

CEPAR Retirement Income Modelling Workshop

Organised by George Kudrna and Cagri Kumru

Wednesday 9 December 2015

Lecture Theatre L105, Level One, UNSW Business School Building
(E12) Kensington Campus, University of New South Wales

9.30am – 10.00am	Registration and Coffee/Tea
10.00am – 10.10am	Welcome from George Kudrna (CEPAR/UNSW)
10.10am – 11.00am	Ayse Imrohoroglu (USC) - “The Chinese Savings Rate: Productivity, Old-Age Support, and Demographics” (with Kai Zhao) Discussant: Xiaodong Fan (CEPAR/UNSW)
11.00am – 11.50am	Shang Wu (CEPAR/UNSW) - “Optimal Portfolio Choice with Health Contingent Income Products: The Value of Life Care Annuities” (with Hazel Bateman and Ralph Stevens) Discussant: Elena Capatina (CEPAR/UNSW)
11.50am – 1.00pm	Lunch (Lecture Theatre Foyer)
1.00pm – 1.50pm	Siew Ling Yew (Monash) - “Ageing and Housing: A General Equilibrium Analysis” (with Yi Jin and Zhixiong Zeng) Discussant: George Kudrna (CEPAR/UNSW)
1.50pm – 2.40pm	Arm Nakornthab (CEPAR/ANU) - “Annuity and Estate Taxation in Entrepreneurship Model” (with Cagri S. Kumru) Discussant: Ayse Imrohoroglu (USC)
2.40pm – 3.10pm	Afternoon Tea (Lecture Theatre Foyer)
3.10pm – 4.00pm	Sagiri Kitao (Keio University) - “Policy Uncertainty and the Cost of Delaying a Reform” Discussant: Cagri Kumru (CEPAR/ANU)
4.00pm – 4.50pm	Xu Xiao Chun (CEPAR/UNSW) - “The Effects of Superannuation on Housing, Wealth and the Age Pension” Discussant: Siew Ling Yew (Monash)
4.50pm – 5.00pm	Workshop close by Cagri S. Kumru (CEPAR/ANU)
5.00pm – 6.30pm	Drinks and Canapés (The White House)

Ayşe Imrohoroğlu (USC Marshall School of Business) - “The Chinese Savings Rate: Productivity, Old-Age Support, and Demographics” (with Kai Zhao)

Abstract: In this paper, we show that a general equilibrium model that properly captures the role of family support, changes in demographics, and increases in the productivity growth rate is capable of generating changes in the national saving rate in China that mimic the data well. Our results suggest that more than half of the increase in the saving rate between 1980 and 2010 could be a result of the interaction between the decline in the fertility rate due to the one-child policy and the shortcomings of the old-age support programs provided by the government in China. Changes in the productivity growth rate account for most of the fluctuations and about one-fifth of the rise in the saving rate during this period.

Email: aimrohor@marshall.usc.edu

Shang Wu (CEPAR/UNSW) - “Optimal Portfolio Choice with Health Contingent Income Products: The Value of Life Care Annuities” (with Hazel Bateman and Ralph Stevens)

Whereas there is ample evidence that life contingent income products (life annuities) improve individual welfare, the existence of later life uncertain out-of-pocket health costs indicates that life and health contingent income products (life care annuities) would further improve individual welfare. We develop a life-cycle model of annuitization, consumption and investment decisions for a single retired individual who faces stochastic capital market returns, differential mortality risks, uncertain health status, and uncertain out-of-pocket health costs with end-of-life effect. The model allows either standard life annuities or life care annuities to be purchased at retirement. Using the calibrated model, we find that individuals who are eligible to purchase life care annuities instead of life annuities increase their level of annuitization by around 12 percentage points. The health status at retirement affects the extent to which the insurance feature and the pricing benefit of life care annuities contribute to such an increment. Results show that life care annuities allow individuals to consume more throughout the retirement period and invest a higher proportion of their liquid wealth in the risky asset. Individuals are willing to pay up to 21% of profit loadings for having access to life care annuities. We also find that the impact of uncertain out-of-pocket health costs on annuitization largely depends on whether end-of-life health costs are incorporated.

