CSIRO MONASH University

**CSIRO-Monash Superannuation Research Cluster**

**ANNUAL CONFERENCE 2015**
**Tues 1st December**

## About the Conference:

This Conference provides an important forum where researchers from the CSIRO-Monash Superannuation Research Cluster share research outcomes with a wider public audience.

The Superannuation Research Cluster commenced in 2013, as a collaboration between CSIRO, Monash University, Griffith University, the University of Western Australia, the University of Warwick, and stakeholders of the retirement system. The aim of the Cluster is to develop a research agenda that establishes an evidence base, to facilitate better decision making with respect to the superannuation and retirement systems in the interest of better outcomes for all.

To date the Cluster has produced over 20 papers relating to two key themes:

- **Superannuation and the economy.** This theme explores the dynamics and inter-relationships between how superannuation funds are allocated and the wider macro-economy. It examines questions like 'what impediments exist that inhibit an optimal asset allocation' and 'what asset allocation maximises superannuation benefits to Australians'?'
- **Australians over 60 –** The transition and post-retirement phase. This theme looks at how we can maximise decision-making for superannuants in the transition from pre-retirement – the accumulation phase – to post-retirement. It looks at important questions like 'what can be done to improve participation of older workers?', 'what can be done to ensure a less volatile income stream and greater certainty for retirees?', 'how we might develop a viable annuities market for retirees?', and 'what are the health, accommodation and infrastructure impacts of the ageing population?'

To date researchers have worked with a group of **industry stakeholders** which include: AMP Capital, ANZ Wealth, BT, CBus, Challenger, Colonial First State, Mercer, and Vanguard, together with representatives from the Australian Bureau of Statistics (ABS), Australian Institute of Superannuation Trustees (AIST), Association of Superannuation Funds of Australia (ASFA), Australian Taxation Office (ATO), Federal Treasury, Financial Services Council (FSC), Centre for Productive Ageing, National Seniors Australia, and the Productivity Commission. These stakeholders have provided direction and feedback to the researchers thus far.

AMPCAPITAL ANZ BT Financial Group cbus challenger Colonial First State Property
MERCER MAKE TOMORROW, TODAY Vanguard INVESTMENTS Australian Bureau of Statistics aist asfa the voice of super Australian Taxation Office
Australian Government The Treasury FSC NCPA THE NATIONAL CENTER FOR PRODUCTIVE AGING Australian Government Productivity Commission

We invite you to join us for a day of engrossing content – under two strands: investment and more quantitative topics which will be of key interest to CIOs, fund managers, and those with a more technical interest, and behavioural, member related topics of interest to those concerned with delivering member outcomes.

## Speakers include:


A/Prof Robert Bianchi
Griffith University


Prof Gordon Clark
Oxford University


Prof Michael Drew
Griffith University


Prof Paul Gerrans
The University of Western Australia


Prof James Giesecke
Victoria University


Prof Anthony Harris
Monash University


Assoc Prof Paul Lajbcygier
Monash University


Prof Robert Lindley
Warwick University


Prof Deborah Ralston
Monash University


Dr Andrew Reeson
CSIRO


Dr Pavel Shevchenko
CSIRO


Prof Phil Taylor
Federation University Australia


Dr Adam Walk
Griffith University


Prof Noel Whiteside
University of Warwick


Dr Zili Zhu
CSIRO

**References**:

Cluster Homepage: http://www.superresearchcluster.com/
Cluster Research Teams and Projects: http://www.superresearchcluster.com/projects-and-research-teams

Griffith University · The University of Western Australia · The University of Warwick · Australian Centre for Financial Studies

