幸福的一件事。接著，我們穿過該校美麗的校園，進入一棟新穎的透明大樓 裡面有該系大師級的教授迎接我們，分別是兩位會計教授：Ken Peasnell 與 John O'Hanlon，財務教授：Stephen Taylor 與 Shantanu Banerjee，他們都是著作等身的研究學者。一陣寒暄之後，由系主任 Mark Shackleton 教授致歡迎詞，並簡介該管理學院與會計財務系， 之後由我方參訪團團長張傳章教授致謝詞，並說明國科會的組織與宗旨，國科會隨行助理研究員陳芳蓉小姐也簡介說明國科會現有補助跨國研究方面的方案。之後，由政治大學財管系周冠男教授報告我國財務教育與研究的現況與成果，中興大學會計系張瑞當教授報告我國會計教育與研究之現況與成果，隨後再由 Steve Taylor 教授報告該校的財務研究現況與成果，並說明其三大研究領域分別是 corporate finance & risk management, financial markets, derivative markets & financial econometrics，之後 Ken Peasnell 與 John O'Hanlon 教授兩人分別就該系會計研究領域研究成果與現況作一些說明，最後大家對共同有興趣的研究議題互相交換意見與看法，大家都希望持續保持聯繫，尋求合作之機會。

由於參訪團張傳章團長是該系的傑出系友，也由於該系有些教授曾經訪問過台灣，並與我國學者持續有研究合作發表，感覺大家情緒都很高昂，氣氛很熱絡，午餐時間更是熱烈交換意見，相信日後大家合作機會很大。與國外學界的聯繫與交流，應可藉由學者與母校之間的橋樑進一步提升。

圖 6-1：Lancaster University-
Management School

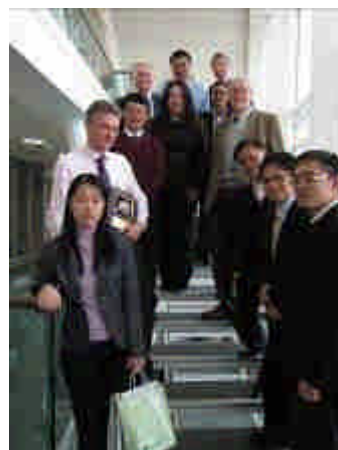圖 6-2：雙方交流討論

圖 6-3：簡報該校財務領域研究現況

圖 6-4：參訪結束合影

(七)日期：2010年11月29日

　地點：University of Edinburgh-Business School

　　週一雖然大雪紛飛，我們仍然依約拜訪愛丁堡大學。這是一個有悠久傳統歷史的學校，校園景致美輪美奐，商學院大樓則是一年前剛完成的建築，充滿現代時尚的風格。

　　首先接待我們的是商學院院長 N. Oliver 教授，他利用簡報介紹了愛丁堡大學及商學院的現況及排名，也介紹了目前商學院所包含的學位學程以及學生分佈狀況。愛丁堡商學院目前有 1400 位學生，其中研究所約占了三分之一。目前有 71 位老師及 55 位職員。其 MBA 在

世界的排名在前 10%，在英國的排名也很優秀，因此入學的申請高度競爭，大學部大約是 17 位取 1 位，研究生則是約 12 位取 1 位。Oliver 院長也談到了愛丁堡商學院目前發展中所面臨的挑戰。由於愛丁堡大學的強項不在商學院，而是醫學，工程及文學。因此在強化商學院整體的競爭優勢上，必須有一個清楚的發展策略。Oliver 院長目前的作法是利用減少學生人數的方式來加強商學院教育的品質及學生素質，同時利用愛丁堡城市的優勢，結合在地企業、強化商學教育中理論與實務的結合，並且加強自我特色的識別與彰顯。

在研究方面則是由 Armitage 教授做簡報。該校的財務研究議題以及教授們在研究上所努力的目標和台灣的教授類似，也以發表在前四大期刊為目標。院長期待教授們至少花 40%的時間在研究上。雖然該校教師的研究表現不一定會比台灣學者更好，但愛丁堡商學院所投資的資料庫卻比台灣齊全許多。在互相討論中也談到了未來和台灣之間進一步交流的可行性。後來另一位會計領域老師也談到愛丁堡學院在會計研究的近況。

在午餐中，該校邀請了三位目前正在商學院念碩士的同學和臺灣的老師交流，了解他們在此的生活。在會談結束之後，國際學生中心則安排了校園介紹，由目前在愛丁堡大學的台灣同學負責，這些同學非常認真、負責地介紹愛大美麗的校園，完美地結束此次參訪的最後一站。

圖 7-1：簡報臺灣財務領域研究現況　　　　　　圖 7-2：交流討論

圖 7-3：參訪談結束留影　　　　圖 7-4：與臺灣同學會合影

陸、相關資料

(一)臺灣財務領域研究現況簡報(附件二)。
(二)臺灣會計領域研究現況簡報(附件三)。
(三)參訪對象資料(附件四)。

附件一：**Warwick Business School 會議資料**

Visit to Warwick Business School (WBS) by National Science Council, Taiwan

Wednesday 24 November 2010

Purpose of visit:

