AFCP8055

Life Cycle Investing

AFC term 3, Weekday attendance, City 2020

Department of Applied Finance

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General Information

Unit convenor and teaching staff Aaron Minney aaron.minney@mq.edu.au Contact via Email
Credit points 5
Prerequisites AFCP801 or AFCP8001 or ECFS865
Corequisites
Co-badged status
Unit description This unit provides an in-depth knowledge of the challenge of understanding the nature of whole of life investing. A framework is developed to model the various risks followed with techniques to solve it whilst addressing the various complexities and uncertainties including longevity, inflation, and interaction with age pension. This unit will assist those involved in developing, managing and analysing any investment strategy for whole of life investing, particularly in the accumulation and retirement phases of the superannuation and retirement industry.

Important Academic Dates

Information about important academic dates including deadlines for withdrawing from units are available at https://www.mq.edu.au/study/calendar-of-dates

Learning Outcomes

On successful completion of this unit, you will be able to:

ULO1: Apply investment theory to understand and communicate the different perspective of long term multi-time period investing.

ULO2: Critically evaluate various solutions to whole of life investment management within the framework of their impact on (risk-adjusted) retirement outcomes.

ULO3: Critically evaluate mechanisms to manage uncertainties impacting retirement outcomes as they arise through life.

General Assessment Information

Information - Extension Requests / Penalties

Assignment (40%)

No extensions will be granted. There will be a deduction of 10% of the total available marks made from the total awarded mark for each 24 hour period or part thereof that the submission is late (for example, 25 hours late in submission incurs a 20% penalty). This penalty does not apply for cases in which an application for Special Consideration is made and approved.

Late submissions will be accepted up to 96 hours after the due date and time.

Further information on submitting an Application for Special Consideration can be found at https://students.mq.edu.au/study/my-study-program/special-consideration.

In-class group exercise (10%)

Students who do not attend receive a mark of zero. This penalty does not apply in cases where an application for Special Consideration has been made and approved.

Further information on submitting an Application for Special Consideration can be found at https://students.mq.edu.au/study/my-study-program/special-consideration.

Final Examination (50%)

Refer to the relevant MAFC timetable for information on your final exam https://www.mq.edu.au/about/about-the-university/faculties-and-departments/business/study-with-us/macquarie-applied-finance-centre/timetables.

Deferral of an examination is not permitted unless an application for Special Consideration is made and approved.

Students who do not attend receive a mark of zero. This penalty does not apply in cases where an application for Special Consideration has been made and approved.

Further information on submitting an Application for Special Consideration can be found at https://students.mq.edu.au/study/my-study-program/special-consideration.

Assessment Tasks

Name	Weighting	Hurdle	Due
Assignment	40%	No	Refer to iLearn
In-class group exercise	10%	No	Refer to iLearn
Final Examination	50%	No	Refer to Timetable

Assignment

Assessment Type [1]: Case study/analysis
Indicative Time on Task [2]: 13.00 hours
Due: **Refer to iLearn**
Weighting: **40%**

Students will submit an individual prepared report based on data discussed and generated as part of a prior task undertaken as a group. The report should not exceed 3,500 words.

On successful completion you will be able to:

- Apply investment theory to understand and communicate the different perspective of long term multi-time period investing.
- Critically evaluate various solutions to whole of life investment management within the framework of their impact on (risk-adjusted) retirement outcomes.
- Critically evaluate mechanisms to manage uncertainties impacting retirement outcomes as they arise through life.

In-class group exercise

Assessment Type [1]: Presentation
Indicative Time on Task [2]: 0.00 hours
Due: **Refer to iLearn**
Weighting: **10%**

Students will undertake an assessed in-class group exercise on the last day. Students will work in groups to create and deliver a 15-minute presentation on a given task/question, after being given 30-minutes preparation time.

50% of this group task will be individually assessed.

On successful completion you will be able to:

- Apply investment theory to understand and communicate the different perspective of long term multi-time period investing.
- Critically evaluate mechanisms to manage uncertainties impacting retirement outcomes as they arise through life.

Final Examination

Assessment Type [1]: Examination
Indicative Time on Task [2]: 18.00 hours
Due: **Refer to Timetable**
Weighting: **50%**

A two-hour (closed book) examination will be held during the Term's Exam Week.

On successful completion you will be able to:

- Apply investment theory to understand and communicate the different perspective of long term multi-time period investing.
- Critically evaluate various solutions to whole of life investment management within the framework of their impact on (risk-adjusted) retirement outcomes.

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[1] If you need help with your assignment, please contact:

- the academic teaching staff in your unit for guidance in understanding or completing this type of assessment
- the Writing Centre for academic skills support.

[2] Indicative time-on-task is an estimate of the time required for completion of the assessment task and is subject to individual variation

Delivery and Resources

CLASSES

Timetable: Detailed timetable for classes are available at https://www.mq.edu.au/about/about-the-university/faculties-and-departments/business/study-with-us/macquarie-applied-finance-centre/timetables.

Consultation Times:

Students who wish to contact any of the teaching staff may do so through:

- iLearn, in relation to general queries (so that all students may benefit); or
- Individual consultation with the lecturer by email in the first instance, if necessary.

REQUIRED AND RECOMMENDED TEXTS AND/OR MATERIALS

Text: There is no text for this unit.

Lecture Notes: Available in printed form and electronically via iLearn. Students should make themselves familiar with the notes ahead of the lectures.