## PROGRAM OVERVIEW

## DAY 1 – Tuesday 1st December, 2015

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|---|---|---|
| 8.30am | **REGISTRATION**<br>Cliftons – Level 1, 440 Collins Street, Melbourne | |
| 8.55am | **INTRODUCTION** – **Professor Deborah Ralston,** CSIRO-Monash Superannuation Research Cluster Leader and Professor of Finance, Monash University | |
| 9-9.30am | **Plenary Speaker – Professor Gordon Clark**<br>*The 'delivery' of pension saving, investment and income: governance and management issues in both Australian context and internationally.* | |
| Concurrent Sessions | **TECHNICAL / INVESTMENT TOPICS** | **BEHAVIOURAL / MEMBER TOPICS** |
| 9.30 – 10am | **SESSION 1: SUPER AND THE ECONOMY**<br>*- James Giesecke Victoria University Centre for Policy Studies* | **SESSION 2: RETIREMENT,WEALTH & HEALTH** :<br>• ***Health Expenditure and Ageing*** *- Anthony Harris, Centre for Health Economics, Monash University* |
| 10 – 10.30am | • ***The VU-S Model 'Superannuation within a Financial CGE Model of the Australian Economy'***<br>• ***Superannuation and the Allocative Efficiency of Capital Supply*** | • ***The Effect of Wealth on Health and Wellbeing in Retirement*** *Anthony Harris, Centre for Health Economics, Monash University*<br>• ***Non-cognitive skills and Savings –*** *Sonja Kassenboehmer, Centre for Health Economics, Monash University* |
| 10.30 – 11am | **Morning Tea** | |
| 11 – 11.30am | **SESSION 3: CSIRO – QUANTITATIVE MODELLING**<br>• ***Analysis of Withdrawal Patterns through Behavioural Insight and ATO Data*** *- Andrew Reeson CSIRO* | **SESSION 4: MEMBER BEHAVIOUR – ADVICE / SAVINGS / GENDER**<br>• ***Retirement Savings Trajectories: An Analysis of the Experience of Fund Members -*** *Paul Gerrans, University of Western Australia* |
| 11.30 – 12noon | • ***Retirement Income Forecasting*** *– Zili Zhu, CSIRO* | • ***A Longitudinal Analysis of Superannuation Outcomes – Gender Differences*** *– Noel Whiteside University of Warwick & Oxford University , UK and Jimmy Feng, Monash University* |
| 12 – 12.30pm | • ***Retirement Product Design*** *– Pavel Shevchenko* | • ***Intra-fund Advice and Retirement Planning*** *– Gordon Clark, Monash and Oxford University* |
| 12.30 – 1.30pm | **Lunch** | |
| 1.30 – 2pm | **SESSION 5: FUNDS MANAGEMENT**<br>• ***Comparison of the Forecasting Ability of Immediate Price Impact Models*** *–Paul Lajbcygier, M Pham & H Duon, Monash University* | **SESSION 6: MODELLING RETIREMENT OUTCOMES**<br>• ***Retirement Adequacy through Higher Contributions – Is This The Only Way****?- Michael E. Drew, Griffith University* |
| 2 – 2.30pm | • ***The Viability of Alternative Indexation When Including All Costs*** *– Paul Lajbcygier Monash University* | • ***Withdrawal Capacity in the Face of Expected and Unexpected Health and Aged Care Expenses During Retirement*** *– Adam N. Walk, Griffith University* |
| 2.30 – 3pm | • ***Passive Hedge Funds*** *– Mikhail Tupitsyn* | |
| 3 – 3.30pm | **Afternoon Tea** | |
| 3.30 – 4pm | **SESSION 7: INVESTING IN INFRASTRUCTURE**<br>• ***The Predictability of Australian Listed Infrastructure Returns using Asset Pricing Models*** *– Rob Bianchi, Griffith University* | **SESSION 8: LABOUR MARKET & OLDER WORKERS**<br>• ***New Patterns of Retirement and Later Life Employment*** *– Robert Lindley, University of Warwick* |
| 4 – 4.30pm | • ***Is Infrastructure as Asset Class – an Asset Pricing Approach*** *– Rob Bianchi, Griffith University* | • ***Employer Age - Management Practice, Extending Working Life and The Retirement Process*** *– Philip Taylor, Federation University* |
| 4.30 – 5.15pm | **Summary and Panel Discussion - Chair Jeremy Duffield** | |
| 5.30 – 6.30pm | **Networking Drinks** | |