- To give the representatives from Taiwan a better understanding of current research trends at WBS, in particular Accounting and Finance
- To explore opportunities of future cooperation between Warwick Business School and universities in Taiwan

Representing National Science Council:

Professor Chuang-Chang Chang (Delegation Leader)
Former Dean of Management School, National Central University

Professor Bing-Huei Lin
Dean of College of Social Science and Management, National Chung-Hsing University

Professor Robin K. Chou
National Cheng-Chi University; Former Chair of Department of Finance, National Central University

Professor Shao-Chi Chang
National Cheng-Kung University

Professor Ruey-Dang Chang
Chair of Department of Accounting, National Chung-Hsing University

Associate Professor Yenn-Ru Chen
National Cheng-Kung University

Associate Professor Keng-Yu Ho
National Taiwan University

Yi-Ju Hsieh
Assistant Researcher, Program Manager in Finance and Accounting

April Chen
Assistant Researcher, Program Manager in Management

Representing Warwick Business School:

Professor Andrew Oswald, Pro-Dean for Research

Andrew Oswald is Pro-Dean for Research and Professor of Behavioural Science at Warwick Business School. His research lies at the borders between economics, psychology, industrial relations, quantitative social science, and medicine. He is an ISI Highly Cited Researcher, serves on the board of editors of Science, and was a member of the recent Stiglitz Commission into the measurement of human progress (set up by Nicholas Sarkozy). He writes also for newspapers such as *The Independent* and *Financial Times*.

Professor Anthony Neuberger, Professor of Finance

Anthony Neuberger is Professor of Finance and Head of the Finance Group at Warwick Business School. His own research is in the area of capital markets, financial derivatives and pensions. He came to Warwick 6 years ago from the London Business School. Prior to becoming an academic he worked for 10 years in the UK Government, first in the Cabinet Office and subsequently in the Department of Energy. He has consulted for the Pension Protection Fund, and written a report on pension regulation for the Department of Work and Pensions.

Dr Nick Webber, Reader in Finance

Nick Webber is a Reader in Finance at Warwick Business School, appointed in October 2004. He joined WBS from Cass Business School, London, where he was Professor of Computational Finance. He took a PhD in Theoretical Physics at Imperial College as a mature student, receiving his doctorate in 1986. He was appointed to a lectureship at WBS in 1989.

Nick's research is in derivatives, mathematical and computational finance and applied probability. He is widely known internationally in his field, particularly in interest rate modelling and computational finance.

Nick has been writing two books on computational methods and the implementation of derivative valuation systems. The first of these, *Implementing Models of* Financial Derivatives in OOP VBA is available imminently. His previous book, *Interest Rate Modelling,* published in 2000, has been very well received. Of the ten PhD students who have completed their doctoral work under his supervision, six have gone on to academic careers. He is currently supervising four active PhD students.

Professor Keith Hoskin, Professor of Strategy and Accounting

Keith Hoskin is Professor of Strategy and Accounting at Warwick Business School. He writes and researches across the fields of accounting, strategy, management and professionalisation, but from a perspective informed by an initial background in historical, literary, philosophical and translation studies. He seeks to draw on this mix of interests to promote a greater reciprocal understanding of the continual interweaving of philosophical and historical understandings with understandings circulating within conventional human science and managerial knowledge arenas.

Dr Elisabeth Dedman, Associate Professor of Accounting and Assistant Dean (Specialist Masters Programmes)

Elisabeth has recently joined WBS from Bath School of Management. She previously held lectureships at Manchester Business School, University of Bristol and University of Liverpool. She was awarded a PhD from Lancaster University in the area of Corporate Governance. Elisabeth's key research interests include risks perceived by investors, managerial use of voluntary disclosure to influence investor behaviour and market prices.

Alison Bond, Head of External Relations

Alison Bond is Head of WBS External Relations. Her role has a broad remit covering International, Corporate, and Alumni Relations. Alison joined WBS 5 years ago as Manager of the MSc in Financial Mathematics. In September 2007 she was appointed to work for the School's Development and Alumni Relations Office.

Programme

10.00-10:15	Arrival and welcome, *WBS Boardroom (B3.19)*
10:15-10:30	**Alison Bond**
	Overview of University of Warwick and Warwick Business School
10.30-10:45	Break
10:45-10:55	**Professor Anthony Neuberger**
	Finance – Research Overview
10:55-11:05	**Dr Nick Webber**
	Computational Methods in Finance
11:05-11:25	Q&A
11:25-11:35	**Dr Elisabeth Dedman**
	Market-based Accounting
11:35-12:05	**Presentation by National Science Council**
12:05-12:15	Q&A
12:15-13:00	**Buffet Lunch, Scarman Road Lounge**
13:00	Depart

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Issues in Computational Finance

Nick Webber

University of Warwick

24 November 2010

Issues in Computational Finance

Context: Risk management with financial markets.

End users want to manage their specific financial exposure,
do not have specialist skills or market knowledge to do so.
Banks are supposed to be able to better manage financial risk.

Banks sell derivative securities to end users,
hedge by constructing a hedge portfolio. eg,

Sell: a single complex tailored OTC financial products,
Buy: many simple, liquid, (exchange-traded?) vanilla products.

