What is the Effect of X on Y?

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October 2024

Customizing template

At the top of the template is two accent color definitions. Change these and they should populate throughout the slides.

Common Items

Table

Figures

Advanced Tools

Components

This section highlights commonly used components and their theming

- Can emphasize with the alert command which uses the `accent2` color
  - → This allows you to draw attention to specific words/phrases
- To include things in appendix, you must first label the slide and the appendix slide and then include a hyperlink. The command `\bottomleft` will position in the bottom left corner nicely

Numbered Lists

You can also use numbered items that look a bit more professional

1. Pretty good
2. To include things in appendix

Citations

Topic 1: Spatial Frictions [Fajgelbaum et al. (2018), Hsieh and Moretti (2019), and Moretti (2011)]

Topic 2: Blah [Suárez Serrato and Zidar (2016)]

Colors

I have a set of colors that I use:

navy, raspberry, cranberry, orange, purple, blue, green, rose, and yellow

If you want to color text with them, use `\colorname{...}`

Color boxes

You can also use color boxes. Some of the colors look ugly when made lighter, so I won't show them:

bgNavy, bgRaspberry, bgCranberry, bgOrange, bgPurple, bgGreen, bgYellow

If you want to color text with them, use `\bgColorname{...}`

Highlight Math

Can also highlight in an equation with `\tcbhighmath[colback = bgColor]{...}`.
If you don't include the brackets, it will default to `bgRaspberry`.

$$\int_{\Omega} f(x)\,dx \approx \frac{|\Omega|}{N} \sum_{i=1}^{N} f(X_i)$$

Code listings

The `codeblock` environment lets you copy text verbatim. It is important you use `[fragile]` as a frame option in beamer

```
library(fixest)
feols(mpg ~ 1, data = mtcars)
#> OLS estimation, Dep. Var.: mpg
#> Observations: 32
#>             Estimate Std. Error t value  Pr(>|t|)
#> (Intercept)  20.0906    1.06542 18.8569 < 2.2e-16 ***
#> ---
#> Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
```

Blocks

Theorem 1

The main specificaiton is as follows:

$$y_{it} = X_{it}\beta + \mu_i + \varepsilon_{it}$$

Blocks

If you want something more colorful, use `colornameBlock`

This is a purple block

With Title

This is a cranberry block

Two Columns

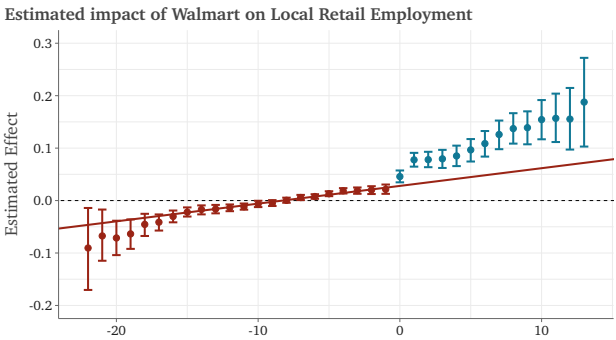
Column 1

1. Bullet points for this column that can go over lines
2. b
3. c

Column 2

- a
- b
- c

Two Columns with Figure



A point about the figure that is potentially important.

Another point about the figure that is also potentially important.

Common Items

Table

Figures

Advanced Tools

Table with cell / row highlighting

Use `\cellcolor<#>{color}` and `\rowcolor<#>{color}` to color cell / row. The `<#>` is an optional overlay specification

OUTCOME: Log of Real Per Capita Income

	(1)	(2)
Policy Enacted $= 1$	0.0694*	0.0713**
	(0.0401)	(0.0381)
State Fixed Effects		✓
Observations	1,673	1,673

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Table

	(1)	(2)
Handling of Complaints	0.692***	0.682***
	(0.149)	(0.129)
No Special Privileges	-0.104	−0.103
	(0.135)	(0.129)
Opportunity to Learn	0.249	0.238*
	(0.160)	(0.139)
Observations	30	30
R^2	0.715	0.715

Notes. $^{*}p < 0.1$; $^{**}p < 0.05$; $^{***}p < 0.01$.

- Use `\marktopleft{name}` and `\markbottomright{name}` within the table to create box.
- Using `\only` or `\on` lets you conditionally display box

