MUHAREM HARRY KARAMUJIC, MRICS, FBHPA

PERSONAL PROFILE

Currently Dr Karamujic holds a senior academic position with the University of Melbourne and the University of Sarajevo. Before that he worked for more than 15 years in a professional environment. Dr Karamujic is a well regarded, intuitive and initiative driven professional, with extensive property, banking, risk management, financial/economic analysis and modeling, economic policy and strategy development, project management, analytical marketing and financial regulation and governance experience. Overall he is an investigative and broadly experienced financial industry professional and academic, with a value add combination of breadth of skills and pro-active approach to problem solving. Dr Karamujic is also a widely experienced leader with proven ability to re-motivate existing, or to build new teams and lead them to succeed in difficult environments.

QUALIFICATIONS

PHD - FINANCE

La Trobe University, Melbourne, Australia

MASTER OF ECONOMICS (ECONOMIC/FINANCIAL MODELING)

La Trobe University, Melbourne, Australia

POST GRADUATE DIPLOMA (APPLIED ECONOMICS/FINANCE)

Monash University, Melbourne, Australia

POST GRADUATE CERTIFICATE (ACCOUNTING)

University of Southern Queensland, Toowoomba, Australia

BACHELOR OF ECONOMICS (INTERNATIONAL TRADE)

Zagreb University, Zagreb, Croatia

MOST RECENT REFEERED ACADEMIC PUBLICATIONS

- **BOOK**: Karamujic, M. H. (2015) *Housing Affordability and Housing Investment Opportunity in Australia*, London: Macmillan Pulgrave.
- **BOOK**: Karamujic, M. H. (2013) *Housing Affordability: Importance, Measures and an Empirical Assessment*, Sarajevo BiH: Ekonomski Fakultet Sarajevo.
- Karamujic, M. H. (2013) Building Approvals as a Leading Indicator of Property Sector Investment, *International Journal of Banking and Finance*, 9(2). (http://epublications.bond.edu.au/ijbf/vol9/iss2/)
- Kreso, S., Karamujic, M. H and Begović, S. (2012) The Global Financial Crisis (GFC) and the Change of Supervision Focus, Refereed proceeding of the 75th anniversary, Faculty of Economics University of Belgrade, International Scientific Conference From Global Crisis to Economic Growth. Which Way to Take?, September 20-22, http://www.ekof.bg.ac.rs/jubilee-conference/.
- Kreso, S. and Karamujic, M. H. (2012) Development of More Complex Structure of Financial Markets' Institutions in Bosnia and Herzegovina, *Refereed proceeding of the second REDETE International Scientific Conference, Researching Economic Development and Entrepreneurship in Transition Economies, Banja Luka, Bosnia and Herzegovina, October 25-27,http://www.redete.org/index.php?akcija=akc_programme.*
- Karamujic, M. H. (2012) Modelling Seasonality in Australian Building Approvals, *Australasian Journal of Construction Economics and Building*, 12(1). (http://epress.lib.uts.edu.au/journals/index.php/AJCEB/article/view/2323)

Karamujic, M. H. (2011) Some Empirical Evidence on Variations in Australian Housing Finance Commitments, *Property Management*, 29(4), 330 – 344. (http://www.emeraldinsight.com/journals.htm?articleid=1943808&show=pdf)