Bank's profit. Difference between:
Net income from product sold,
Net cost of buying and maintaining the hedge.

Hedging

Most markets have a set of vanilla hedging instruments.
Standard vanilla options, forwards, futures, *et cetera*.

But

1. Risk characteristics very different to those of OTC products.
(Usually much simpler.)
2. Do not span space of possible all possible risk.

A model might correctly price all vanilla European puts and calls,
but still fail to price correctly path-dependent options, eg
barrier options, average rate options, Americans/Bermudans.

Illustration: Three models
Black-Scholes framework
Asset value $(S)_{t\geq0}$, Wiener process $(w)_{t\geq0}$. Asset process:

$$dS_t = rS_tdt + \sigma S_tdw_t. \tag{1}$$

Poor. Expect to price correctly a single vanilla option at a time.

Heston. Also has a stochastic volatility process $(V)_{t\geq0}$:

$$dS_t = rS_tdt + V_t^{1/2}S_tdw_t^S, \tag{2}$$
$$dV_t = \alpha(\mu - V_t)dt + \eta V_t^{1/2}dw_t^V, \tag{3}$$

with $dw_t^Sdw_t^V = \rho dt$. Fits much better to volatility smiles.

Sabr (general asset price formulation).
Asset process is CEV. Has GBM volatility process:

$$dS_t = rS_tdt + V_tS_t^\beta dw_t^S, \qquad \beta \in [0,1], \tag{4}$$
$$dV_t = \alpha(\mu - V_t)dt + \eta V_tdw_t^V, \tag{5}$$

with $dw_t^Sdw_t^V = \rho dt$. Fits to vanillas much worse than Heston.

Issue: Realism against tractability, 1

Heston is the "best" model,
yet Sabr (and even Black-Scholes) is widely used.

Models enable:

1. Different instruments to be priced consistently,
2. Instruments' risk characteristics to be determined.
   Necessary for effective hedging.

Must be able to compute prices and hedge ratios from a model.

Explicit solutions:	Rarely available.
PDE methods:	Usually fine only for simple 1-factor models.
Simulation methods:	Slow without effective variance reduction.
Numerical integration:	Can be effective, but only in special cases.

Issue: Realism against tractability, 2

Simple models:
Easy to compute, but fail to fit to market prices.

Complex models:
Better fit to prices (so better risk management),
but hard to compute.

"Hard": Time consuming, or impossible, to get accurate prices.

Heston: Hard,
Sabr: Has explicit (approximate) formulae, simplifing calibration.

Desperate need:
Develop fast numerical methods for complex derivatives models.
New mathematics/statistics,
New computational methods.

Zhang and Webber: contribution

1. Present a general SV model,
   nesting Heston, a Sabr-like model, *et cetera*.

2. Construct a correlation-control variate for the model.

3. Apply the model to pricing:
   Average rate options, barrier options, *et cetera*

4. Explore variations in barrier option pricing,
   consistent with the implied volatility surface.

A general stochastic volatility model

Let
$$(S)_{t \geq 0} \text{ be an asset price process,} \quad (6)$$
$$(V)_{t \geq 0} \text{ be a volatility process,}$$

with SDEs

$$dS_t = rS_t dt + \sigma f(V_t) S_t^\beta dW_t^S, \quad (7)$$
$$dV_t = \alpha(\mu - V_t)dt + \eta V_t^\gamma dW_t^V, \quad (8)$$
$$dW_t^S dW_t^V = \rho dt, \quad (9)$$

where $f(v) = v^\xi$ and

$\xi, \beta \geq 0,$	determine the structure of volatility for S,	
$\gamma \geq 0,$	determines the process for V,	
$\gamma > 0,$	when $\xi \notin \mathbb{Z}$,	(10)
$\sigma > 0,$	included for generality,	
$\alpha, \mu \in \mathbb{R},$	are not required to be positive.	

When $\xi \notin \mathbb{Z}$, V_t is required to remain positive.
When $\xi \in \mathbb{Z}$, V_t is permitted to become negative.

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Nesting other models

	$\beta = 0$			$\beta \in (0,1)$			$\beta = 1$		
Model	ξ	γ	Model	ξ	γ	Model	ξ	γ
	1	1	Sabr	1	1	H&W	1	1
Absolute	1	$\frac{1}{2}$	Sabr-	1	$\frac{1}{2}$	J&S	1	$\frac{1}{2}$
diffusion	1	0	like	1	0	S&Z, S&S	1	0
models	$\frac{1}{2}$	1	LKD	$\frac{1}{2}$	1	Garch	$\frac{1}{2}$	1
	$\frac{1}{2}$	$\frac{1}{2}$		$\frac{1}{2}$	$\frac{1}{2}$	Heston	$\frac{1}{2}$	$\frac{1}{2}$
n/a	$\frac{1}{2}$	0	n/a	$\frac{1}{2}$	0	n/a	$\frac{1}{2}$	0