Table

	(1)	(2)
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Common Items

Table

Figures

Advanced Tools

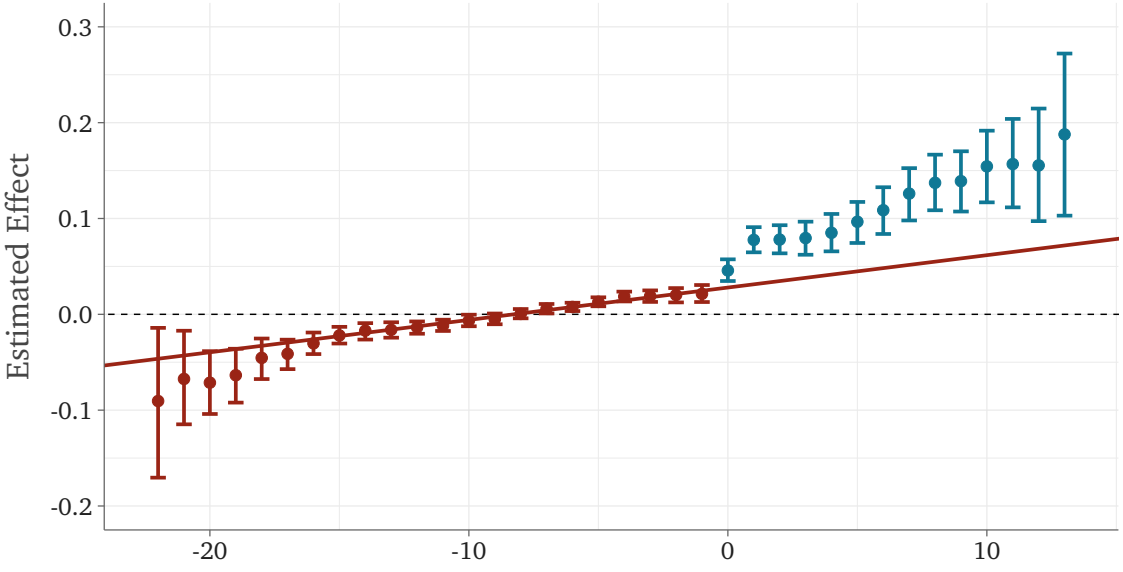
Figure

Full-size Figures

You can use the command `\imageframe{img-path}` and it will create a full-frame of a picture.

- Ideally, your figure is the same aspect as the frame (`4:3` or `16:9`) or else there will be white space in one of the directions.

Estimated impact of Walmart on Local Retail Employment



Figure

Notes. The `adjustbox` environment helps resize figures/tables

Common Items

Table

Figures

Advanced Tools

Overlaying objects

This template provides some tools to make overlaying text / objects over the slides easier (an e.g. of this is the `\bottomleft` overlay buttons). This feature is heavily inspired from Keenan Crane's excellent slides.

To use this, you can

```
\begin{tikzpicture}[remember picture, overlay]
  \node [text width = 0.3\textwidth] at (page cs: x, y)
\end{tikzpicture}
```

where `x, y` are the x and y coordinates of the slide and are between 0.0 and 1.0.

Proof. First note that, since the X_i are independent,

$$\mathsf{Var}\left(\overline{X}_N\right) = \mathsf{Var}\left(\frac{1}{N}\sum_{i=1}^{N} X_i\right) = \frac{1}{N^2}\sum_{i=1}^{N}\mathsf{Var}(X_i) = \frac{\sigma^2}{N}.$$

From Chebyshev's inequality, we then have

$$P\left(|\overline{X}_N - \mu| \geq \varepsilon\right) \leq \frac{\mathsf{Var}[\overline{X}_N]}{\varepsilon^2} = \frac{\sigma^2}{N^2\varepsilon^2},$$

and

$$\lim_{N\to\infty} \frac{\sigma^2}{N^2\varepsilon^2} = 0.$$

In summary: averaging reduces variance; Chebyshev says that random variables with small variance will be close to their mean.

Example of labelling equations

We can use monte carlo simulation to draw N observations from the domain Ω:

$$\int_{\Omega} f(x)\,dx \approx \frac{|\Omega|}{N} \sum_{i=1}^{N} f(X_i)$$

volume of domain

Draw from Ω

It can be a bit tedious to try and place these elements. For that reason, I added `\devgrid` command that will lay every 0.1 unit of the slide. Counting will get you in the ball park and manual tweaking will finish the job.

References I

Fajgelbaum, Pablo D et al. (2018). "State Taxes and Spatial Misallocation". *The Review of Economic Studies*.

Hsieh, Chang-Tai and Enrico Moretti (2019). "Housing Constraints and Spatial Misallocation". *American Economic Journal: Macroeconomics* 11.2.

Moretti, Enrico (2011). "Local Labor Markets". *Handbook of Labor Economics*. Vol. 4. Elsevier.

Suárez Serrato, Juan Carlos and Owen Zidar (2016). "Who Benefits from State Corporate Tax Cuts? A Local Labor Markets Approach with Heterogeneous Firms". *American Economic Review* 106.9.

Appendix Slide

Summary Slides

Statistic	N	Mean	St. Dev.	Min	Pctl(25)	Pctl(75)	Max
rating	30	64.633	12.173	40	58.8	71.8	85
complaints	30	66.600	13.315	37	58.5	77	90
privileges	30	53.133	12.235	30	45	62.5	83
learning	30	56.367	11.737	34	47	66.8	75
raises	30	64.633	10.397	43	58.2	71	88

Notes. Using R base dataframe `attitude`. I use my custom `\note` command for notes