Congressional Trading Analysis

Abstract

Corruption in Congress has been a contentious issue in the past several years. While several studies have found that Congress has a significant advantage in stock trading, my study aimed to determine if this is due to their financial skills, or if they possess insider knowledge. Results showed some implications of insider trading, although further research is needed.

Introduction

The National Bureau of Economic Research found that members of Congress traded over $300 million in stocks in 2021 and outperformed the public by nearly 50%.[1] With such an advantage, we must consider whether there is insider trading in Congress. Insider Trading in Congress was officially made illegal in 2012 with the STOCK Act.[2] The bill also required Congress members to publicly disclose their trades, allowing for studies to be done on trading habits. Still, it can be hard to determine the reason for Congresses' growth. This study asks whether their outperformance is driven by insider information rather than investment skill. Using the disclosed data, I analyzed trades from 2025 in the House of Representatives in surrounding congressional to determine if the difference is from insider information.

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[1] Wei, Shang-Jin, and Yifan Zhou. *"Captain Gains" on Capitol Hill*, November 2025.

[2] Stop trading on congressional knowledge act of 2012. Bill (2012).

Methodology

Congress is lacking in formalized processes between the House and Senate. So, disclosures are completely different for each. In the Senate, disclosures are in scanned pdfs[3], and in the House, they are more formalized online pdfs[4]. In both cases, there is no database for streamlined research. This is despite Congress having an official API with most other information[5]. Due to the lack of standardization, I only analyzed data in the House of Representatives. Because the disclosure pdfs had a significant amount of useless information, I scraped the pdfs with PDFPlumber by going line by line until it matched a regular expression denoting the trade information. After, I put the data into an SQL database, leaving me with 5202 rows.

I initially decided to analyze the relationship between trades and recently passed bills. I used Congress API to download bills from the most recent congress into my database. Then, I filtered out dead and menial bills, which left me with 50 remaining. With the disclosures table, I found which bills were released within a week of a trade and found the price increase of every stock from the point of a trade to a week after the bill was released. I also used OpenAI's API to determine the relation between each ticker and bill. I ended with 2,467 rows of a trade and related bill. I did the same process with Committee Meetings in the House of Representatives, except for analyzing relation with OpenAI's API. This left me with 3,381 rows, for a total of 5,848 rows between bill_trades and meeting_trades. Then, I used the Open Source 'Congress-

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[3] "U.S. Senate Select Committee on Ethics." Financial Disclosure - U.S. Senate Select Committee on Ethics. https://www.ethics.senate.gov/public/index.cfm/financialdisclosure.

[4] "Office of the Clerk, U.S. House of Representatives." Public Disclosure. https://disclosures-clerk.house.gov/FinancialDisclosure.

[5] Congress.gov API. https://api.congress.gov/#/.

Legislators' database to find Committee membership[6]. Once I had my tables, I found the SPY stock increase from the same timeframe I had investigated for each stock.

Results

Initial results were minimal. It was found that Congress is more likely to purchase a stock related to a bill that is about to pass (Figure 1).

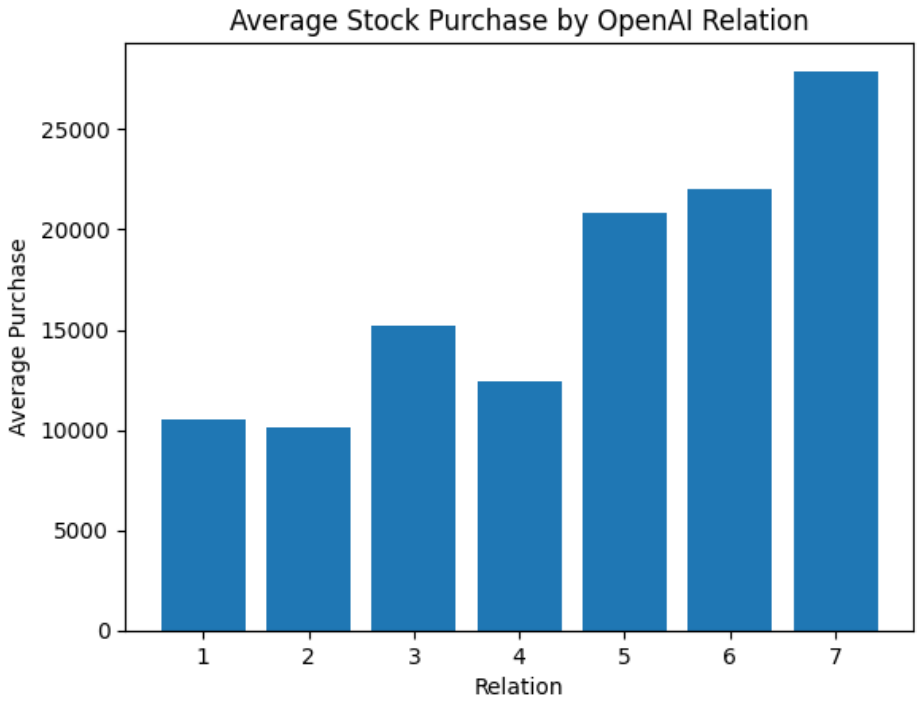

Figure 1

However, it was found that these purchases had little bearing on their success. While overall there was a positive outcome on their purchases (with the exception of Relation = 5), there was

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[6] "Unitedstates/Congress-Legislators: Members of the United States Congress, 1789-Present." GitHub. https://github.com/unitedstates/congress-legislators?tab=readme-ov-file.

no clear pattern in their gain (Figure 2). Gain was calculated as the product of how much was spent on a stock, and the end - start value of the stock.