$(\beta, 1, \gamma)$:   Johnson and Shanno (1987).
$(\beta, 1, 1)$:   Sabr: Hagan *et al.* (2002).
$\left(\beta, \frac{1}{2}, \gamma\right)$:   Lord, Koekkoek & Dijk (2008).
$(1, 1, 1)$:   Wiggins (1987); Hull & White (1987) ($\mu = 0$, $\rho = 0$).
$(1, 1, 0)$:   Stein & Stein (1991) ($\rho = 0$); Schöbel & Zhu (1999) ($\rho \neq 0$).
$\left(1, \frac{1}{2}, 1\right)$:   Nelson (1990); Barone-Adesi *et al.* (2003) ($\rho = 0$); (and H & W, as $\mu = 0$).
$\left(1, \frac{1}{2}, \frac{1}{2}\right)$:   Heston (1993); Ball & Roma (1994).
$\left(1, \frac{1}{2}, \gamma\right)$:   Andersen & Piterbarg (2007); Lewis (2000); Ait-Sahalia & Kimmel (2007).
$(1, 2, 0)$:   Jourdain & Sbai (2010) (special case).

Numerical results

Develop and apply two new CVs to average rate options.
  Correlation CV ($\rho \neq 0$); zero correlation CV ($\rho = 0$).

Compare with 3 "old" CVs.
  GBM auxiliary CV; GBM delta CV;
  European call (where explicit solution exists).

Illustration: apply to average rate options, $K = 64$ resets.
  Maturity $T = 1$;
  Three cases: ITM, $X = 80$; ATM, $X = 100$; OTM, $X = 120$;

Use $M = 10^6$ sample paths for plain MC, $M = 10^4$ for CV MC,
  $N = 320$ times steps. (Emphasis on speed-ups, not convergence.)

Evolving V_t: $\gamma = \frac{1}{2}$: Log-normal approximation; $\gamma = 1$: Milstein.
Evolving S_t: Can use modified Euler (on a transformed process).

Choice of parameters

4 models: Heston, Garch, Sabr, Johnson & Shanno (J&S).
Two cases each.

Parameters		(β, ξ, γ)	S_0	V_0	r	α	μ	η	ρ
Heston	Case 1:	$\left(1, \frac{1}{2}, \frac{1}{2}\right)$	100	0.0175	0.025	1.5768	0.0398	0.5751	-0.5711
	Case 2:	$\left(1, \frac{1}{2}, \frac{1}{2}\right)$	100	0.04	0.05	0.2	0.05	0.1	-0.5
Garch	Case 1:	$\left(1, \frac{1}{2}, 1\right)$	100	0.0175	0.025	4	0.0225	1.2	-0.5
	Case 2:	$\left(1, \frac{1}{2}, 1\right)$	100	0.04	0.05	2	0.09	0.8	-0.5
Sabr	Case 1:	$(0.4, 1, 1)$	100	2	0.05	0	0	0.4	-0.5
	Case 2:	$(0.6, 1, 1)$	100	2	0.05	0	0	0.4	-0.5
J&S	Case 1:	$\left(0.4, 1, \frac{1}{2}\right)$	100	2	0.05	2	2	0.1	-0.5
	Case 2:	$\left(0.6, 1, \frac{1}{2}\right)$	100	2	0.05	2	2	0.1	-0.5

Zero is accessible in: Heston, case 1; Sabr, case 1; J&S, case 1.
Heston, case 1, is Albrecher *et al.* (2007); case 2 is Webber (2010).
Garch cases: V_t parameters are Lewis (2000).
Sabr and J&S: V_t parameters chosen to give IVs of $\sim 15\%$ and $\sim 30\%$.
  J&S: vol of vol is small.

Efficiency gains, $K = 64$ average rate option, ITM

CV combinations ITM, $K = 64$		Heston		Garch		Sabr		J&S	
		C1	C2	C1	C2	C1	C2	C1	C2
	$\rho = 0$	5.6	340	140	340	84	110	**9000**	**3300**
	$\rho \neq 0$	3.1	3.7	2.9	3.1	3.0	3.5	2.6	2.7
$\rho = 0 + \rho \neq 0$		7.1	330	110	280	70	73	6600	2600
	GBM	3.0	74	34	37	23	24	450	310
	delta	120	360	520	140	450	82	800	180
GBM +	delta	120	370	530	150	530	81	1500	350
	$\rho = 0$	5.9	390	150	**400**	85	110	**9500**	**3100**
GBM +	$\rho \neq 0$	5.2	75	30	34	20	24	290	220
	both	7.7	370	120	350	67	100	6400	2300
	$\rho = 0$	120	690	**880**	350	810	140	6000	1400
delta +	$\rho \neq 0$	160	350	490	140	430	95	660	160
	both	160	700	850	340	770	190	5100	1300
all		**200**	**900**	870	350	**1000**	**220**	5300	1200

(Best gains in bold.)
Usually best to use all 4 CVs.
J&S cases: Best to use only GBM + $\rho = 0$ CVs.