## FULL PROGRAM

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|---|---|---|
| 8.55am | **Introduction** | **Prof Deborah Ralston,** Cluster Leader and Professor of Finance, Monash University |
| 9 – 9.30am | **Plenary Speaker:**<br><br>*The 'delivery' of pension saving, investment and income: governance and management issues in both Australian context and internationally.* | **Prof Gordon Clark Professor and Director, Smith School of Enterprise and the Environment, Oxford University and Sir Louis Matheson Distinguished Visiting Professor Monash University** Gordons research focuses on global finance and the governance of investment management in pension funds, sovereign wealth funds, and endowments. He is a Founding Governor of the UK Pension Policy Institute, and is a consultant to the Swedish Government's Buffer-fund Inquiry. He also advised The Kay Review on Equity Markets and Long-Term Decision Making. His research expertise spans superannuation, financial structure and economic development. |
| | **TECHNICAL / INVESTMENT TOPICS** | **BEHAVIOURAL / MEMBER TOPICS** |
| 9.30 – 10.30am | **CONCURRENT 1:** CP6 **SUPER & THE ECONOMY** | **CONCURRENT 2:** CP9 **RETIREMENT, WEALTH & HEALTH** |
| | ***Paper 1: The VU-S Model 'Superannuation within a Financial CGE Model of the Australian Economy'*** | ***Paper 1: Health Expenditure and Ageing*** |
| | Australia's superannuation sector has become both a major institution in guiding the allocation of the nation's financial capital across asset classes, regions, and sectors, and a central intermediary in channelling the nation's annual savings into domestic capital formation and foreign financial asset accumulation. The sector's influence over the allocation of the nation's physical and financial assets continues to grow. We model this important institution within an economy-wide setting by embedding explicit modelling of the sector within a model of the financial sector which is in turn linked to a dynamic multi-sectoral CGE model of the real side of the economy. We develop the financial CGE model by building on a multi-sectoral dynamic model of the real side of the Australian economy. In particular, we introduce explicit treatment of: (i) financial intermediaries and the agents with which they transact; (ii) financial instruments describing assets and liabilities; (iii) the financial flows related to these instruments; (iv) rates of return on individual assets and liabilities; and (v) links between the real and monetary sides of the economy.<br><br>***Paper 2: Superannuation and the Allocative Efficiency of Capital Supply*** *(CP62015-08)*<br>Using advances in the CGE modeling capability outlined above, we explore the consequences for the allocative efficiency of capital supply of a 1 percentage point increase in the proportion of the national wage bill directed to the superannuation sector. We find that this increases the nation's capital stock for two reasons. First it generates a positive allocative efficiency effect because it promotes the relative expansion of sectors with above average rates of return on capital and damps the relative expansion of sectors with below average rates of return. This means that Australia ends up with more capital (measured by its productive power) for any given amount of investment. Second, with greater superannuation contributions, the nation undertakes more investment. The first of these two effects accounts for one third of the total increase in productive capital while the second effect accounts for the other two thirds. The extra capital explains the bulk of the real GDP gain. Hence, the positive deviation in the allocative efficiency of capital supply explains around one third of the deviation in real GDP in the simulation's final year. | Spending more on pensions and health care in the future is a consequence of fortunate long term trends in longevity, lower birth rates, and better health care. While most analysts accept that the demographic shift will have an impact on health expenditure in the elderly in the medium term, there is more controversy about the absolute and relative effect on per capita health expenditure from an increase in life expectancy and broader non demographic factors such as technology, health costs and rising incomes. In this paper we estimate the future health and aged care costs in Australia in a simple accounting analysis of the change in population structure 2015-2035. We estimate three canonical models using different assumptions, and then adjust for expected health cost inflation and technical change (non demographic growth). The three models result in markedly different estimates of future health and aged care costs as a percentage of total health costs even for the next 20 years with a range of growth from just over 0.5% per annum to close 4% per annum. If we account for expected changes in non demographic factors such as technology or service quality for the elderly these rates or growth will increase further.<br><br>***Paper 2: The Effect of Wealth on Health and Wellbeing in Retirement***<br>Household resources in retirement might have a causal effect on health, lower health might cause a reduction in wealth, or both might be correlated with other factors such as health behaviours; indeed, all three possibilities might be operating simultaneously. This paper uses a large Australian individual level dataset over 13 years (HILDA) to estimate the effect of household wealth (including pensions) on retired individual's health and wellbeing. We address the issues of justification bias and simultaneity between self reported health and wealth. Using lagged values of health and wealth in the estimation allows us to isolate the contemporaneous impact of wealth from all sources including public and private pensions on wellbeing. The results suggest that household wealth in retirement has a positive effect on individual's health however the effect is reduced when we control for health behaviours, gender, and country of birth. We find differences in effect by personality, by type of wealth and between physical, mental health and general wellbeing. |
| | | **Anthony Harris, Director of the Centre for Health Economics and Professor, Monash University.**<br>Anthony has held previous academic positions at the University of Aberdeen, Murdoch University and the University of Western Australia. He has been awarded numerous competitive research grants including an NHMRC funded program modeling the economics of the health care system in Australia, a macroeconomic model of the impact of an influenza epidemic, and an ARC grant on drug pricing. |

