



Did Short Selling Bans in 2008 Lower Long-Term Volatility in the Healthcare Sector of the S&P500?

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Question

During times of economic crises, governments have turned to short selling bans to help limit stock volatility. This research aims to answer the question of whether or not short selling bans actually help reduce long-term stock market volatility specifically in the medical sector.

Beneficiaries of this research include:

- Individual investors
- Policy makers
- Future short selling researchers.

Methods

The following method was used to test the research question:

- We gather S&P 500 Adj. closing data from 2000 to 1/1/2024 from yahoo finance.
- Change the daily observations to monthly observations.
- Create a time series plot of the S&P data.
- Gather risk free rate data from 2000 to 1/1/2024 and convert it to monthly data.
- Use the monthly risk free rate data to find real returns from 2000 through 2023.
- Plot a time series of real returns in order to see return shocks.
- Use a linear regression model to test the effectiveness of short selling bans on long term volatility.

Data

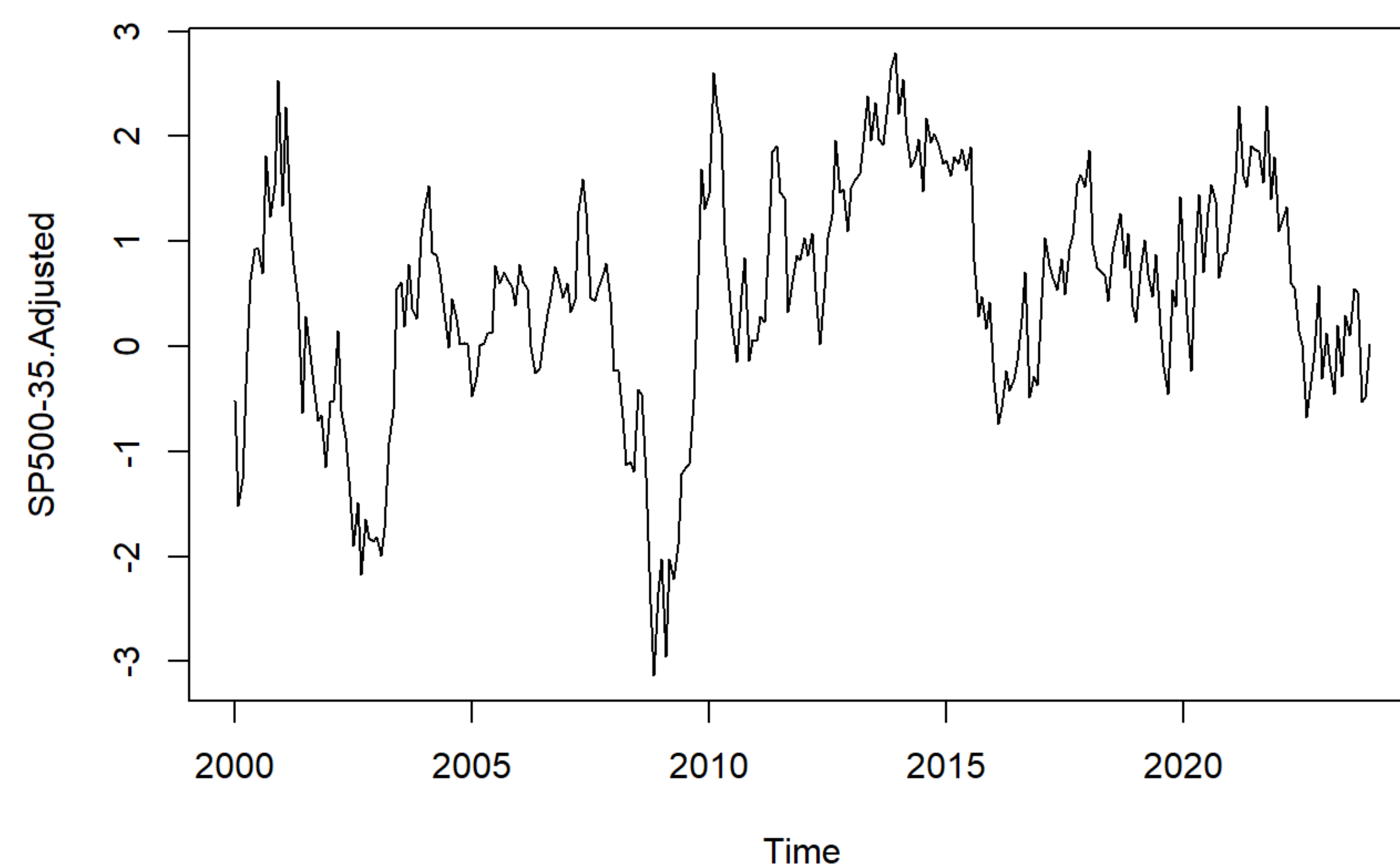


Figure 1: SP500 Medical Sector Data

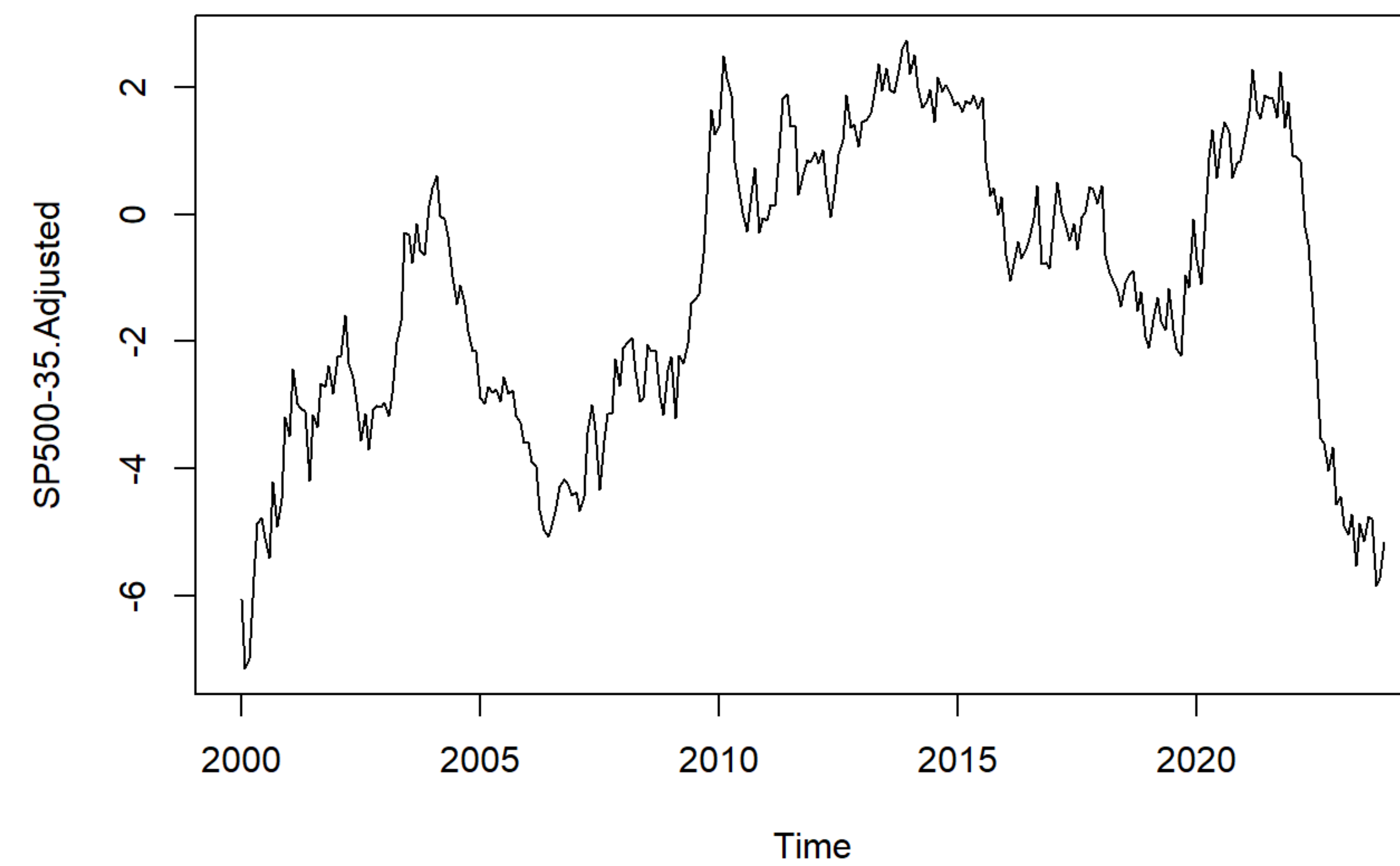


Figure 2: SP500 Medical Sector Real Returns

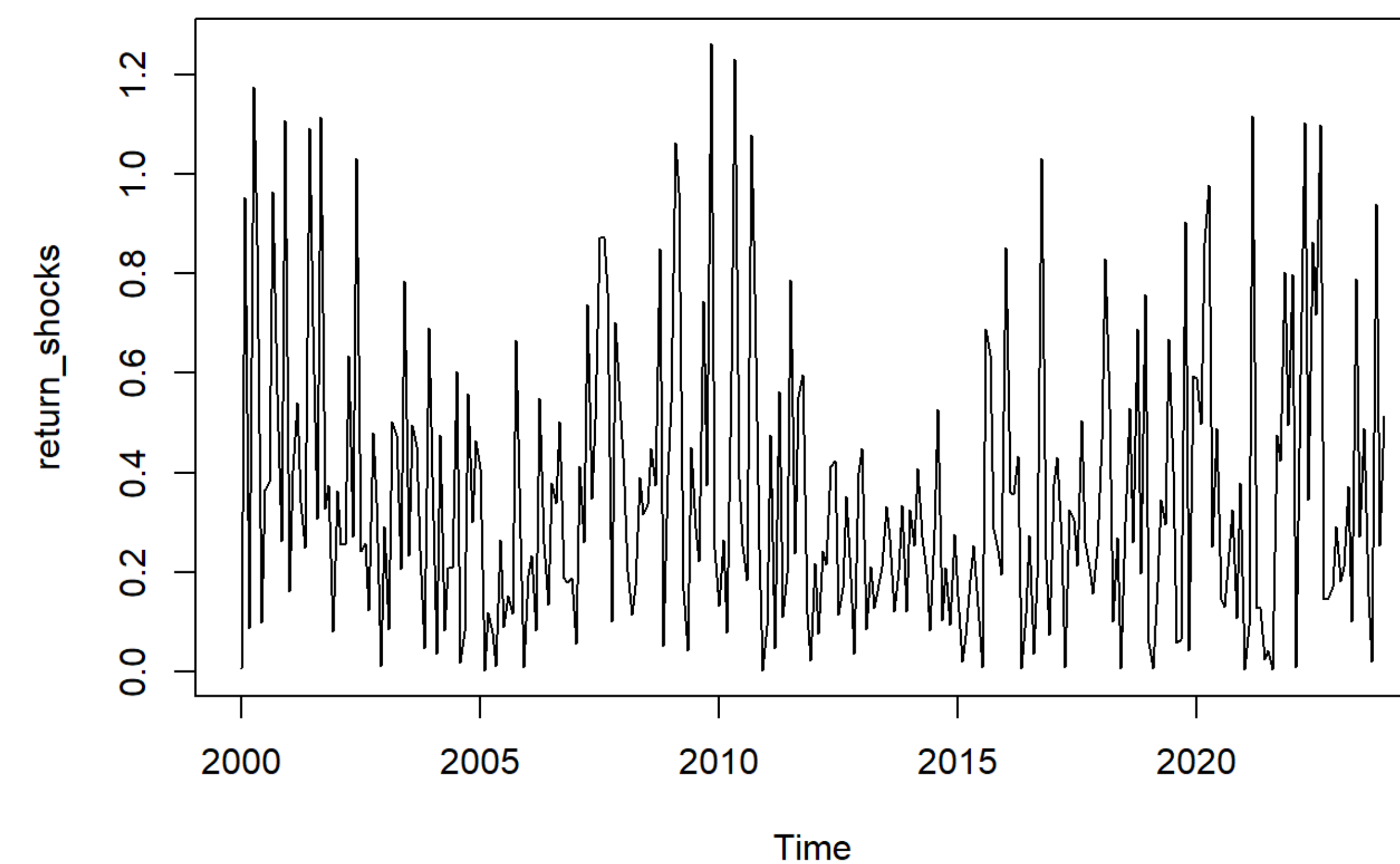


Figure 3: SP500 Medical Sector Return Shocks

Data is gathered from Yahoo Finance's historical data on the S&P500. We gather data for the S&P500 medical sector and risk free rate data. This data spans from 2000 through 2023. Figure 1 contains monthly S&P500 medical sector data from 2000 through 2023. Figure 2 contains the real returns from the medical sector

from 2000 through 2023. Figure 3 contains the return shocks from 2000 through 2023.

Results

Regression Model Estimates

Dependent variable:	
Returns	
After the Ban	-0.027 (0.035)
Before the Ban	0.372*** (0.028)
Observations	288
R ²	0.002
Adjusted R ²	-0.001
Residual Std. Error	0.286 (df = 286)
F Statistic	0.586 (df = 1; 286)
Note:	<i>p</i> <0.1; <i>p</i> <0.05; <i>p</i> <0.01

- The table above shows the difference of means in real returns before and after the implementation of the short selling ban.

Conclusion

There was no significant change in the long-term expected returns from the medical sector of the S&P 500 after the implementation of short selling in 2008. This shows that there is no real change in volatility from before the short selling ban is enacted to after the ban has been removed.

References

Crane, Alan D., Kevin Crotty, Sebastien Michenaud, and Patricia L. Naranjo. "The Causal Effects of Short-Selling Bans: Evidence from Eligibility Thresholds." SSRN Electronic Journal, 2015.

Joshi, Nitin. "Short-Selling Bans around the World: Evidence from the 2007–09 Crisis." CFA Digest 43, no. 4 (2013).

Bohl, Martin T., Badye Essid, and Pierre L. Siklos. "Do Short Selling Restrictions Destabilize Stock Markets? Lessons from Taiwan." The Quarterly Review of Economics and Finance 52, no. 2 (2012): 198–206

Helmes, Uwe, Julia Henker, and Thomas Henker. "Effect of the Ban on Short Selling on Market Prices and Volatility." Accounting & Finance 57, no. 3 (2016): 727–57.