Efficiency gains, $K = 64$ average rate option, ATM

CV combinations ATM, $K=64$		Heston		Garch		Sabr		J&S	
		C1	C2	C1	C2	C1	C2	C1	C2
	$\rho = 0$	3.3	130	71	120	55	47	**4100**	**1500**
	$\rho \neq 0$	11	5.3	4.7	4.4	4.6	5.2	3.0	3.4
$\rho = 0 + \rho \neq 0$		14	170	84	120	75	63	3700	1100
	GBM	2.1	55	26	27	19	15	390	160
	delta	3.6	65	43	48	31	24	170	100
GBM +	delta	4.0	75	43	49	31	18	310	140
	$\rho = 0$	3.2	130	74	120	54	43	**4400**	**1600**
GBM +	$\rho \neq 0$	14	63	35	32	27	21	260	100
	both	14	**180**	92	**140**	76	**66**	4300	1300
	$\rho = 0$	3.4	85	48	61	33	23	1600	530
delta +	$\rho \neq 0$	25	120	83	67	74	36	150	88
	both	23	160	100	89	**86**	52	1700	530
all		**25**	**190**	**98**	**89**	**97**	**67**	2200	690

Often best to use all 4 CVs.
> Main contribution is usually GBM + $\rho = 0 + \rho \neq 0$ CVs.
> Garch, C2, and J&S cases: Best are GBM + $\rho = 0$ CVs.
> Heston, C1: Main contribution is from delta + $\rho \neq 0$ CVs.

Efficiency gains, $K = 64$ average rate option, OTM

CV combinations OTM, $K=64$		Heston		Garch		Sabr		J&S	
		C1	C2	C1	C2	C1	C2	C1	C2
	$\rho = 0$	1.2	82	19	62	7.5	35	640	**370**
	$\rho \neq 0$	48	22	45	11	200	14	21	5.6
$\rho = 0 + \rho \neq 0$		38	**140**	66	68	250	64	510	240
	GBM	1.2	9.6	2.7	6.6	1.3	6.8	53	110
	delta	1.3	14	4.3	11	2.5	7.6	10	31
GBM +	delta	1.4	13	5.9	12	2.6	7.6	36	49
	$\rho = 0$	1.7	86	20	62	6.7	30	**1400**	**400**
GBM +	$\rho \neq 0$	38	38	39	17	150	23	79	83
	both	28	**150**	**82**	**69**	240	63	1200	320
	$\rho = 0$	0.9	35	9.9	20	3.8	12	350	170
delta +	$\rho \neq 0$	18	17	17	17	56	21	14	17
	both	9.7	67	31	24	90	28	260	140
all		17	87	40	28	120	37	510	170

Usually best to use GBM + $\rho = 0 + \rho \neq 0$ CVs,
Exception: J&S, best to use only GBM + $\rho = 0$ CVs.

Comparisons of efficiency gains

Relative improvement over existing methods:
> Best gain including new CVs / Best gain with old CVs alone.

Relative performance	Heston		Garch		Sabr		J&S	
	C1	C2	C1	C2	C1	C2	C1	C2
ITM	1.7	2.4	1.7	2.7	1.9	2.7	6.3	9.4
ATM	6.9	2.5	2.3	2.9	3.1	2.8	11	10
OTM	34	10.7	14	5.8	92	8.4	26	3.6
ρ high	1.2	1.2	1.0	1.0	1.3	1.2	1.9	2.1
ρ low	3.1	1.4	1.3	1.2	1.6	1.7	3.8	6.6
σ high	2.4	1.6	2.1	2.3	3.5	3.0	30	11

Ordinary parameter values:
> New CVs enhance performance by sizable factors.
> Generally improve as options go OTM.

Extreme correlations: Perform less well but still give speed-ups.
Extreme volatility: Still give very reasonable speed-ups.

Summary

Computational methods matter.
> Vital before more complex models can be used,
> leading to better, more effective, risk management.

Particular contribution:
> Have constructed a better simulation method
> in a general SV model.

Results are excellent.

National Science Council and Finance Research in Taiwan

Presented by

Robin K. Chou
National Chengchi University

Outline

- National Science Council
- Financial Education Institutions in Taiwan
- Finance Research in Taiwan

National Science Council (NSC)

- Mission
  - Promotion of National Science and Technology Development
    - National Science and Technology Development Plan (2009-2012)
  - Support for Academic Research
  - Development of Science Parks
    - Hsinchu Science Park
    - Southern Taiwan Science Park
    - Central Taiwan Science Park

National Science Council (NSC)

- Support for Academic Research
  - Research funding
    - The largest individual and team research project grating institution in Taiwan
  - Support for recruiting outstanding overseas research scholars
  - Postdoctoral research abroad program
  - Graduate students study abroad program
  - Postdoctoral research in Taiwan program

NSC Research Funding 2007 (in NT$ million)

Total: NT$ 17,897 millions
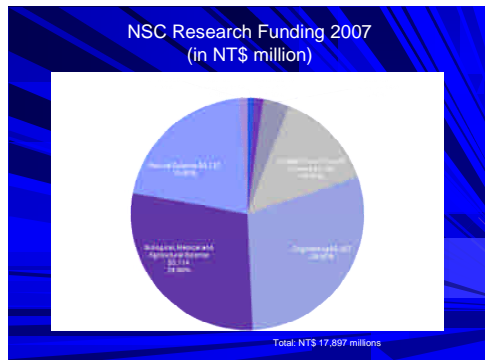
NSC Finance and Accounting Research Project