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| | ***Paper 3: Superannuation, Macroeconomic Growth and Stability*** | ***Paper 3: Non-cognitive skills and Savings***<br>This paper shows that personality plays an important role in the level of wealth accumulation. We analyze the relationship between individuals' locus of control and their savings behavior, i.e. wealth accumulation, savings rates, and portfolio choices. Locus of control is a psychological concept that captures individuals' beliefs about the causal relationship between their own behavior and life events and is a key component of self-control. People who believe they can influence the direction of their own lives by the decisions they make, save more both in terms of levels and as a percentage of their permanent incomes. Although the locus-of-control gap in savings rates is largest among rich households, the gap in wealth accumulation is particularly large for poor households. Finally, people who believe they can influence the direction of their own lives by the decisions they make hold significantly less financial wealth, but significantly more pension wealth, than otherwise similar households. |
| Speakers | **James Gieseke, Director Centre of Policy Studies, Victoria University.**<br>James' research is in the development of large-scale multi-regional and national computable general equilibrium (CGE) models, and the application of these models to the analysis of the determinants of economic growth and structural change, forecasting, and policy analysis. | **Sonja Kassenboehmer, Research Fellow, Centre for Health Economics, Monash University**<br>Dr. Sonja C. Kassenboehmer received her doctorate in economics (summa cum laude) from the Ruhr University of Bochum in 2011. Her research focuses on individual well-being (wages, wealth, life satisfaction, mental health) in the labor market context and on non-cognitive skills and labor market outcomes. Her articles can be found in such journals as the Economic Journal, Industrial and Labour Relations Review, Journal of Economic Behaviour and Organization, Economics Letters, Economic Record and Education Economics. |
| 10.30am | **MORNING TEA** | |
| 11.00-12.30pm | **CONCURRENT 3:** CP11 **CSIRO – QUANTITATIVE MODELLING** | **CONCURRENT 4:** CP3 **MEMBER BEHAVIOUR – ADVICE SAVINGS / GENDER** |
| 11 – 11.30am | ***Paper 1: Analysis of Withdrawal Patterns through Behavioural Insight and ATO Data*** | ***Paper 1: Retirement Savings Trajectories: An Analysis of the Experience of Fund Members*** *(CP32015-07)* |
| | Currently, over $500 billion of assets are controlled by self-managed superannuation fund (SMSFs). To gain more insight, it is useful to compare SMSFs with conventional superannuation funds that are regulated by Australian Prudential & Regulatory Authority (APRA). The Australian Tax Office (ATO) provided CSIRO with a large dataset of individual and SMSF annual return information to facilitate the comparative analysis of APRA-regulated superannuation funds and SMSFs in order to shed light on how older Australians behave in relation to withdrawal, contribution and maintenance of their superannuation entitlements. This study represents the first time the original raw ATO return data has been used directly as evidence. In this report, we provide the outlines on the analysis of this ATO data, and also some insights into the behaviour of older Australians in relation to their superannuation fund entitlements. | Since 1992, all employees in Australia have enjoyed a common condition of employment, namely an entitlement to payment of retirement savings contributions by their employer to a complying retirement savings (superannuation) fund. While this is a universal entitlement, individuals can alter their retirement savings trajectory, and ultimately their retirement standard of living, through choices they make, most notably through additional savings and the investment strategy applied to these savings. We are interested in the latter. Specifically, we are interested in the extent to which individual trajectories are influenced, or nudged, by demographic and social factors in retirement savings choices. |
| Speakers | **Andrew Reeson, Research Scientist, CSIRO Computational Informatics, Canberra**<br>Andrew's current research is focused on the service sector, and involves applying econometric modelling and behavioral economics to better understand human decision-making. He has a track record of innovative interdisciplinary research to inform policy design. Past projects include the design and implementation of environmental incentive schemes, water buybacks and a review of behavioral economics for the Henry tax review. | **Paul Gerrans, Professor of Finance, UWA Business School, The University of Western Australia**<br>Paul has received many competitive research grants including from government agencies (ARC, Productive Ageing Centre, Australian Institute of Aboriginal & Torres Strait Islander Studies) as well as industry (for example Australian Institute of Superannuation Trustees). He is widely published in retirement savings and his expertise is highlighted by appointments to the Federal Government's Superannuation Advisory Committee (2010) and the Superannuation Roundtable (2011-present). |
| 11.30 – 12noon | ***Paper 2: Retirement Income Forecasting Modelling Retirement Outcomes: A stochastic approach using Australia as a Case Study*** | ***Paper 2: A Longitudinal Analysis of Superannuation Outcomes – Gender Differences*** *(CP32015-03)* |
| | How much superannuation is sufficient for maintaining a comfortable or modest standard of retirement living? This is a difficult question given future investment returns and retirement expenditure are uncertain. We use a stochastic forecasting model, suitably named as the "SUPA" (Simulation of Uncertainty for Pension Analysis), to simulate the evolution of superannuation fund balances across time during the accumulation and decumulation phases in the Australian context. The model comprises four modules: (i) stochastic projection of investment returns; (ii) stochastic projection of income levels (upon which contributions to the fund are based); (iii) projection of | This research investigated the extent to which women's superannuation savings fall behind those of men - and the main reasons why this happens, using longitudinal data based on a sample of member accounts provided by a major Australian superannuation fund. It was specifically interested to discover whether established gender-derived savings gaps are likely to diminish in the future. This is a report of work in progress: the findings at this stage remain tentative. Further investigations into the data are promised. |

