Econ 182: Presenting Results for Market Tightness' Effect on Incarceration Rates in the United States

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Research Questioning and Project Positioning

- Main Question: Will the labor market tightness ratio affect the rate at which individuals are being incarcerated?
  - We will look at the levels of incarceration (per 100k) and the LMT from 2001 to 2022, both at the federal and state levels
- Existing Literature:
  - larger focus on unemployment levels alone
  - some papers show a relationship, others do not. We can see conflicting results by comparing works like Robert Nash's Panel Approach paper, which shows the lack of evidence compared to works like Emilie Allen's Youth Underemployment and Property Crime, which offers evidence based on certain traits or characteristics.
  - Positioning: Identify how incarceration is affected by changing levels of tightness in the labor market over a 21-year time frame.

Methodology Overview

- First, I have calculated the tightness of the labor market based on job openings and unemployment data from the Bureau of Labor Statistics (JOLTS)
  - I have also found the rates of incarceration at the federal and State prisons per 100k individuals (Prison Policy Initiative)
  - Regress Incarceration with LMT to see the effect that LMT has on a statistical level
  - Developed a simple regression equation to evaluate the variables of interest for any incarceration analysis

$$\text{Inc} = \beta_0 + \beta_1 \frac{V}{U} + \beta_n \Omega + E(0) \tag{1}$$

Presentation of Raw Data: LMT and Incarcerations

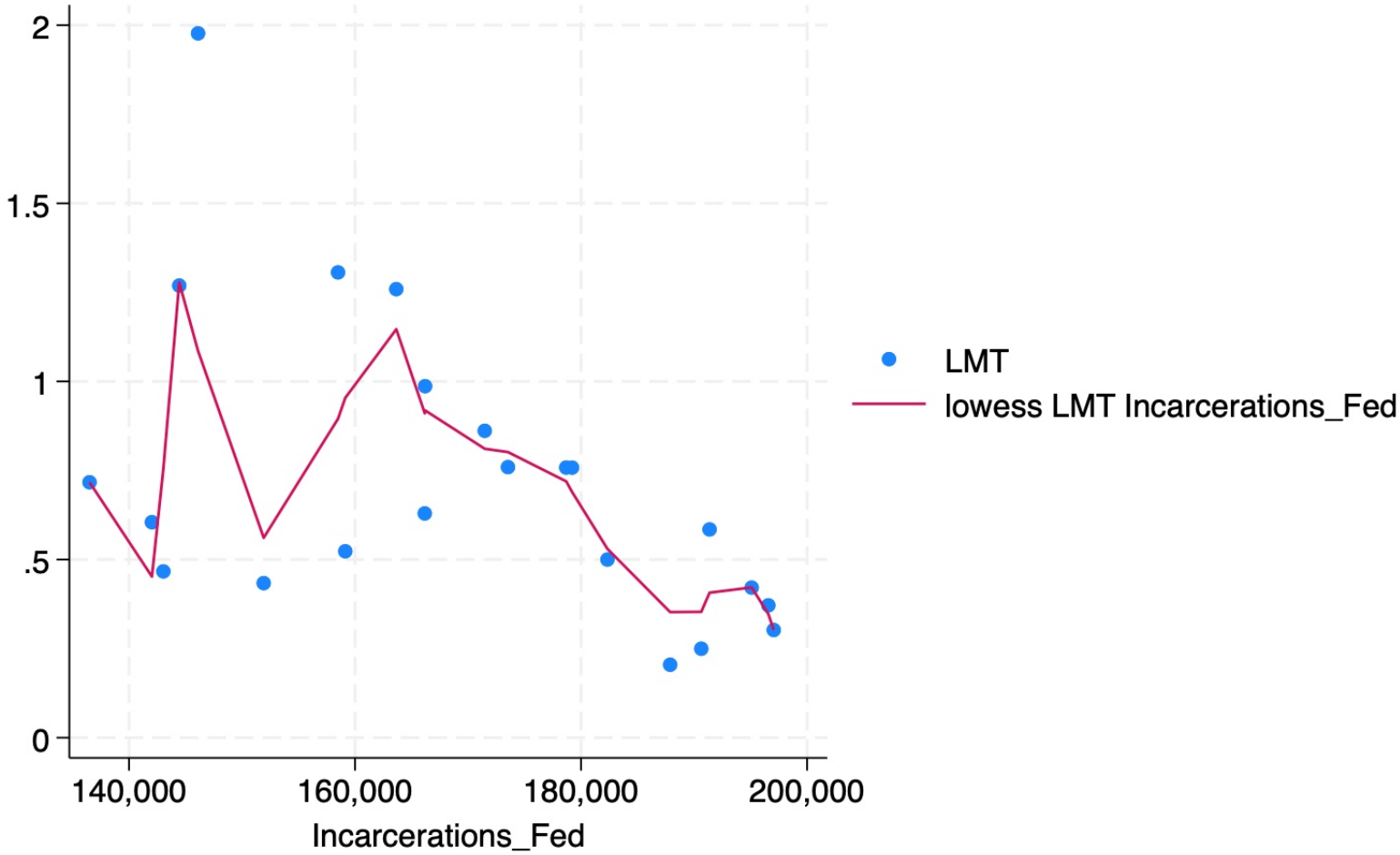

Figure: Visualized Raw Data

Presentation of Raw Data: LMT and Incarcerations

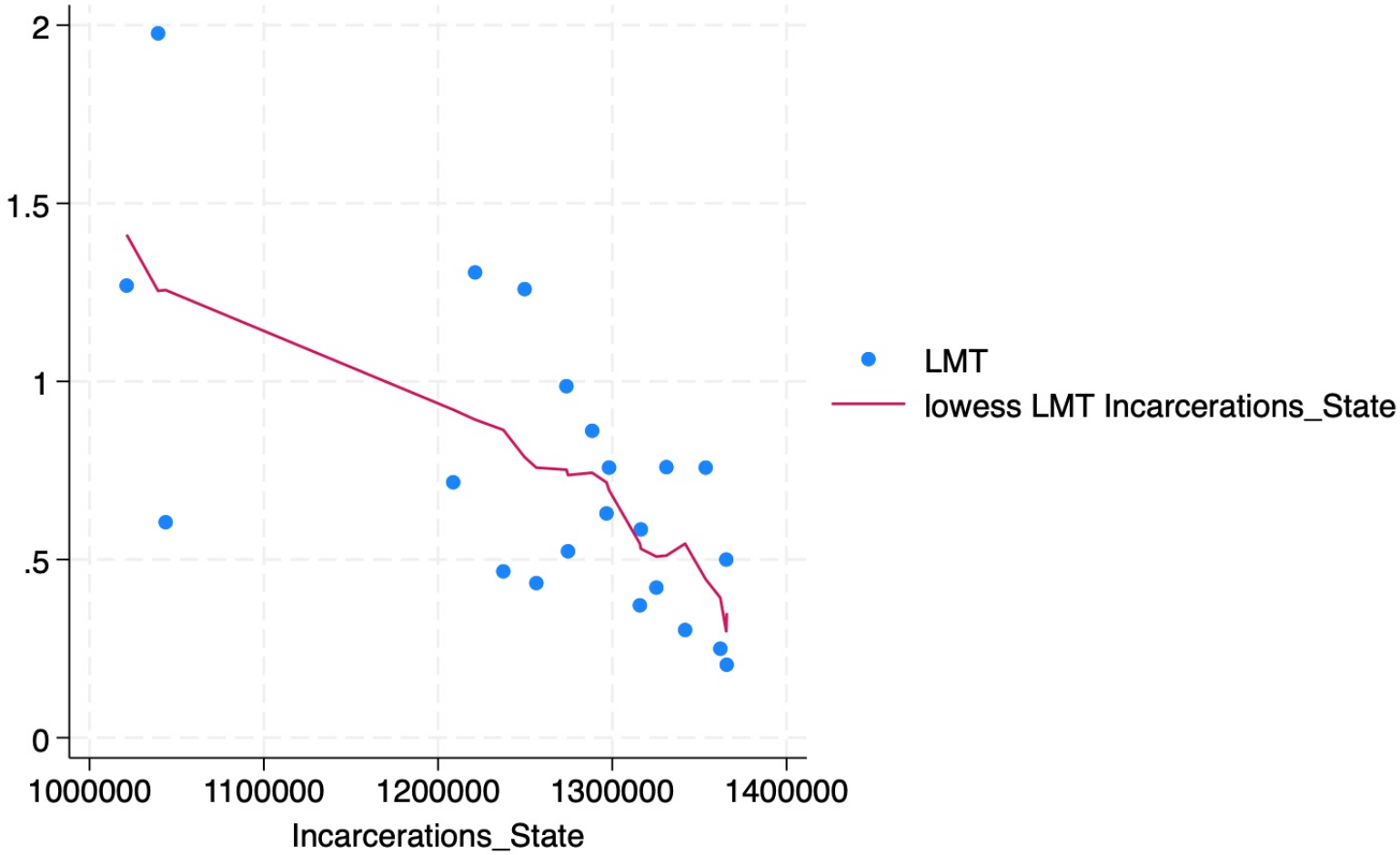

Figure: Federal Incarcerations

Presentation of Data: Time Series

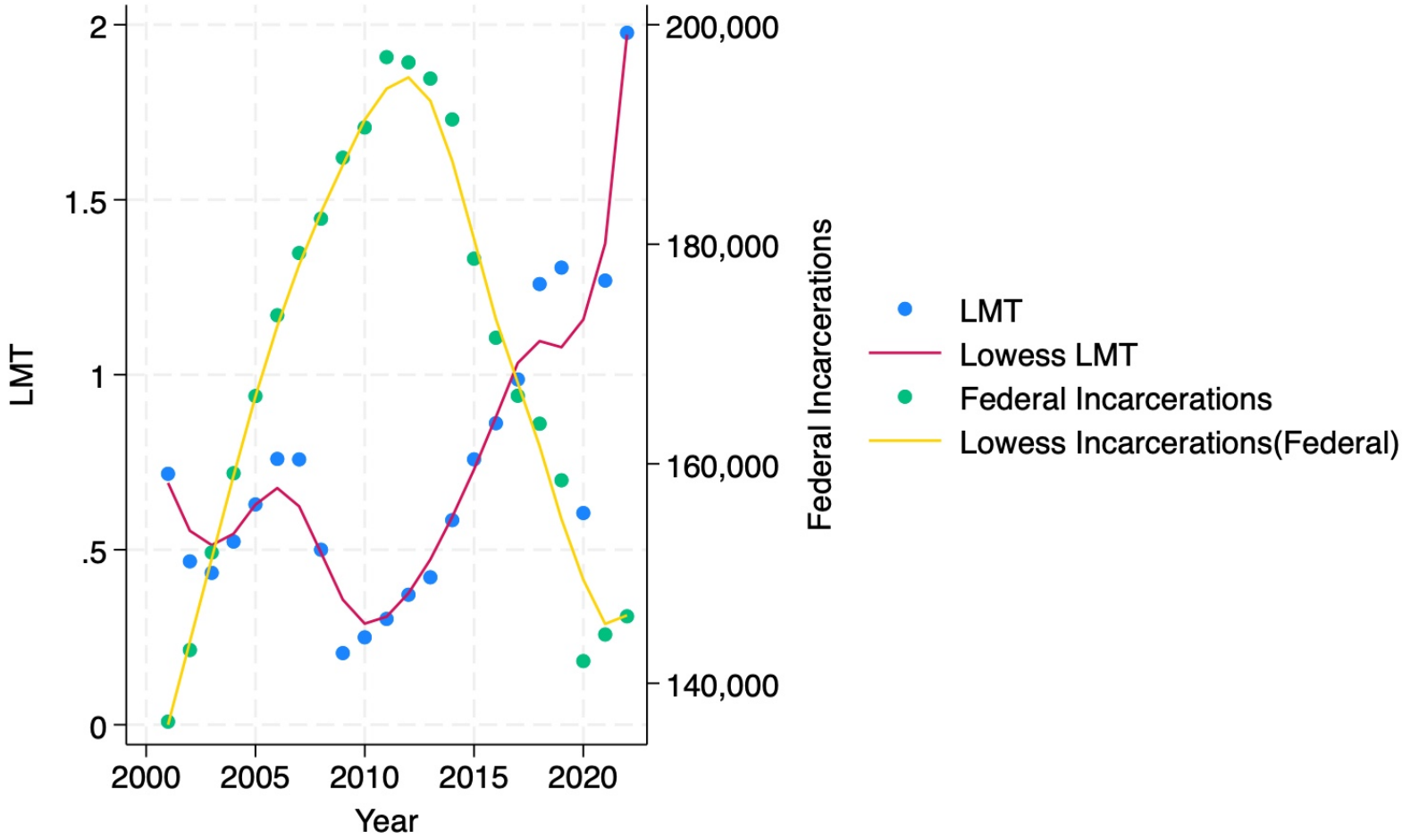

Figure: Twoway Scatter; Federal Prisons

Presentation Data: Time Series

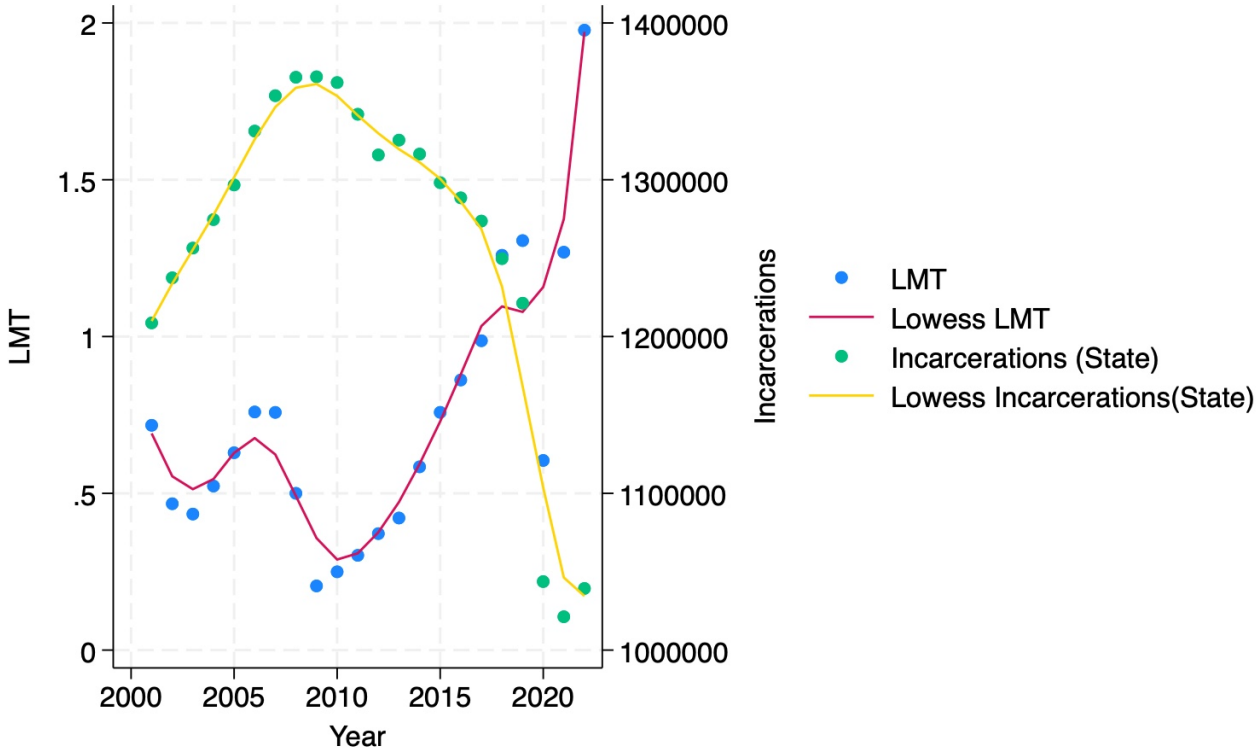

Figure: Twoway Scatter; State Prisons

Presentation of Early Results: Numbers

	(1)	(2)