Additional Readings:

- Additional readings are included in the unit notes and or iLearn.
- **Students should assume these readings are examinable unless otherwise advised.**

Study Problems:

- Students are required to work systematically through end of chapter problem sets. These problems will not be collected but they will help you prepare for the exams. Answers, but not worked solutions, to set problems are provided on iLearn.

Calculators:

- A financial calculator that can handle time value of money calculations, logs and power functions is required.
- The Hewlett Packard calculator hp17bII+ is recommended.
- In examinations, hand held calculators are permitted. Mobile phones and computers are not permitted.

Assumed Access:

- Access to a computer with word processing and spreadsheet capability is assumed, as is general student computer literacy.
- Also assumed is access to a Web browser (e.g. Internet Explorer or Firefox) and email software and a student's own connection to an internet service provider.

TECHNOLOGY USED AND REQUIRED

Unit iLearn Site:

- Found by logging on to iLearn ilearn.mq.edu.au, then clicking on ***AFCP8055 Life Cycle Investing.***
- This is where you will find a link to forums, downloadable resources and other important pages.
- Forums allow you to communicate with other students and lecturer(s) and may provide supplementary material.
- You are requested to post questions to forums at least 24 hours prior to an assignment submission date or examination date. Questions posted after that time may not be answered. **Please try to not leave your questions to the last few days.**

Important Notice:

- It is important that you familiarise yourself with iLearn.
- Students should check iLearn regularly (minimum twice a week and prior to all lectures) and look for updates and distribution of materials (including case studies) related to the unit or assessments and, if relevant, participate in forum discussions.

Unit Schedule

The topics are covered over 6 lectures.

TOPIC 1: INTRODUCTION TO LIFE CYCLE INVESTING

1.1. Introduction to Life Cycle analysis

1.2. Life Cycle of liabilities

1.3. Industry background

1.4. What is the safe withdrawal rate?

TOPIC 2 : THE PROBLEM TO SOLVE

2.1. State as an asset-liability problem

2.2. Life Cycle cash flows

2.3. Developing a Life Cycle cash flow model

2.4. How do you solve this problem

2.5. Analyse investment volatility

TOPIC 3: TECHNIQUES TO SOLVE THE INVESTMENT STRATEGY PROBLEM

3.1. Solving the LCI problem

3.2. Case studies: Some known solutions

3.3. Apply Monte Carlo technique

3.4. Using the Monte Carlo technique

TOPIC 4: APPLY TO VARIOUS CASES

4.1. Introduction

4.2. Estimated retirement outcomes for a young person

4.3. Is there time for an empty nester to improve their retirement outcome?

4.4. Now that I'm at my retirement date, what can I spend?

4.5. Case study: Safe withdrawal rates

TOPIC 5: ROUND OUT THE SOLUTION

5.1. Longevity risk

5.2. Impact of social security

5.3. Inflation risk

5.4. Sequencing risk

5.5. Concepts to add additional features

TOPIC 6: MANAGING THE END GAME: TECHNIQUES TO MANAGE THE UNCERTAINTIES IN RETIREMENT

6.1. Recap

6.2. Monitor, assess and adjust

6.3. Strategies to manage some risks

6.4. In class exercise - monitoring

Policies and Procedures

Macquarie University policies and procedures are accessible from Policy Central (https://staff.mq.edu.au/work/strategy-planning-and-governance/university-policies-and-procedures/policy-central). Students should be aware of the following policies in particular with regard to Learning and Teaching:

- Academic Appeals Policy
- Academic Integrity Policy
- Academic Progression Policy
- Assessment Policy
- Fitness to Practice Procedure
- Grade Appeal Policy
- Complaint Management Procedure for Students and Members of the Public
- Special Consideration Policy *(**Note:** The Special Consideration Policy is effective from 4 December 2017 and replaces the Disruption to Studies Policy.)*

Students seeking more policy resources can visit the Student Policy Gateway (https://students.mq.edu.au/support/study/student-policy-gateway). It is your one-stop-shop for the key policies you need to know about throughout your undergraduate student journey.

If you would like to see all the policies relevant to Learning and Teaching visit Policy Central (https://staff.mq.edu.au/work/strategy-planning-and-governance/university-policies-and-procedures/policy-central).

Student Code of Conduct

Macquarie University students have a responsibility to be familiar with the Student Code of Conduct: https://students.mq.edu.au/study/getting-started/student-conduct

Results

Results published on platform other than eStudent, (eg. iLearn, Coursera etc.) or released directly by your Unit Convenor, are not confirmed as they are subject to final approval by the

University. Once approved, final results will be sent to your student email address and will be made available in eStudent. For more information visit ask.mq.edu.au or if you are a Global MBA student contact globalmba.support@mq.edu.au

Student Support

Macquarie University provides a range of support services for students. For details, visit http://students.mq.edu.au/support/

Learning Skills

Learning Skills (mq.edu.au/learningskills) provides academic writing resources and study strategies to help you improve your marks and take control of your study.

- Getting help with your assignment
- Workshops
- StudyWise
- Academic Integrity Module

The Library provides online and face to face support to help you find and use relevant information resources.

- Subject and Research Guides
- Ask a Librarian

Student Services and Support

Students with a disability are encouraged to contact the Disability Service who can provide appropriate help with any issues that arise during their studies.

Student Enquiries

For all student enquiries, visit Student Connect at ask.mq.edu.au

If you are a Global MBA student contact globalmba.support@mq.edu.au

IT Help

For help with University computer systems and technology, visit http://www.mq.edu.au/about_us/offices_and_units/information_technology/help/.

When using the University's IT, you must adhere to the Acceptable Use of IT Resources Policy. The policy applies to all who connect to the MQ network including students.