- Karamujic, M. H., Gazos, T., Kreso, S, and Dzonlagic, Dz. (2011) Housing Finance: Testing for Significant Unobserved Components, Refereed proceeding of the 18th Annual ERES Conference, 15-18 June 2010 in Eindhoven (Netherlands), Eindhoven University of Technology (TU/e). (http://eres.scix.net/cgi-bin/works/Search=KARAMUJIC&paint=1&form=AdvancedSearchForm)
- Karamujic, M. H. (2011) Comparative Analysis of Australian Residential Mortgage Interest Rates: Evidence from Two Major Australian Banks, *Margin:The Journal of Applied Economic Research*, 5(3), 311 341. (http://mar.sagepub.com/content/5/3/311.abstract?rss=1)
- Karamujic, M. H. (2010) An Empirical Assessment of Product-level Home Lending Rates Evidence from National Australia Bank, *The Banker's Journal*, 134, 30 50. (http://www.ibbm.org.my/v2/wp-content/uploads/2011/06/BJM_empirical_134.pdf)
- Karamujic, M. H. (2010) An Investigation into the Fundamental Drivers of Pricing of Residential Mortgage Products A Risk Pricing Viewpoint, *Australasian Journal of Construction Economics and Building*, 10(4). (http://epress.lib.uts.edu.au/ojs/index.php/AJCEB/article/viewArticle/1884)
- Karamujic, M. H. (2010) Univariate Analysis of Seasonal Variations in Building Approvals for New Houses: Evidence from Australia, *Refereed proceeding of the 17th Annual ERES Conference, 23 -26 June 2010 in Milan (Italy)*, SDA Bocconi. (http://eres.scix.net/cgibin/works/Search?search=KARAMUJIC&paint=1&_form=AdvancedSearchForm)
- Karamujic, M. H. and Torr, C. (2010), The Underlying Elements of the Pricing Calculation for Lending Products, *Refereed proceedings of the 35th Annual 2010 AUBEA Conference, 14-16 July 2010, the Melbourne School of Design, The University of Melbourne.*
- Karamujic, M. H. (2010) Modeling Time Series Properties of Australian Lending Interest Rates, *Chinese Business Review*, 9(1), 50 63.
- **BOOK**: Karamujic, M. H. (2009) *The Determination of Home Loan Interest Rates and an Empirical Assessment of their Cyclicality and Seasonality in Australia*, Saarbrucken Germany: VDM.
- Karamujic, M. H. (2009) Cyclicality and Seasonality of Residential Mortgage Interest Rates, *refereed proceeding of the 16th Annual ERES Conference*, 24th -27th June 2009 Stockholm Royal Institute of Technology, Sweden. (http://eres.scix.net/cgibin/works/Search?search=KARAMUJIC&paint=1&_form=AdvancedSearchForm)
- Karamujic, M. H. (2009), A Classification of Home Loan Products in Australia, *refereed proceedings of 2009 PRRES Conference*, University of Technology Sydney, Sydney, 18th 21st January. (http://www.prres.net/index.htm?http://www.prres.net/newsletter/newsletterapril09/index.htm)
- Karamujic, M. H. (2008) The Major Reasons for an Increase in the Number of Home Loan Products Available in the Australian Market, *Atrium, University of Melbourne, Faculty of Architecture Building and Planning*.

Work in Progress

- Karamujic, M. H. (2013), Housing Affordability and Housing Investment Opportunity Trends from 2001 to 2010: A Case Study of Melbourne, submitted for review to the Journal of Construction Management and Economics.
- Karamujic, M. H. (2013), Variations in Australian's House Prices, TBC
- Karamujic, M. H. (2013), An Empirical Evidence of Changes in Banks' Market Share in the Total Australian Home Lending, *TBC*.
- Karamujic, M. H. and Torr, C. (2013), Contemporary Property Risk Assessment, TBC.

Media Exposure

Recently I have appeared in a number of well-known national media, commenting on: financial, economic, housing and other property issues (links can be opened)):

- the Sydney Morning Herald,
- the <u>bigpond</u> website,
- the *Trading Room*,
- the Age,
- Creditcrunch,
- the Bendigo Advertiser,
- the Gold Coast Bulletin,
- the Canberra Times,
- the *Financial Brains* website,
- the *Lending Central* website, etc.