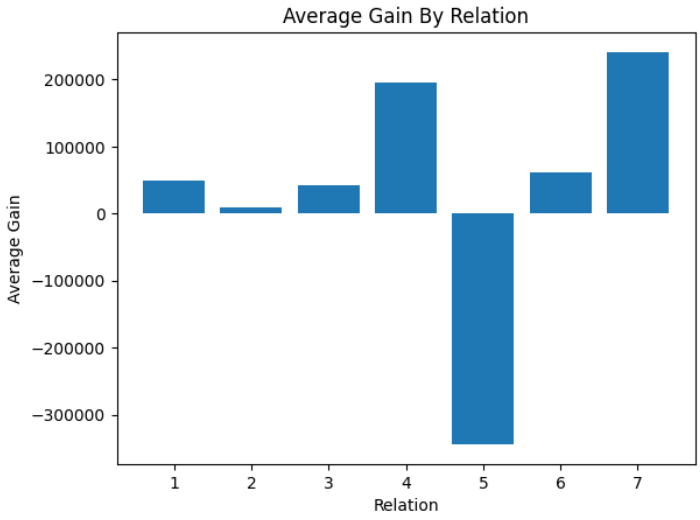

Figure 2

When analyzing which stocks Congress chooses to sell, there was even less pattern, besides the outlier of Relation = 7 (Figure 3). Looking into the value of a stock after a sale found that while most stocks went down after a sale, there is still no pattern in a stock purchase with upcoming bills (Figure 4). While these graphs could imply that Congress is more likely to purchase stock based off upcoming bills, further investigating removed any pattern.

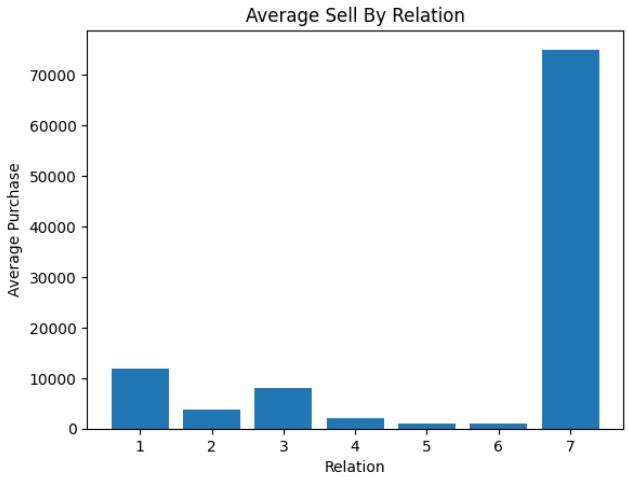

Figure 3

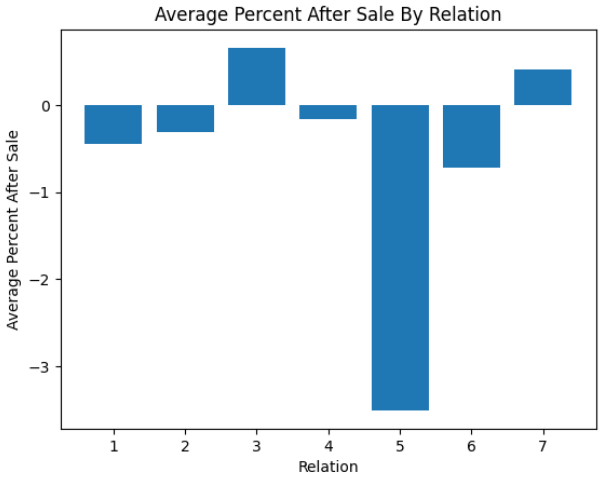

Figure 4

The strongest apparent relations were found to be associated with the SHARE IT Act, which states that Government agencies must share source code with each other. Because this bill should have zero effect on the value of any stock, much of OpenAI's API relation found was likelya false equivalence. The only reason Congressmen performed so well was because OpenAI rated stocks in the Technology sector higher with the SHARE IT Act. This is also why there is such an outlier with Relation = 5. When removing any connection to the act, any advantage in purchasing stocks was removed (Figures 5, 6). Not only was there zero discernable pattern in which stock Congressmen chose to purchase based on upcoming bills, but the stock they did purchase went down in the following week of purchase.

