

# IB2B2-15 Financial Econometrics

**20/21**

**Department**

Warwick Business School

**Level**

Undergraduate Level 2

**Module leader**

Cesare Robotti

**Credit value**

15

**Module duration**

10 weeks

**Assessment**

30% coursework, 70% exam

**Study location**

University of Warwick main campus, Coventry

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## Description

### Introductory description

The module aims to provide a solid grounding in the principles and techniques of modern financial econometrics. In doing so, it will serve as an introduction to key econometric and statistical methods of empirical investigation in Finance and Financial Economics.

### Module aims

The module aims to equip students with the following competencies, in particular:

1. Establish the specific characteristics of a financial dataset.
2. Undertake empirical analysis of financial-markets data.
3. Understand the features of univariate time-series modelling.
4. Understand volatility and correlation modelling and their relevance for financial investment decisions.
5. Use of econometric software packages as tools for quantitative and statistical analysis.

### Outline syllabus

This is an indicative module outline only to give an indication of the sort of topics that may be covered. Actual sessions held may differ.

Asset returns and the Efficient Markets Hypothesis.  
Present-value relations and returns predictability.  
Univariate time-series analysis.  
Univariate volatility modelling: ARCH and GARCH.  
Correlation and covariance modelling: RiskMetrics.  
Portfolio allocation and risk assessment.  
Forecast and assessment of market risk (Value-at-Risk).  
Non-stationarity and co-integration.  
Forecasting and modelling long-run relationships in Finance.  
Panel Data: fixed-effects and random-effects models.

## **Learning outcomes**

By the end of the module, students should be able to:

- Understand the theoretical principles underpinning a suite of introductory econometrics and statistical tools.
- Select the most appropriate model specification and econometric setup to answer a research question in empirical Finance.

## **Indicative reading list**

Brooks C (3rd edition, 2014) *Introductory Econometrics for Finance*, Cambridge University Press

Campbell J, Lo A and MacKinlay A (1997): *The Econometrics of Financial Markets*, Princeton University Press

Christoffersen, P (2nd edition, 2012) *Elements of Financial Risk Management*, Elsevier, Academic Press

Wooldridge, (6th edition, 2016) *Introductory Econometrics: A Modern Approach*, Cengage

## **Subject specific skills**

Upon successful completion of the module, students will be able to:

- (a) carry out robust empirical analysis of cross-sectional, time-series and panel data in Finance.
- (c) critically evaluate and replicate aspects of published empirical finance studies.

## **Transferable skills**

Upon successful completion of the module, students will be able to:

- (a) design and undertake small inquiry-based projects in empirical finance.
- (b) critically evaluate a range of econometric techniques for analysing financial data.

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## **Study**

## Study time

Type	Required
Lectures	10 sessions of 2 hours (13%)
Seminars	9 sessions of 1 hour (6%)
Private study	48 hours (32%)
Assessment	73 hours (49%)
Total	150 hours

## Private study description

No private study requirements defined for this module.

## Costs

No further costs have been identified for this module.

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## Assessment

You do not need to pass all assessment components to pass the module.

### Assessment group D

	Weighting	Study time
Participation	10%	7 hours
Class Test		
Group Report (1500 words)	20%	15 hours
Group Report		
Online Examination	70%	51 hours
Exam		

## Feedback on assessment

In-class and on my.wbs

[Past exam papers for IB2B2](#)

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## Availability

## Pre-requisites

To take this module, you must have passed:

- All of
  - [IB122-15 Business Analytics](#)

## Courses

This module is Optional for:

- UIBA-N20B BSc in Management
  - Year 2 of N20B Management
  - Year 2 of N20B Management
  - Year 2 of N23K Management with Accounting
  - Year 2 of N234 Management with Digital Innovation
  - Year 2 of N235 Management with Entrepreneurship
  - Year 2 of N232 Management with Finance
  - Year 2 of N252 Management with Marketing
  - Year 2 of N23L Management with Strategy and Organisation
- Year 2 of UIBA-N400 Undergraduate Accounting and Finance
- Year 3 of UIBA-N403 Undergraduate Accounting and Finance (with Foundation Year)
- Year 2 of UGEA-RN21 Undergraduate German and Business Studies
- Year 2 of UIPA-L8N1 Undergraduate Global Sustainable Development and Business
- UIBA-N20F Undergraduate International Management
  - Year 2 of N20F International Management
  - Year 2 of N20F International Management
  - Year 2 of N20S International Management (with Accounting)
  - Year 2 of N20T International Management (with Chinese)
  - Year 2 of N20N International Management (with Digital Innovation)
  - Year 2 of N20P International Management (with Entrepreneurship)
  - Year 2 of N20M International Management (with Finance)
  - Year 2 of N20U International Management (with French)
  - Year 2 of N20L International Management (with Marketing)
  - Year 2 of N20V International Management (with Spanish)
  - Year 2 of N20W International Management (with Strategy and Organisation)
  - Year 2 of N20E Management (with Foundation Year)
  - Year 2 of N234 Management with Digital Innovation
- UIBA-N20E Undergraduate Management (with Foundation Year)
  - Year 3 of N20E Management (with Foundation Year)
  - Year 3 of N23N Management with Accounting (with Foundation Year and Placement Year)
  - Year 3 of N23M Management with Accounting (with Foundation Year)
  - Year 3 of N23E Management with Digital Innovation (with Foundation Year)
  - Year 3 of N23F Management with Entrepreneurship (with Foundation Year)
  - Year 3 of N23D Management with Finance (with Foundation Year)

- Year 3 of N254 Management with Marketing (with Foundation Year)
- Year 3 of N23P Management with Strategy and Organisation (with Foundation Year)