Higher Research Degree Supervision (Masters and PhD)

The following students have successfully completed their research thesis under my supervision: Ersi Ni, Yixin Xu, Georgie Mayo, Ian Tay, Walkerden Matthew, Marvin Simoni, Georgina Muyers, Saeed Saqib, Cummins Andrew, Galappaththi Lamini and Mcnamara Meaghan.

Journal Reviewer for More Relevant Journals

- Urban Studies,
- Property Management,
- Australasian Journal of Construction Economics and Building
- Bioinfo Research Group

ACADEMIC EXPERIENCE

THE UNIVERSITY OF SARAJEVO SCHOOL OF ECONOMIC AND BUSINESS PROFESSOR

FEB'12 - OWARDS

THE UNIVERSITY OF MELBOURNE

MAR'08- MAY'2014

SENIOR LECTURER IN PROPERTY AND FINANCE (equivalent to Associate Professor in North American and European universities, see European University Institute: http://www.eui.eu/ProgrammesAndFellowships/AcademicCareersObservatory/AcademicCareersbyCountry/Australia.aspx#Curriculum)

Recent Teaching Responsibilities

Property Valuation	Public Finance	Comparative Tax Systems
International Finance	Statutory Valuation	Risk Management
Advanced Property Analysis	Property Development	Property Securitisation
Property Investment	Property Market Analysis	Property Resource& Management

Fiscal Policy Monetary Policy Financial Markets and Institutions

Research Interests

- Relationship between financial system and banking
- Identification, assessments and management of risks
- Relationship between financial system components and property funding

• Composition and functioning of the property lending market, property lenders and lending products

- Influence of cultural perceptions on the demand for property funding products
- Financial regulation and governance (in particular in relation to banking)
- Capital composition and portfolio risk measures
- Micro and macro economic instability and its impacts on the property market
- Development appraisal of property investment projects
- Financial/economic analysis, evaluation and modeling
- Analytical marketing (in particular pricing issues)
- Risk and return modelling and analysis
- Analysis of seasonal and cyclical impacts

PROFESSIONAL EXPERIENCE

NATIONAL AUSTRALIA BANK

DEC'99 -MAR'08

APR'05 - MAR'08

EXECUTIVE MANAGER
Group Risk Management
Office of the Group Chief Risk Officer (GCRO)

Responsibilities & Achievements

- Be responsible for overall management and performance of all group risk functions (Operational Risk, Traded Market Risk, Non-traded Market Risk, Credit Risk, and Regulatory Affairs Risk).
- Be an effective change agent and influence the strategic direction of all risk management functions.
- Keep the risk management leadership team (RMLT) fully informed (e.g. prepared and presented a number of research papers considering contemporary risk issues, such as Impact of Basel II, Introduction of the Economic Capital Framework, Mortgage Stress in Australia and the US Sub-prime Lending Crisis) about challengesthat the bank faces.
- Review (all risk management papers) and, as requested, make presentations to the Group Executive Committee, Group Risk Management Committee (GRMC), Principal Board Risk Committee (PBRC) and Principal Board (PB).
- Represent risk at various steering committees and working groups.
- Delivered significant enhancements to the way the bank manages its risk (developed a number of proposals, tutorials and presentations, which were subsequently presented to a wide audience including the PB and PBRC).
- Either as part of a team or autonomously, develop, drive and facilitate business critical strategies, policies and tactical initiatives – provide training, guidance, coordination and integration.
- Successfully coordinated and reviewed all risk submissions going to the GRMC, PBRC and PB.On many occasions permanent members of the GRMC, PBRC and PB expressed their satisfaction with ongoing improvements in the quality of risk management submissions.
- Successfully project managed a number of major risk related projects, such as Basel II Readiness Preparation and Implementation, Risk Appetite Project, Economic Capital Framework, Impaired Assets Assessment, Pelion (the design and implementation of NAB as a Non Operating Holding Company) and establishment of Internal Model Validation Unit.
- Developed the Group Risk Management Charter (the document approved by the PBRC) and a number of other statutory risk documents.