Year	# of Finance Projects	# of Finance and Accounting Projects	Average Grant	Total Grant
2008	251	343	$549,683	$188,541,343
2009	256	363	$544,612	$197,694,069
2010	304	436	$513,463	$223,869,761

Financial Education Institutions in Taiwan

Schools with Finance Related Departments	Finance Related Departments	Professor	Associate Professor	Assistant Professor	Lecturer	Total
83	93	143	298	402	213	1,056

- Relatively new field in Taiwan
- Established year of major Finance Departments
  - National Taiwan University 1985
  - National Central University 1989
  - National Chengchi University 1989
  - National Cheng Kung University 2000
  - National Chung Hsin University 2000

Financial Education Institutions in Taiwan

- Accreditations
- AACSB
  - Fu Jen Catholic University, National Chengchi University, National Chiao Tung University, National Sun Yat-sen University, National Taiwan University
- Equis
  - National Chengchi University

Finance Research in Taiwan

- NSC rewards grants based on individual research performance and quality of the research proposal
- Most research universities now have a tenure-track system
- Finance research output has been improved significantly in terms of both quality and quantity in recent years
  - Finance is one of the more internationalized research fields in Taiwan

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Finance Research in Taiwan

- Global ranking of finance research (1990-2004)
  - Chan, Chen and Lung (2007)

Table 2 Summary statistics of JF-pages appeared in 21 finance journals by countries

Rank	Country	Total JF-pages	Number of school	Mean	Std. dev
1	US	133,667.62	550	243.03	524.31
2	UK	12,667.49	76	166.94	248.50
3	Canada	6,809.91	35	194.57	254.70
4	Hong Kong	4,436.13	8	554.52	444.51
5	Australia	3,720.93	28	132.89	179.41
6	Netherlands	2,309.72	10	230.97	247.56
7	France	2,238.36	37	60.50	139.69
8	Taiwan	1,659.58	30	55.32	71.14
9	Singapore	1,622.70	5	324.54	398.33
10	Israel	1,584.45	10	158.44	186.13
11	Germany	1,479.60	47	31.48	44.04
12	Korea	1,328.67	39	34.07	50.25
13	Italy	1,144.05	44	26.00	32.86
14	Spain	1,073.46	25	42.94	56.59
15	Japan	954.10	31	30.78	53.78
16	Belgium	892.40	12	74.37	88.73
17	New Zealand	732.93	7	104.70	93.06
18	Finland	620.07	6	103.34	118.65
19	Swiss	547.40	10	54.74	55.71
20	Ireland	440.58	8	55.07	95.46

Finance Research in Taiwan

- Finance research performance among Asia–Pacific academic institutions (1990-2008) (Chan, Chen and Lee (2010))

Finance Research in Taiwan

Finance Research in Taiwan

This table reports the "would be" ranking of Asian–Pacific institutions if they were in the North American region.

Panel B: 1999-2008

1	Hong Kong U Science Technology	2689.3	17	UC-Berkeley	2609.2
2	U New South Wales	1260.5	52	U Arizona	1249.5
3	Chinese U Hong Kong	1087.6	57	U Houston	1087.0
4	Hong Kong Polytechnic U	1005.2	60	Georgia State U	973.3
5	National U Singapore	971.1	61	Brigham Young U	962.6
6	Nanyang Tech U	856.9	68	UC-Irvine	843.9
7	City U Hong Kong	718.3	80	York U	713.1
8	Monash U	626.0	91	George Mason U	610.3
9	Singapore Management U	607.5	92	Washington State U	605.8
10	U Melbourne	599.1	93	U Memphis	549.9
11	Korea U	525.5	95	U Kansas	510.8
12	U Sydney	516.8	95	U Kansas	510.8
13	U Hong Kong	493.6	98	American U	482.2
14	National Taiwan U	403.8	108	U Illinois-Chicago	385.9
15	U Queensland	392.5	108	U Illinois-Chicago	385.9
16	Massey U	391.5	108	U Illinois-Chicago	385.9
17	U Auckland	330.3	122	Kansas State U	329.2
18	Victoria U Wellington	279.8	132	Old Dominion U	278.6
19	Seoul National U	242.4	140	Claremont McKenna College	239.8
20	National Central U	232.3	144	U Tennessee	230.4
21	RMIT U	229.2	145	Queen's U	226.2
22	Hitotsubashi U	223.8	147	U Nebraska-Lincoln	222.2
23	Australian National U	210.7	153	Marquette U	207.7
24	National Chengchi U	193.2	158	U Rhode Island	190.6
25	Hong Kong Baptist U	181.5	163	Loyola U-Chicago	179.7

TAIWAN ACCOUNTING ACADEMIC RESEARCH

Presented by
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Outline

⊙ Universities with Accounting Department in Taiwan
⊙ Taiwan Accounting Academia
⊙ Accounting Research in Taiwan

Universities with Accounting Department in Taiwan

General University(1)

	Bachelor Programs	Master Programs	Ph.D. Programs
National Taiwan University	•	•	•
National Chengchi University	•	•	•
National Cheng Kung University	•	•	•
National Taipei University	•	•	•
National Chung Cheng University	•	•	•
National Chung Hsing University	•	•	
National Dong Hwa University	•	•	
National Changhua University of Education	•	•	
Soochow University	•	•	
Feng Chia University	•	•	
Tamkang University	•	•	