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| | withdrawals during retirement; and (iv) stochastic projection of increasing longevity (life table). | |
| Speakers | **Zili Zhu, Senior Principal Research Consultant, CSIRO**<br>Dr Zhu leads the Real-Options and Financial Risk team at CSIRO in developing state-of-art mathematical models and optimal decision analytics for the financial markets. In addition to developing new exotic options models for the foreign-exchange market, he and the team have recently implemented innovative Real-options methodologies for dynamically and optimally balancing investment portfolios with transaction and liquidity cost. | **Noel Whiteside, Professor of Comparative Public Policy, Zurich Financial Services Fellow, University of Warwick**<br>Noel's research focuses on systems of governance and public accountability in historical and comparative perspective; she has specific interests in labour markets and constructions of social dependency. Recent work has focused on pensions: their governance, regulation, economic and political viability in Europe and the UK: work involving the co-ordination of an extensive network of European scholars. She has long been a consultant for Zurich Financial Services and gave invited evidence to the UK House of Lords Select Committee on Public Service and Demographic Change. |
| 12 noon – 12.30pm | ***Paper 3: Retirement Product Design*** | ***Paper 3: Advice and Retirement Planning***<br>***The Demand for Advice in Defined Contribution Pension Plans*** *(CP32014-09)* |
| | In the decumulation phase, we are seeing more demand for innovative products in managing risk and maintaining income. Here, we focus on the valuation of capital protection retirement products also known as variable annuities with guarantee features: such as Guaranteed Minimum Withdrawal Benefit (GMWB) and Guaranteed Minimum Death Benefit (GMDB). These products are popular in US and Japan but not yet in Australia. Accurate pricing of these products has to deal simultaneously with financial risk, mortality risk and human behaviour. We have developed and implemented efficient numerical methodologies for fast and accurate pricing of these products. We use test cases to demonstrate the different prices due to pre-determined and optimal policyholder withdrawal behaviours for both the accumulation and the decumulation phases. The fair price strongly depends on contract details such as penalty fees that should be carefully designed. Also, it appears that for long maturity contracts, adding death benefit on top of GMWB feature can be problematic if the fees are charged in the usual way as a proportion of the account value and the fee structure for death benefit should be changed to periodic fixed payments. | Defined contribution (DC) or money purchase pension saving schemes place the onus on participants to make decisions on asset allocation, the choice of investment vehicles, and the extent to which changes in individual circumstances and macroeconomic conditions should affect investment strategy. The authors argue that many people are ill-equipped to make these types of decisions and the role of third-party advisers is quite problematic, particularly when their incentives are inconsistent with the interests of those that seek advice. Clark and his colleagues report the results of a comprehensive study of the advice sought by Australian DC participants from their plan sponsors (agent) over time, explaining observed patterns by reference to life-cycle effects, salience, and the size-of-bet effect. The mode of inquiry, the frequency and volume of contact by plan participants, and the sensitivity of participants to announced changes in the national pension regime and macroeconomic events are also considered. Their analysis takes in approximately 430,000 Australians over the period 2004 to 2013. |