• Significantly contributed to the enhancement of working relationship between regional and group risk management functions.

SENIOR PROGRAMME DIRECTOR Credit Risk Management

OCT'03 - APR'05

Responsibilities & Achievements

- Developed awareness, understanding and ultimately embedded contemporary credit risk management practices, including statistical portfolio management, within the culture of the organisation.
- Managed development, implementation, maintenance and validation of a full set (across all consumer products and selected business products) of Behavioural and Application risk based strategies and scorecards (considering the whole lending process across products full life cycle, including technology and systems). The focus of these activities were improvement of risk profile, increase in profitability, customer experience, additional sales, reduced workload and cost reductions.
- Provided specialist, consultative support to Personal (Retail and Premium), Private, Business, Agri Financial Services and other retailer segments, that met primary aim of analysing, modelling and developing strategic and tactical solutions that improve the risk/reward balance.
- Acquired, coached and managed individuals, aiming to optimise the National's portfolios and develop new strategy capabilities, within an environment that values teamwork and personal development.
- Successfully implemented the Churn Optimisation Strategy. The strategy looked to simplify lending process for the existing customers restructuring their mortgage facilities. The program was timely delivered and all intended objectives were achieved.
- Renewals Program Optimisation. The program was divided into the following work-streams:
- 1. Increasing System-Renewals within the existing framework:
 - a) Increase the current rate of System Renewals, and
 - b) Process re-engineer the current Manual-Renewal process.
- 2. Extend the System-Renewal capability into other currently non System-Renewable customer segments.
- 3. Increasing the number of products that are System-Renewed.
- 4. Revamp of the existing System-Renewals, e.g. integrating existing System-Renewals system into other complementary systems, such as early warnings system, pre-approvals etc.

The program timely achieved all plannedobjectives.

- Early Warnings (Housing) Programme the work stream was established to help address growing asset quality concerns in the housing market. Objectives included:
- Implementation of an early warning mechanism that can automatically identify those customers that are showing early signs of financial stress but where the housing loan (all types) is currently up to date, and
- Implementation of a system that can deliver early warnings to the Collections team that will enable early remedial action.
 - The programme was successfully delivered, achieving all planned outcomes, within the prescribed time and budget.
- Developed Retailer SegmentsBased Portfolio Optimisation Strategies. This work stream covered both Application and Behavioural(customer management) strategies. In summary, the approach covered the following activities: research, piloting, modelling, lending process analysis, systems and technology analysis, identification of areas for improvement, preparation of proposals, communication of results, gaining support from all interested parties, drafting the strategy document, implementation and post implementation reviews. All the strategies developed received exceptional support from all the stakeholders involved.

STRATEGY MANAGER, CONSUMER SEGMENT Personal Credit Australia

OCT'02 - OCT'03

Responsibilities & Achievements

• Developed the framework and provided regular reporting and training to stakeholders on performance, activities and actions relating to the Consumer Segment.

