Session Outline
Transition to Maths & Stats for Economics & Finance
Resources for Supporting Maths Skills in Economics
Mathcentre Community Project and Wish List
Sigma Funded 30 Two-Page Help Sheets
Call for "Critical Friends"
Resources for Supporting Stats Skills in Economics
The End

Resources for Supporting Mathematics and Statistics in Economics and Finance

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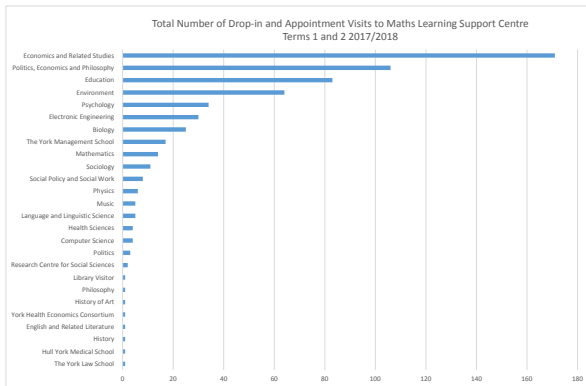[1]This email address will become inactive after 31 August 2018

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- Transition to Maths & Stats in Economics & Finance
- Resources for Supporting Maths Skills in Economics
- mathcentre Community Project and Wish List
- 30 Two-Page Help Sheets - Sigma Funded Resource Development
- Resources for Supporting Stats Skills in Economics

Disciplinary Needs for Maths & Stats Support

Total Number of Drop-in and Appointment Visits to Maths Learning Support Centre Terms 1 and 2 2017/2018

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Level One Maths Curriculum

Two routes into Mathematics for Economics:

- Linear, Quadratic, Cubic and Exponential Functions
- Sequences, Series and Present Value
- Difference Equations
- Continuous Growth and Decay
- Linear Algebra
- Derivatives of Functions of a Single Variable
- Partial Differentiation of Functions of Two Variables
- Unconstrained and Constrained Optimization
- Differential Equations
- Linear Programming

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Content Presenting Difficulties to Some Students

Mathematics Content Presenting Difficulties to Some Students:

- Present Value and Use of Summation Notation
- Difference Equations
- Continuous Growth and Decay
- Application of Matrices to Solving Systems of Equations
- Partial Differentiation of Functions of Two Variables
- Constrained Optimization

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1. In this three-equation macroeconomic model, Y_t, C_t and I_t are output, consumption and investment in time period t. Parameters α, β and v are all positive, with $\beta < 1$ and $v > 1$.

$$Y_t = C_t + I_t \qquad C_t = \alpha + \beta Y_t \qquad I_t = v[Y_t - Y_{t-1}]$$

(a) Find the solution for Y_t as a function of Y_{t-1}, in the form of a linear difference equation.

(b) Find the particular solution of that difference equation.

(c) Does the general solution: (i) converge? (ii) oscillate?

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1. In this two-equation macroeconomic model, Y_t and C_t are output and consumption in time period t while X is exogenous expenditure, assumed constant over time. Assume $0 < \alpha < 1$, $0 < \beta < 1$.

$$Y_t = C_t + X \qquad C_t = \alpha Y_t + \beta Y_{t-1}$$

(a) Solve for Y_t as a function of Y_{t-1} (with X as a parameter) in the form of a linear difference equation:

(b) Find the particular solution of that difference equation.

(c) Does the general solution oscillate?

(d) Under what conditions does the general solution converge?

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Traditional Textbooks and Online Resources

- Traditional Print or Digital Textbooks
- Maths Open Textbook [2]
- METAL Resources
- mathtutor
- mathcentre

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[2]This bulleted item and the rest below have URL links embedded.

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mathcentre Community Project

- mathcentre Community Project Wish List
- LaTeX Templates and Related Documents
- Sigma Funded 30 Two-page Maths Help Sheets with Economics Examples

Sample Help Sheets

- Sequences and Series
- Difference Equations
- Application of Matrices to Solving Systems of Equations
- Partial Differentiation
- Constrained Optimization

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- Release of 30 Two-Page Mathematics Help Sheets in the 2018/2019 Academic Year

- Call Out for Stage 1 Critical Friends Reviewers

- Stage 2 International Reviewer

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Stats Help Sheets and Software Guide

- Statistics Open Textbooks[3]
- 30 Two-Page Help Sheets for Theoretical Statistics
- 30 Two-Page Help Sheets for Probability Theory
- Guide to Econometric Software (e.g. **gretl**)

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[3]This and the last bulleted item both have URL links embedded.

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Thank You for Listening

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