| Speakers | **Pavel Shevchenko, Senior Principal Research Scientist,** Division of Mathematics, Informatics and Statistics of CSIRO (The Commonwealth Scientific and Industrial Research Organisation of Australia). Prof Shevchenko joined CSIRO in 1999 to work in the area of financial risk. He leads research and commercial projects on modelling of operational and credit risks; option pricing; insurance; modelling commodities and foreign exchange; and the development of relevant numerical methods and software. | **Gordon L Clark, Oxford University Professor and Director, Smith School of Enterprise and the Environment, Oxford University and Sir Louis Matheson Distinguished Visiting Professor Monash University.**<br>Gordon's research focuses on global finance and the governance of investment management in pension funds, sovereign wealth funds, and endowments. He is a Founding Governor of the UK Pension Policy Institute, and is a consultant to the Swedish Government's Buffer-fund Inquiry. He also advised The Kay Review on Equity Markets and Long-Term Decision Making. His research expertise spans superannuation, financial structure and economic development. |
| 12.30-1.30pm | **LUNCH** | |
| 1.30-3.00pm | ***CONCURRENT 5:*** CP4 **FUNDS MANAGEMENT** | **CONCURRENT 6:** CP7 **MODELLING RETIREMENT OUTCOMES** |
| 1.30 – 2pm | ***Paper 1: A Comparison of the Forecasting Ability of Immediate Price Impact Models*** | ***Paper 1: Retirement Adequacy Through Higher Contributions – Is This The Only Way?*** *(CP72014-WP)* |
| | As a consequence of recent technological advances and the proliferation of algorithmic and high frequency trading, the cost of trading in financial markets has irrevocably changed. One important change relates to how trading affects prices; known as price impact. We compare different immediate price impact models for individual trades using out-of-sample predictions. Besides employing several parametric price impact models proposed in the literature, this paper introduces a novel semiparametric approach, known as Generalized Additive Models, to estimate price impact. Using an Australian dataset, we find that the semiparametric models outperform all other models both in- and out-of-sample. While the dependence of price impact on trading volume is consistent with a power-law function, nonlinearities between price impact and market capitalization and volatility are much more complicated than what suggested by the literature. | Under the Superannuation Guarantee (SG) employers are required to make tax deductible superannuation contributions for their employees. Despite this being a relatively inclusive and comprehensive retirement savings system, serious concerns over the retirement adequacy of Australian workers remain. In an effort to combat the pension liability of an aging population, exacerbated by increased life expectancy and rising health care costs, in 2012 the Commonwealth Government of Australia proposed to gradually increase the SG from 9% of workers' earnings to 12% over a seven-year period to improve the standard of living of Australian retirees. In this study we compare the old 9% SG with the 12% SG. We show that the retirement adequacy of workers could be more simply improved through investment strategy design that mitigates sequencing risk, rather than a broad-based increase in the contribution rate. |

