rmd revealjs Latex test

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Overview

See more from Fan's Tex4Econ

We will test out writing equations in RMD + revealjs

Defining NEWCOMMAND

```
\newcommand{\vara}{\mathrm{Var}}
\newcommand{\varb}{\mathrm{\alpha + \beta}}
\newcommand{\varc}{
  \frac{a + b}{c + d} \times \exp\left( x \right) = y
}
```

- This is from \vara+2: $\mathrm{Var} + 2$
- This is from \varb+2: $\alpha + \beta + 2$
- This is from \varc+2: $\frac{a+b}{c+d} \times \exp(x) = y + 2$

Equations

Inline Equation

Here is some text that is in red, **in between the b symbols mean put this text in bold** but this text is not bold

This is smaller italisized text, font size 50 percent.

- Regular sized Equation: $1 + 2 = 3$
- Smaller Equation: $1 + 2 = 3$

Display Equation

$$Z(\tau, \delta) = \sum_{\substack{\text{cohort} \\ \in \{70,72,74,76\}}} \left\{ \delta \cdot \int_{\epsilon} \int_{Y_{min}}^{F_Y^{-1}(\tau)} \int_{X} N\left(\begin{smallmatrix} Y, X, \epsilon; \\ \delta, \Gamma_{\text{cohort}} \end{smallmatrix} \right) f(X|Y)\, f(Y)\, f(\epsilon)\, \mathrm{d}X \mathrm{d}Y \mathrm{d}\epsilon \right\}$$

Equations Space Saving

The paper latex file already contains various newcommands pre-defined, want to share those latex files with RMD.

New Command Define First

Define long newcommand in RMD and show equation multiple times.

Equation defined as new command with different zoom:

$$Z(\tau,\delta) = \sum_{\substack{\text{cohort}\\ \in\{70,72,74,76\}}} \left\{ \delta \cdot \int_\epsilon \int_{Y_{min}}^{F_Y^{-1}(\tau)} \int_X N\left(\substack{Y,X,\epsilon;\\ \delta,\Gamma_{\text{cohort}}}\right) f(X|Y)\, f(Y)\, f(\epsilon)\, \mathrm{d}X \mathrm{d}Y \mathrm{d}\epsilon \right\}$$

$$Z(\tau,\delta) = \sum_{\substack{\text{cohort}\\ \in\{70,72,74,76\}}} \left\{ \delta \cdot \int_\epsilon \int_{Y_{min}}^{F_Y^{-1}(\tau)} \int_X N\left(\substack{Y,X,\epsilon;\\ \delta,\Gamma_{\text{cohort}}}\right) f(X|Y)\, f(Y)\, f(\epsilon)\, \mathrm{d}X \mathrm{d}Y \mathrm{d}\epsilon \right\}$$

$$Z(\tau,\delta) = \sum_{\substack{\text{cohort}\\ \in\{70,72,74,76\}}} \left\{ \delta \cdot \int_\epsilon \int_{Y_{min}}^{F_Y^{-1}(\tau)} \int_X N\left(\substack{Y,X,\epsilon;\\ \delta,\Gamma_{\text{cohort}}}\right) f(X|Y)\, f(Y)\, f(\epsilon)\, \mathrm{d}X \mathrm{d}Y \mathrm{d}\epsilon \right\}$$

$$Z(\tau,\delta) = \sum_{\substack{\text{cohort}\\ \in\{70,72,74,76\}}} \left\{ \delta \cdot \int_\epsilon \int_{Y_{min}}^{F_Y^{-1}(\tau)} \int_X N\left(\substack{Y,X,\epsilon;\\ \delta,\Gamma_{\text{cohort}}}\right) f(X|Y)\, f(Y)\, f(\epsilon)\, \mathrm{d}X \mathrm{d}Y \mathrm{d}\epsilon \right\}$$

$$Z(\tau,\delta) = \sum_{\substack{\text{cohort}\\ \in\{70,72,74,76\}}} \left\{ \delta \cdot \int_\epsilon \int_{Y_{min}}^{F_Y^{-1}(\tau)} \int_X N\left(\substack{Y,X,\epsilon;\\ \delta,\Gamma_{\text{cohort}}}\right) f(X|Y)\, f(Y)\, f(\epsilon)\, \mathrm{d}X \mathrm{d}Y \mathrm{d}\epsilon \right\}$$

Include Equations and Symbols Defined Elsewhere

Reuse tex preamble from paper, load as child, and clean comments.

```
# This loads the tex preamble with predefined formula, reuseable
test_tex_define_out = knitr::knit_child('test_tex_define.tex')
# Delete all comment lines, which starts with percent, and end wi
# This deletes all but the last line
test_tex_define_out = gsub("\\%.*?\\\n", "", test_tex_define_out)
# Delete last comment if on final line
test_tex_define_out = gsub("\\\n%.*","", test_tex_define_out)
```

$$\text{EXTERNAL: } Z(\tau,\delta) = \sum_{\substack{\text{cohort} \\ \in\{70,72,74,76\}}} \left\{ \delta \cdot \int_{\epsilon} \int_{Y_{min}}^{F_Y^{-1}(\tau)} \int_{X} N\left({}^{Y,X,\epsilon;}_{\delta,\Gamma_{\text{cohort}}} \right) f(X|Y)\, f(Y)\, f(\epsilon)\, \mathrm{d}X \mathrm{d}Y \mathrm{d}\epsilon \right\}$$

from external file: $\alpha + \beta$

from external file: $\sigma_{i=1}^{N} X_i$