- Monitored, analysed and evaluated risk performance for consumer lending portfolios and determined appropriate initiatives that enhanced risk/reward outcomes.
- Ongoing development and implementation of clearly articulated credit risk strategy and associated models.
- Managed development, maintenance and validation of the Consumer Segment's Decision Tools' strategies, scorecards and rating systems.
- Maintained an adequately resourced, skilled and motivated team with minimal or managed staff turnover.
- Ensured compliance with National standards and policies, including Group Risk Policy.
- Deputised for Head of Personal Credit Australia.
- Devised and implemented the Consumer Segment's Personal Credit Risk Management Strategy.
 The strategy was comprised of two parts, namely three years strategy and tactical strategy (covering the next twelve months).
- Prepared Basel II implementation and implications assessment for Credit Risk. The study was approved by the Credit Risk Review Team and presented to all stakeholders.
- Developed/reviewed a number of Behavioural strategies that improved risk profile, customer experience, generated additional sales, reduced workloadand lowered costs, such as:
- Auto-dishonor Strategy,
- Temporary Excess Strategy,
- Buffer Strategy,
- Early Warning Strategy,
- Unclear Funds Strategy,
- System Renewals Strategy, and
- Collection Strategy, e.g. Probe Interface to Debt Manager, etc.
- Developed/revieweda number of major Application (Acquisition) strategies or their components:
- Serviceability calculation review, reviewed all the major components of the serviceability calculations such as general living expenses (GLEE) and affordability rate,
- Lenders Mortgage Insurance (LMI), reviewed policy rules and other strategy inputs referring to LMI and conducted stress testing,
- Lending Against Inner City Apartments strategy review,
- Detailed loan to value ratio (LVR) stress testing (including modelling and analysis for all major home loan product groups on a 1% LVR incremental level).
- Automate decisioning for personal/residential fixed rate interest only loans (P/RFRIOLs),
- Third Party Business Strategy Review, and
- HomeSide Reduced Documentation Option Strategy.

MANAGER - LENDING PRODUCTS PRICING DEC' 99 - OCT'02 Analytical and Strategic Marketing

Responsibilities & Achievements

Prepared all pricing submissions covering tactical and strategic pricing for all lending products. Presented all pricing submissions to the Pricing Review Team (PRT). Facilitated to all other pricing related requests and needs of the PRT(the PRT is the decision making committee for all pricing issues, chaired by the Chief Executive Officer (CEO), whose permanent members weregeneral managers for each retail segment plus general manager marketing, economics, financeand treasury).

• Managed marketing and pricing initiatives (both by actively contributing to and managing multi functional teams comprised of all major stakeholders) for all Home Loans, Personal Loans, Overdrafts and Margin Loans to support retailers in achieving ROE, RAROC, EVA, NII and Fee income targets.

- Increased efficiency and effectiveness of marketing efforts and retailer's value creation including being an active member of the Consumer Lending Leadership Team.
- Contributed to achieving financial targets set in retailers' operational plan, through targeted pricing.
- Developed framework for regular modelling and analysis of product portfolios dynamics and encouraged utilisation of dedicated analysis tools for portfolio dynamic analysis, such as churn analysis, break-even analysis, write offs analysis, charge offs analysis, delinquencies analysis, recoveries, etc.
- Built and maintained key relationships with all key stakeholders, such as retailers, product specialist, products & services and channel management.
- Developed Marketing Strategies for all lending products. This primarily involved creating the concept of the strategy, managing the process and preparing the pricing and analytical side of the strategy. Among other things strategy preparation entailed analysis of product/s, current and historical sales volumes, margins, income, competitor pricing, new product ideas, existing tactical and overarching pricing strategy. Strategies were primarily based on market size, potential market share growth, customer needs, community needs, funding costs (including product costs such as open, close, maintenance and transaction costs), and other related strategies e.g. channel, payments, brand, etc.
- Maintained an adequately resourced, skilled and motivated team with minimal staff turnover.

AUSTRALIAN CAPITAL TERROTORY PUBLIC SERVICE JUL'96 – DEC'99 CHIEF (PRINCIPAL) ECONOMIST MAY'98 – DEC'99 Department of Treasury & Infrastructure (DTI)

Responsibilities & Achievements

- Provided consulting advice to the Treasurer and Chief Minister on the ACT economy and financial operations of the Government.
- Delivered policy advice to the Treasurer and Chief Minister on the management of the ACT economy, demography and labour market, national competition policy, regulatory reform policy, industry development and incentives for business.
- Managed preparation of ministerial briefs, reports and papers regarding all relevant issues facing the ACT economy and financial operations of the Government.
- Sustained and developed the role of the section as the major economic/financial adviser within the DTI.
- Represented the DTI at high-level forums and in dealing with the business sector.
- Prepared major financial, economic and revenue variables forecasts including development and management of models of the ACT economy, including all major variables influencing the ACT economy.
- Successfully conducted several tourism related research studies, such as The Impact of the Olympics Soccer Tournament on the ACT Community and The Floriade. This involved forecasting of international and interstate visitors arrivals to the ACT and assessing their economic impacts.
- Managed The Capital Expenditure Analysis Program. This project involved: development of the adequate economic optimisation strategy, data collection, economic modelling, economic evaluation and the presentation of results. The goal of the analysis was to maximise value added and employment creation subject to business opportunities and/or given capital expenditure budget. The strategy was approved and commended by the full cabinet.