| | TECHNICAL / INVESTMENT TOPICS | BEHAVIOURAL / MEMBER TOPICS |
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| Speakers | **Paul Lajbcygier, Monash University**<br>**Manh Cuong Pham, Monash University**<br>**Huu Duong, Senior Lecturer, Monash University** | **Michael Drew, Drew Walk & Co/Griffith University**<br>Michael is a Director at Drew, Walk & Co., a boutique firm of consulting financial economists, he co-founded with long-time friend and colleague Dr Adam N. Walk. Michael is a leader in the field of superannuation and pension fund design, with over 20 year experience in financial services and academe. He is well known for his work on the portfolio size effect and sequencing risk. |
| 2 – 2.30pm | ***Paper 2: The Viability of Alternative Indexation When Including All Costs, International Review of Financial Analysis*** *(CP42015-02)* | ***Paper 2: Withdrawal Capacity in the Face of Expected and Unexpected Health and Aged Care Expenses During Retirement*** *(CP72014-10)* |
| | This paper compares the performance and viability of two prevalent alternative indices, equal and fundamental indexation, with a traditional market capitalization weighted index. Although prior studies find that alternatives outperform traditional indices, they omit important transaction costs known as market impact costs, which mean that any reported outperformance may be neither genuine nor viable. Rather than assume no, or constant, market impact costs we implement a simple but more realistic, non-linear, market impact cost model to assess the effects of costs on alternative index performance. We find that as fund size, and consequently transaction costs, increase the difference in returns between alternative and traditional indices decreases to the point where no significant outperformance exits. We also consider alternative index implementation and find that alternatives are not viable for large funds, since execution short falls induce tracking error. We conclude that the traditional, market capitalization weight index will forever remain popular for its simplicity, vast investment capacity and low inherent implementation costs. | Examines the impact of accounting for costs associated with age-related health treatment and aged-care services during the retirement phase on retirement income levels, income stability and longevity risk. To measure the impact of such costs on income sustainability and longevity, we simulate asset return data using historical bootstrap simulation to derive an optimal withdrawal income during retirement using dynamic optimisation techniques. We show that the greatest risk to income sustainability occurs when unexpected health costs translate into greater longevity, particularly for conservative investors. Paradoxically, this means that high costs associated with health treatment may result in a longer life however without a commensurate adjustment in asset allocation towards assets with a greater risk-return profile; it also risks premature wealth depletion. We further show that the optimal withdrawal rate is highly sensitive to the timing of health costs and moderately sensitive to later-life aged care costs. In response to this risk, we find that for a broad set of circumstances, the risk of premature ruin can be mitigated through a dynamic lifecycle strategy during the retirement phase. |
| | ***Paper 3: Passive Hedge Funds*** | |
| Speakers | **Mikhail Tupitsyn, Postdoctoral Fellow, Monash University and Model Development Analyst, Commonwealth Bank**<br>Financial professional with industry and academic experience | **Adam Walk Research Fellow, Department of Accounting, Finance and Economics at Griffith Business School, Griffith University.**<br>Adam's research focuses on pension finance, investment management and risk management. Dr Walk has held various positions in the financial services industry at the BoQ, NCUA, QIC and QSuper. Dr Walk is Chairman at Holy Spirit Care Services, a not-for-profit provider of retirement living and aged care services. |
| 3.00-3.30pm | **AFTERNOON TEA** | |
| 3.30-4.30pm | **CONCURRENT 7**: CP1 **INVESTING IN INFRASTRUCTURE** | **CONCURRENT 8**: CP10 **LABOUR MARKET & OLDER WORKERS** |
| 3.30 – 4pm | ***Paper 1: The Predictability of Australian Listed Infrastructure Returns using Asset Pricing Models*** *(CP12015-05))* | ***Paper 2: New Patterns of Retirement and Later Life Employment*** |
| | Can asset pricing models predict the future returns of publicly-listed infrastructure and public-private partnerships (PPPs) in Australia? We find that asset pricing models exhibit poor out-of-sample predictive performance when compared to simple, fixed excess return models for the period 1997 through 2012. Similar to the work of Simin (2008) for the U.S., we suggest that using the long-term historical mean return may be a reasonable starting point for superannuation funds seeking to understand the long-term expected returns of publicly-listed infrastructure and PPPs. | Many policymakers, practitioners and social scientists point to the benefits, for both employers and employees, of enabling older people to realise their economic potential more fully when in work and to take advantage of flexible approaches to withdrawal from working life when that stage comes. Organisational performance may be enhanced. Economic resilience and wellbeing at the individual or micro level may be improved. At the same time, the HR debate about later-life job quality has been increasingly overlaid by concern about financial resilience at the macro level. This relates especially to how much the successful management of superannuation/pension funds depends on achieving greater individual contributions, partly by extending working life. This conference presentation focuses on selected international developments in later-life employment and retirement and their implications for policy and practice. It dwells more on the perspectives of individuals, but those of employers are also taken into account. |

