

Edward Elgar Publishing

Setting up Maths in your book

- All maths should be correct within your Word chapter files.
- Any displayed equations or inline maths should be created using **MathType** or **Equation Editor**.
- Please do not insert maths as images/pictures/graphics or keyed text, this cannot be processed by the typesetter.
- All equations should be fully created in **MathType** or **Equation Editor**.
- Please send a PDF of your chapter with maths so this shows clearly how the maths should look.

MathType

You can purchase MathType for Window at: <http://www.dessci.com/en/products/mathtype/>

You can purchase MathType for Mac at:

https://www.dessci.com/en/products/mathtype_mac/

MathType allows good flexibility and is a highly regarded Mathematical tool.

Equation Editor

This software is free with Word. Go to Insert>Object and choose Microsoft Equation.

Advantages to using this software

Errors won't be introduced at typesetting stage through re-keying.

Typesetting software works well with these programs.

Layout of equations should be retained.

Maths can be re-flowed through various softwares/outputs.

Fonts and Styles

Using MathType we recommend using **Factory Settings** (Style>Define>Advanced>Factory Settings; change to 'Use for new equations').

For **Equation Editor** we recommend **default styles** (Style>Define).

Do not change the font to anything other than those included within the normal **MathType/Equation Editor** font set e.g. Times New Roman.

When adding a **MathType** equation from another Word document, ensure you copy the equation from within the **MathType** window, rather than from the text. Then paste it into a new **MathType** window in your new document. In 'Preferences' select 'Load from Factory Settings...' and then 'Use for new equations' and click 'OK'.

Things to watch for

- If an equation is over two lines ensure it breaks in a convenient place.
- Make sure all brackets are appropriately sized to fit the equation.
- Punctuation as part of the equation should also be inserted in **MathType** or **Equation Editor**.
- Punctuation after inline elements of maths should **not** be part of the **MathType** or **Equation Editor** entry.
- Numbered equations should be numbered with the chapter number and the equation number, sequentially throughout the chapter. For example, the third numbered equation in Chapter 4 would be numbered 4.3. Do not insert the equation number from within the equations editor. Use a tab separator between the equation and the number.
- **Inline equations.** Avoid in-line expressions that require lines of type to spread – i.e. overbars, summation signs, stacked fractions, etc. Please set these to be displayed rather than in-line, or, if the fraction is more complex and cannot be stacked as a single character, use negative superscripts, e.g. $a(bx)^{-1}$.

How to check your maths is correctly inserted

To check that **Equation Editor** or **MathType** is working simply click on the maths and a blue box should show (see screenshot overleaf) and the 'Equation' tab should appear at the top of the document.

no longer changed, but rather used to calculate a forecast in a subsequent (a

For efficient algorithmic processing, data is represented in the form of vector individual data points. The vector can have many dimensions, whereas each represents one feature of the data point. For example, a 35-year-old woman with income of \$ 45K can be represented as the following vector “P,” with three P would be a data point and “Female,” “35 Years,” and “\$ 45K” would be it

$$P \rightarrow \begin{pmatrix} \text{Female} \\ 35 \text{ Years} \\ \$ 45K \end{pmatrix}$$

Each dimension reflects an attribute, the so-called “feature” of the person. T overaged by different scales. Here, common statistical methods such as

Examples of incorrect maths to be avoided

Maths inserted as an image

This method will not work for our typesetting processes. You can check this by clicking your maths and seeing the box with squares appear and the ‘Picture’ tab appearing at the top of the screen. If your maths has been supplied this way it will need to be changed to use an equation editor. This is the same for in-text maths.

Query Likelihood Model and the Language Model Family

Language modeling is a probability distribution over words.¹⁰ Query likelihood family of retrieval models. Each document is assigned a score which is the p document being relevant given a certain query.

$$\text{score}(D, Q) = \log P(Q|D) = \sum_{i=1}^n \log \frac{tf_{q,d} + \mu \frac{tf_{q,c}}{|C|}}{|D| + \mu}$$

Maths which has been converted from a PDF to Word

This conversion causes formatting errors to be introduced into the file and will also render maths as just regular text rather than properly input equations/formulas. Please see below the PDF and then the Word and see that the formatting has been lost. Whilst we do ask for a PDF to be supplied of the maths for reference of what it should look like, the Maths should always be correct in your word file as this is the file copy-editors and Typesetters use to work with.

PDF

2 - Chapter 2.pdf

19 / 29 73.6%

$$\log p_{\theta}(s, t) \sim N(\log \mu_{\theta}(t), \sigma_s^2)$$

$$\log p_{\theta}(s, t) = \begin{cases} p_{\theta}(s, t) & \text{if } s = 1 \\ p_{\theta}(s, t) & \text{if } s = 2 \end{cases}$$

$$\sigma_s^2 = \begin{cases} \sigma_1^2 + \dots & \text{if } s = 1 \\ \sigma_2^2 + \dots + \epsilon_{\text{bias}} & \text{if } s = 2 \end{cases}$$

$\log \mu_{\theta}(t) = f(\log \mu_{\theta}(t-1), \dots)$ (time series model)

$\log p_{\theta}(1, t) = f(\log p_{\theta}^{\text{CS}}(p_{\theta}(1, t)) + \dots + \epsilon_{\text{bias}}$ (bias-adjustment model)

Word

traditional data sources, if $\mu_{\theta}(D, Q)$ comes from a survey, the size of σ^2 could be inferred from sampling terms of social media, it seems reasonable to assume that σ^2 would be larger than σ^2 . Potential sources include: sampling error, non-sampling error, and the error as a consequence of the bias-adjustment. The use of a data model allows potentially overlapping observations from different sources to be into consideration, and the relative weight of each source is dependent on the size of the error or variance from that data source.

2.4.3 Summary of model framework

The three components discussed above can be summarized in a hierarchical framework as follows:

$$\log \mu_{\theta}(x, t) \sim N(\log \mu_{\theta}(t), \sigma^2)$$

$$\log \mu_{\theta}(x, t) = \begin{cases} p_{\theta}(x, t) & \text{if } s = 1 \\ p_{\theta}(x, t) & \text{if } s = 2 \end{cases}$$

$$\sigma_s^2 = \begin{cases} \sigma_1^2 + \dots & \text{if } s = 1 \\ \sigma_2^2 + \dots + \epsilon_{\text{bias}} & \text{if } s = 2 \end{cases}$$