Developed the initial ACT's Greenhouse Strategy. This project involved: development of the adequate economic optimisation strategy, coordination of data collection, coordination of decision making processes referring to the economic assessment of the strategy, economic modelling, economic evaluation, national competition impact statement and presentation of results. The strategy was approved and commended by the full cabinet.

SENIOR ECONOMIST

JUL'96 - MAY'98

Economic Policy and Research Section Chief Minister's Department

Responsibilities & Achievements

- Prepared economic and revenue forecasts including development and management of models of the ACT economy, demography and labour market.
- Briefed the Chief Minister and the Treasurer on a range of economic issues (ABS data releases, various research papers, newspaper articles, international and domestic economic environment, etc).
- Represented the department at high-level forums and in dealing with the business sector.
- Helped coordinate government's budgeting processes.
- Developed several in-house models and corresponding methodologies with respect to: policy analysis and development, financial impact analysis, cost benefit analysis, economic aggregates and revenue forecasting methodology, cost benefit methodology, and implications of the Commonwealth's tax reform.
- Provided advice and analysis on the level of assistance to be provided to businesses applying for government assistance. This advice was based on an analysis of financial statements, discounted cash flow analysis, cost benefit, general equilibrium dynamic analysis and input-output analysis. The level of assistance was determined by, but was not limited to, employment and value added impacts, impacts of capital expenditures, revenue implications and tax implications
- Successfully delivered economic and social impact analysis of public sector cuts and redundancies in the ACT.
- Completed the "Gaming Machines in the ACT" policy paper. This project involved: development of the adequate economic/financial model, financial analysis, business assessment, coordination of data collection, direct negotiation with the Casino's officials, coordination of decision making processes, presentation of results to the Treasurer and the Treasury's Chief Executive (Under-treasurer) and development of the impact statement and policy paper.

TENNANT CREEK TOWN COUNCIL - NT

DEC'94 - JUL'96

DEPUTY CHIEF EXECUTIVE OFFICER

MAR'96 - JUL'96

Responsibilities & Achievements

- Initiated the development of a number of new policies and procedures aiming at improving the Council's operations more cost effective.
- Ensured that all areas of Corporate Management are serviced effectively.
- Designed and implemented the Council's business plan and a number of feasibility studies for projects considered by the Council.

MANAGER CORPORATE & EXECUTIVE SERVICES DEC'94 - MAR'96

Responsibilities & Achievements

• Ensured timely submission of financial reports to the Council, CEO, government departments/agencies and funding bodies.

 Managed policy formulation and implementation of executive orders concerning total quality management.

• Facilitated compliance with relevant statutes, regulations and by-laws.

DEPARTMENT OF IMMIGRATION & ETHNIC AFFAIRS DEC'93 – DEC'94 PROFESSIONAL ADMINISTRATIVE OFFICER – FINANCE

PROFESSIONAL/RESEARCH MEMBERSHIPS

Member of the Royal Institute of Chartered Surveyors, MRICS

Official Reviewer of Qatar National Research Fund (QNRF)

Member of the Risk Management Association of Australia.

Member of European Real Estate Society(ERES)

Member of Pacific Rim Real Estate Society(PRRES)

Chair of the 5th Annual Housing Affordability Congress, 2011

INTERESTS

Basketball, Trout fishing, Bush walking and Traveling.