General University(2)

	Bachelor Programs	Master Programs	Ph.D. Programs
Ming Chuan University	•	•	
Fu Jen Catholic University	•	•	
Chinese Culture University	•	•	
Tunghai University	•	•	
Chung Yuan Christian University	•	•	
Providence University	•	•	
Yuan Ze University	•	•	
Dayeh University	•	•	
Kainan University	•	•	
Shih Chien University	•		
I-Shou University	•		
Chang Jung Christian University	•		

General University(3)

	Bachelor Programs	Master Programs	Ph.D. Programs
Nanhua University	•		
Asia University	•		
Aletheia University	•		
Hsing Kuo University of Management	•		
SUBTOTAL	27	20	5

Non-General University(1)

	Bachelor Programs	Master Programs	Ph.D. Programs
National Taichung Institute of Technology	•		
National Taipei College of Business	•	•	
National Yunlin University of Science and Technology	•	•	
National Pingtung University of Science and Technology	•		
National Kaohsiung University of Applied Sciences	•	•	
National Kaohsiung First University of Science and Technology	•		

Non-General University(2)

	Bachelor Programs	Master Programs	Ph.D. Programs
Ling Tung University	•	•	
Southern Tainan University	•	•	
Chaoyang University of Technology	•	•	
Kun Shan University	•		
Transworld University	•		
Yu Da University	•		
Overseas Chinese University	•		
Tainan University of Technology	•		
Chihlee Institute of Technology	•		
Takming University of Science and Technology	•		

Non-General University(3)

	Bachelor Programs	Master Programs	Ph.D. Programs
Jinwen University of Science and Technology	•		
Tzu Chi College of Technology	•		
Chungyu Institute of Technology	•		
Hsing Wu College	•		
China University of Technology	•		
Fortune Institute of Technology	•		
SUBTOTAL	22	7	0

Summary

	Bachelor Programs	Master Programs	Ph.D. Programs
General University	27	20	5
Non-General University	22	7	0
TOTAL	49	27	5
Approximate annual graduates	4,900	540	25

Taiwan Accounting Academia

General University(1)

	Male	Female	Professor	Associate Professor	Assistant Professor	Lecturer	Total
National Taiwan University	16	7	13	4	6	0	23
National Taipei University	9	8	8	5	3	1	17
National Cheng Kung University	19	5	9	6	9	0	24
National Chengchi University	14	9	15	5	3	0	23
National Chung Cheng University	8	5	4	3	5	1	13
National Dong Hwa University	0	7	1	1	5	0	7
National Chung Hsing University	4	5	2	4	3	0	9
National Changhua University of Education	8	4	3	2	6	1	12
Soochow University	11	15	8	8	1	9	26
Feng Chia University	8	8	4	6	2	4	16
Tamkang University	8	9	1	8	5	3	17

General University(2)

	Male	Female	Professor	Associate Professor	Assistant Professor	Lecturer	Total
Ming Chuan University	6	13	1	5	5	8	19
Fu Jen Catholic University	7	6	0	3	7	3	13
Chinese Culture University	11	3	1	5	5	3	14
Tunghai University	8	4	0	7	2	3	12
Chung Yuan Christian University	7	7	1	5	5	3	14
Providence University	9	11	1	6	8	5	20
Yuan Ze University	3	5	0	3	5	0	8
Dayeh University	5	6	1	4	3	3	11
Kainan University	8	6	2	4	7	1	14
Shih Chien University	11	7	1	10	2	5	18
I-Shou University	5	4	0	1	6	2	9
Chang Jung Christian University	3	7	0	2	4	4	10

General University(3)

	Male	Female	Professor	Associate Professor	Assistant Professor	Lecturer	Total
Nanhua University	2	2	0	1	3	0	4
Asia University	6	5	2	4	4	1	11
Aletheia University	14	3	1	6	4	6	17
Hsing Kuo University of Management	0	1	0	0	0	1	1
SUBTOTAL	210	172	79	118	118	67	382

Non-General University(1)

	Male	Female	Professor	Associate Professor	Assistant Professor	Lecturer	Total
National Taichung Institute of Technology	7	24	2	11	2	16	31
National Taipei College of Business	8	12	2	5	5	8	20
National Yunlin University of Science and Technology	11	1	1	7	3	1	12
National Pingtung Institute of Commerce	5	7	0	4	0	8	12
National Kaohsiung University of Applied Sciences	5	7	1	1	6	4	12
National Kaohsiung First University of Science and Technology	5	3	0	4	3	1	8

Non-General University(2)

	Male	Female	Professor	Associate Professor	Assistant Professor	Lecturer	Total
Ling Tung University	4	7	1	5	4	1	11
Southern Tainan University	10	5	1	4	7	3	15
Chaoyang University of Technology	5	11	0	1	8	7	16
Kun Shan University	5	6	0	2	5	4	11
Transworld University	3	4	0	2	1	4	7
Overseas Chinese University	8	9	2	3	3	9	17
Tainan University of Technology	2	6	0	3	2	3	8
Chihlee Institute of Technology	11	13	0	12	4	8	24
Takming University of Science and Technology	9	10	1	4	6	3	19