Email: shang.wu@unsw.edu.au

Siew Ling Yew (Monash University) - “Ageing and Housing: a General Equilibrium Analysis” (with Yi Jin and Zhixiong Zeng)

This paper examines the relationship between demographic structure and housing market in an overlapping-generations model of accidental bequest with endogenous fertility and savings. In the model, agents face uncertainty in survival from young to old. Young adults earn wage income, receive accidental bequest from their parents, and decide upon the number of children, consumption, savings, housing for own residence as well as housing for lease. When agents become old, they liquidate their housing equity to fund their old-age consumption and rental of housing. We analyse how parameters that characterize demographic structure, the taste for housing and time preferences affect housing market, fertility, the dependency ratio, and savings in a general equilibrium setting. A numerical exercise based on Netherlands data reveals the potential of our model in explaining the relationship between housing prices and the dependency ratio observed in the Netherlands, and more broadly in countries with low retirement saving since 1970s.

Email: siew.ling.yew@monash.edu

Arm Nakornthab (CEPAR/ANU) - “Annuity and Estate Taxation in Entrepreneurship Model” (with Cagri S. Kumru)

We study the interaction between estate taxation and annuity demand both analytically and quantitatively. Our quantitative model is rich enough to capture the important features of the economy such as business investment, borrowing constraints, estate transmission, and wealth inequality. Having entrepreneurs in the model is essential to generate a realistic wealth distribution and analyze non-entrepreneurs (workers) and entrepreneurs' annuity demands separately. The simple analytical model gives the direction of the relationship between estate tax rates and annuity demand: lower estate tax rates result in lower annuity demands. The quantitative model shows that annuity demand is indeed sensitive to the changes in the estate tax system. Removing the estate tax rate reduces the annuity demand substantially when the government's budget is balanced with an increase in the proportional income tax rate. If we adjust the consumption tax rate or the government spending to balance the budget, the annuity ownership rate increases slightly compared to that of the benchmark case. Removing the exemption level generates the most striking result: the annuity ownership rate increases from 5.45% to 24.1%. This result indicates that if all individuals face the estate tax, the annuity ownership rate increases dramatically.

Email: arm.nakornthab@anu.edu.au

Sagiri Kitao (Keio University, Japan) - “Policy Uncertainty and the Cost of Delaying a Reform”

In an economy with aging demographics and a generous old-age social security system established decades ago, reform to reduce benefits is inevitable without a significant increase in taxes. Often times, however, there is uncertainty as to the timing and structure of reform. This paper explicitly models policy uncertainty associated with a social security system and quantifies economic and welfare effects of uncertainty as well as costs of delaying reform. Using the case of Japan, that faces the severest demographic aging and fiscal problems, we show that effects of uncertainty can be significant in terms of both economic activities and welfare and demonstrate a sizeable welfare tradeoff across generations by delaying reform.

Email: sagiri.kitao@gmail.com

Xu Xiao Chun (CEPAR/UNSW) - “The Effects of Superannuation on Housing, Wealth and the Age Pension”

This paper sets up a general equilibrium, overlapping generations life-cycle model for Australia to study the effects of superannuation on housing assets, wealth accumulation and government age pension liabilities. The results suggest that superannuation can generate a significantly higher level and a more equal distribution of wealth. Superannuation also delays housing purchases, though it increases the aggregate level of the housing stock. In addition, age pension payments, and hence the tax rate, are lower. Furthermore, if changes in the capital supply can alter the domestic interest rate, then superannuation can increase productivity and housing wealth. However, the effect from the interest rate change exerts a downward pressure on the non-housing wealth of retirees and raises age pension liabilities.

Email: xiao.xu@unsw.edu.au