| | TECHNICAL / INVESTMENT TOPICS | BEHAVIOURAL / MEMBER TOPICS |
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| Speakers | **Robert Bianchi, Deputy Director of Griffith Centre for Personal Finance and Superannuation, and an Associate Professor of Finance at Griffith Business School.**<br><br>Robert's research expertise and interests are in the areas of Asset allocation, Alternative investments, Hedge funds, Investment style analysis, Fund manager selection. Robert's industry appointments include H3 Global Advisors (current), AlphaHedge, Venitia and Queensland Treasury Corporation (QTC). | **Robert Lindley Founding Director of the Institute for Employment Research, University of Warwick and a professor in the Faculty of Social Sciences.**<br><br>Professor Robert Lindley was Founding Director of the University of Warwick's Institute for Employment Research (1981-2013). He has been a professor in the Faculty of Social Sciences since 1982, and an Emeritus Professor since 2013. His principal fields of research are the labour market; the roles of demography, education, training and knowledge production in economic development; European integration; and labour market forecasting. He has led major EU-funded multi-country studies into population ageing and labour markets, good practices in the employment of older workers, and the changing nature of employment. He has served on many UK and EU advisory and related bodies. |
| 4 – 4.30pm | ***Paper 2: Is Infrastructure an Asset Class? An Asset Pricing Approach** (CP12014-11)* | ***Paper 1: Employer Age - Management Practice Extending Working Life and The Retirement Process*** |
| | This study employs an asset pricing approach to examine the claim that infrastructure investments are an asset class in their own right. By employing the Merton (1973) zero-criterion approach, we demonstrate that global and national listed infrastructure returns cannot be deemed as a separate asset class. Empirical evidence suggests that listed infrastructure returns are simply a sub-set of listed stocks with significant industry exposure to the utility sector. These findings have important implications to the asset allocation decisions of pension and superannuation funds. | Against a backdrop of population ageing and with it, concern about supposed burgeoning social welfare costs, governments internationally want to push out the age of retirement. Alongside a range of supply side measures there has been a strong policy emphasis on the demand side of the labour market, with efforts to encourage employers to take an interest in the recruitment and retention of older workers, engendering a shift from viewing them as a liability to a valued asset. This paper is based on a longitudinal study of Australian medium and large sized employers and considers how resilient organisational policymaking has been as the economy has shifted from a period of strong growth in the early part of the decade to today's economic slowdown. By contrast with previous research that has observed declining employer interest in older workers during economic downturns, this study finds organisational older worker policy making to be surprisingly resilient. It is concluded that while labour market age discrimination is often described as endemic, Australian employers do, to some extent at least, appear to be heeding the government message that ageing human capital is worth the investment. |
| Speakers | **Robert Bianchi, Deputy Director of Griffith Centre for Personal Finance and Superannuation, and an Associate Professor of Finance at Griffith Business School.**<br><br>Robert's research expertise and interests are in the areas of Asset allocation, Alternative investments, Hedge funds, Investment style analysis, Fund manager selection. Robert's industry appointments include H3 Global Advisors (current), AlphaHedge, Venitia and Queensland Treasury Corporation (QTC). | **Philip Taylor Professor of Human Resource Management, Federation University Australia; Honorary Professor, University of Sydney; Visiting Fellow, University of Warwick.**<br><br>Philip has researched and written in the field of age and the labour market for more than 20 years. He is currently leading major programs of research considering the management of ageing workforces. His interests include the management of labour supply, individual orientations to work and retirement, employers' attitudes and practices towards older workers and international developments in public policies aimed at combating age barriers in the labour market and prolonging working life. |
| 4.30-5.15pm | **SUMMARY AND PANEL DISCUSSION** | |
| 5.30-6.30pm | **DRINKS** | |
| 6.30pm | **CLOSE** | |