Non-General University(3)

	Male	Female	Professor	Associate Professor	Assistant Professor	Lecturer	Other	Total
Jinwen University of Science and Technology	3	5	0	3	1	4	0	8
Tzu Chi College of Technology	4	7	0	2	5	4	0	11
Chungyu Institute of Technology	2	1	0	0	1	2	0	3
Yu Da University	5	5	0	1	1	7	1	10
Hsing Wu College	12	8	0	6	4	8	2	20
China University of Technology	2	7	0	3	1	5	0	9
Fortune Institute of Technology	0	1	0	0	0	1	0	1
SUBTOTAL	126	159	11	83	72	116	3	285

Summary

	Male	Female	Professor	Associate Professor	Assistant Professor	Lecturer	Other	Total
General University	210	172	79	118	118	67	0	382
Non-General University	126	159	11	83	72	116	3	285
TOTAL	336	331	90	201	190	183	3	667

Accounting Research in Taiwan

- NSC Funding for Accounting Research
- Accounting Publication in Taiwan
- Accounting Publication in A Journal

NSC Funding for Accounting Research

Year	# of Finance Projects	# of Accounting Projects	Average Grant	Total Grant
2008	251	92	$549,683	$188,541,343
2009	256	107	$544,612	$197,694,069
2010	304	132	$513,463	$223,869,761

Accounting Publication in Taiwan

- TSSCI
  - Taiwan Social Science Citation Index supported by National Science Council of Taiwan

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Disciplines

- Anthropology
- Regional Science & Geography
- Psychology
- Political Science
- Education
- Law
- Sociology
- Management
- Economics
- Multidiscipline

Journal List for Management Discipline

Journal #	Journal List
1	Asia Pacific Management Review
2	International Journal of Information and Management Sciences
3	Journal of the Chinese Institute of Industrial Engineers
4	Sun Yat-Sen Management Review
5	Chiao Da Management Review
6	Journal of Financial Studies
7	International Journal of Accounting Studies
8	Journal of Information Management
9	Journal of E-Business
10	Management Review
11	Journal of Management & Systems
12	Journal of Management
13	NTU Management Review
14	Review of Securities and Futures Markets

Number of Accounting Publication in Taiwan

Journal #	2007	2008	2009
1	5	4	5
2	0	0	0
3	0	0	0
4	8	7	8
5	5	7	6
6	4	5	4
7	8	8	8
8	0	0	0
9	0	0	0
10	5	6	7
11	6	5	5
12	4	5	5
13	5	4	4
14	6	5	5
Total	56	56	57

Accounting Publication in A Journal

Journal #	Journal List
1	The Accounting Review (AR)
2	Journal of Accounting Research (JAR)
3	Journal of Accounting and Economics (JAE)
4	Contemporary Accounting Research (CAR)
5	Accounting, Organization and Society (AOS)
6	Review of Accounting Studies (RAS)

Number of Accounting Publication in A Journal

	2007	2008	2009	2010
AR	0	2	0	0
JAR	0	0	0	0
JAE	0	0	0	0
CAR	1	1	3	0
AOS	0	0	0	1
RAS	0	0	0	0
Total	1	3	3	1

Citation(1)

- AR
  - Chen, W., C. C. Liu, and S. G. Ryan, 2008, Characteristics of securitizations that determine issuers' retention of the risks of the securitized assets*, The Accounting Review*, 83(5): 1181-1215.
  - Lee, Y. J., 2008, The effects of employee stock options on credit ratings*, The Accounting Review*, 83(5): 1273-1314.

Citation(2)

- CAR
  - Chen, K. Y., and J. Zhou, 2007, Audit committee, board characteristics, and auditor switch decisions by Andersen's Clients, *Contemporary Accounting Research*, 24(4): 1085-1117.
  - Chen, C. Y., C. J. Lin, and Y. C. Lin, 2008, Audit partner tenure, audit firm tenure, and discretionary accruals: does long auditor tenure impair earnings quality?, *Contemporary Accounting Research*, 25(2): 115-145.

Citation(3)

- Ho, J. Y., L. C. Lee, and A. Wu, 2009, How changes in compensation plans affect employee performance, recruitment, and retention: an empirical study f a car dealership, *Contemporary Accounting Research*, 26(1): 167-199.
- Chi, W., H. Huang, Y. Liao, and H. Xie, 2009, Mandatory audit partner rotation, audit quality, and market perception: evidence from Taiwan, *Contemporary Accounting Research*, 26(2): 359-391.

Citation(4)

- Chin, C. L., and H. Y. Chi, 2009, Reducing restatements with increased industry expertise, *Contemporary Accounting Research*, 26(3): 729-765.

Citation(5)

- AOS
  - Eldenburg, L, N. Soderstrom, V. Willis, and A. Wu, 2010, Behavioral changes following the collaborative development of an accounting information system, *Accounting, Organizations and Society*, 35(2): 222-237.

Conclusion

- Relatively small field in terms of number of institutions and scholars
- Research funding mainly comes from NSC
- Moving toward research-oriented direction
- Publishing in A journals is many scholars' goal!

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