Column1	**Column2**	**Column3**
VARIABLES	Incarcerations_Fed	Incarcerations_State
LMT	-23,673***	-160,381***
	(5,918)	(31,100)
Constant	186,321***	1379275***
	(7,061)	(25,036)
Observations	22	22
R-squared	0.260	0.430
Robust standard errors in parentheses		
*** p<0.01, ** p<0.05, * p<0.1		

Figure: Early Regression Estimation

Conclusion

- There is a visible correlation between Labor Market Tightness and incarceration rates in federal and state prisons
  - In both federal and state results, we see that there is a negative relationship between LMT and Incarceration
  - We can expect less people to go to prison when LMT is higher
- What does this mean? By how much?
  - This means that policies that promote job openings could be a way to reduce the number of people who commit crimes and end up in prison.
  - We see that the regression on the federal level gave us an effect of -23,673 and the state level gave us -160,381. Realistically, these numbers are extreme; however, the negative direction of the coefficients is very plausible, and aligns with my original expectations.

Conclusion: continued

- What are the limitations?
  - The data for this analysis only cover 22 years, because prior to 2001, there was no government agency taking record of job openings. Estimates on job openings by collecting data on job advertisements can be useful but possibly misleading by overstating availability.
  - There could be differences between the groups that are being arrested that we are not seeing. Are men affected at a higher or lower rate than women? Does being a parent change the intensity of the effect? The list could go on
- What might be helpful in continuing investigation?
  - State specific data analysis: taking a look at left, right, and swing states, so we can see if these trends hold
  - more years of data for job openings. this could be simulated with models that maybe use job advertisements to gain an idea of how tight the market is prior to the JOLTS data collection starting in late 2000, or by waiting for more data to be produced overtime.