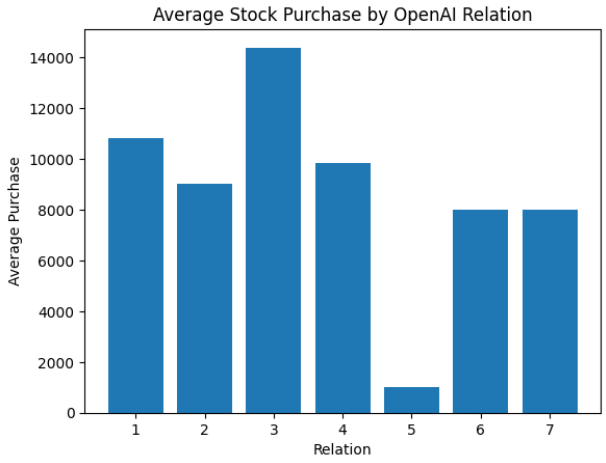

Figure 5

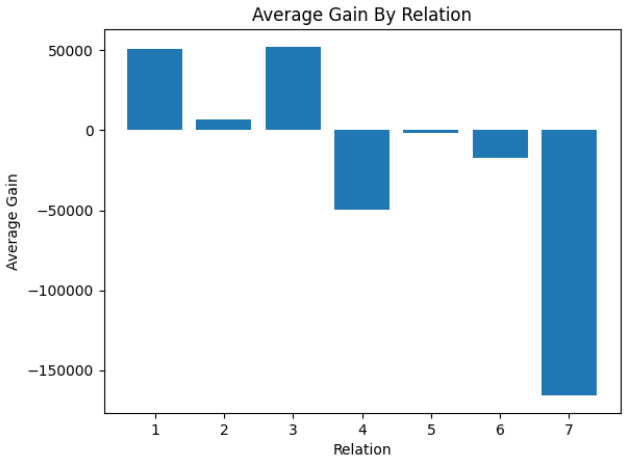

Figure 6

However, the advantage increased when deciding when to sell a stock. Most stock of a high relation decreased in value shortly after it was sold (Figure 8). Because it also went down when they bought a stock however, this may just be a coincidence.

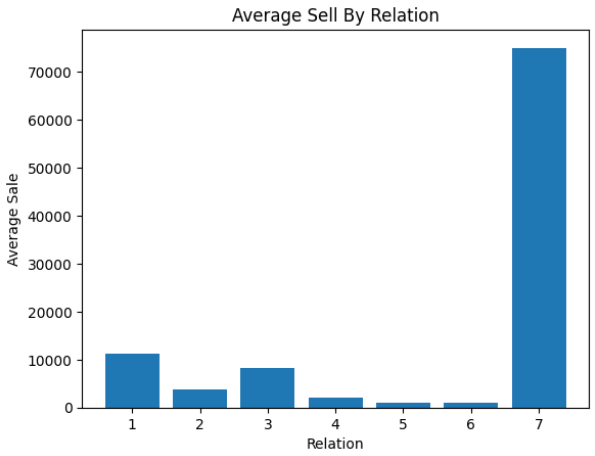

Figure 7

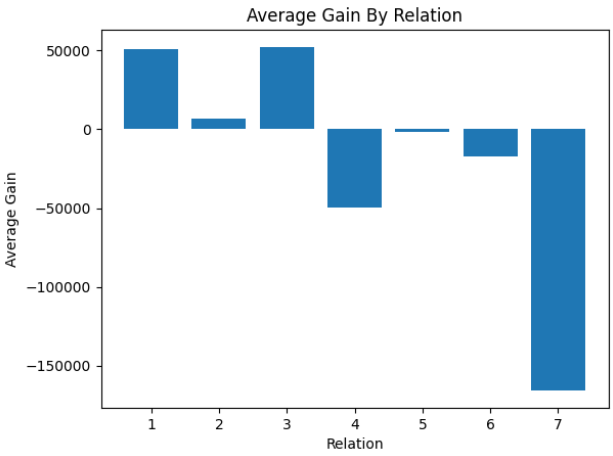

Figure 8

With insufficient data to draw any meaningful conclusions, I decided to analyze stocks purchased in the week following a committee meeting. I grouped House members into their committees, then found which stocks they purchased directly after their meeting. With over 5,000 disclosures,

2,192 were found to be directly after a Committee Meeting. I performed a Permutation Test to determine the odds of this being random chance. After 5200 iterations, the test resulted in an expected count of 1138, with a p-value < 0.000000 < 0.05. So, we can reject the null hypothesis that there is no correlation between meetings and trades. We have evidence that Congressional Trades are significantly affected by Committee Meetings.

I compared the timeframe from each trade to a week onwards with the SPY value from that same point in time. This is not an extensive test, because it only determines if Congress is outperforming SPY. While it helps to determine if Congress has insider knowledge on individual stocks, it does not tell us if they have information on the general trends of SPY. I found the average difference of the Congressional Trade timeframe and SPY's timeframe, and found that after a meeting, Congress overall outperforms SPY by .05% when purchasing stock, and the stock they sell decreases by 1% more than SPY within the next week. Further studies are needed to determine if this is statistically significant, and if Congress has general knowledge of SPY.

After finding Congress' marginal outperformance, I grouped trades by Committee and performed an ANOVA test, $p < 2e\text{-}81 < 0.05$, which found significant variation between groups (Figure 9).

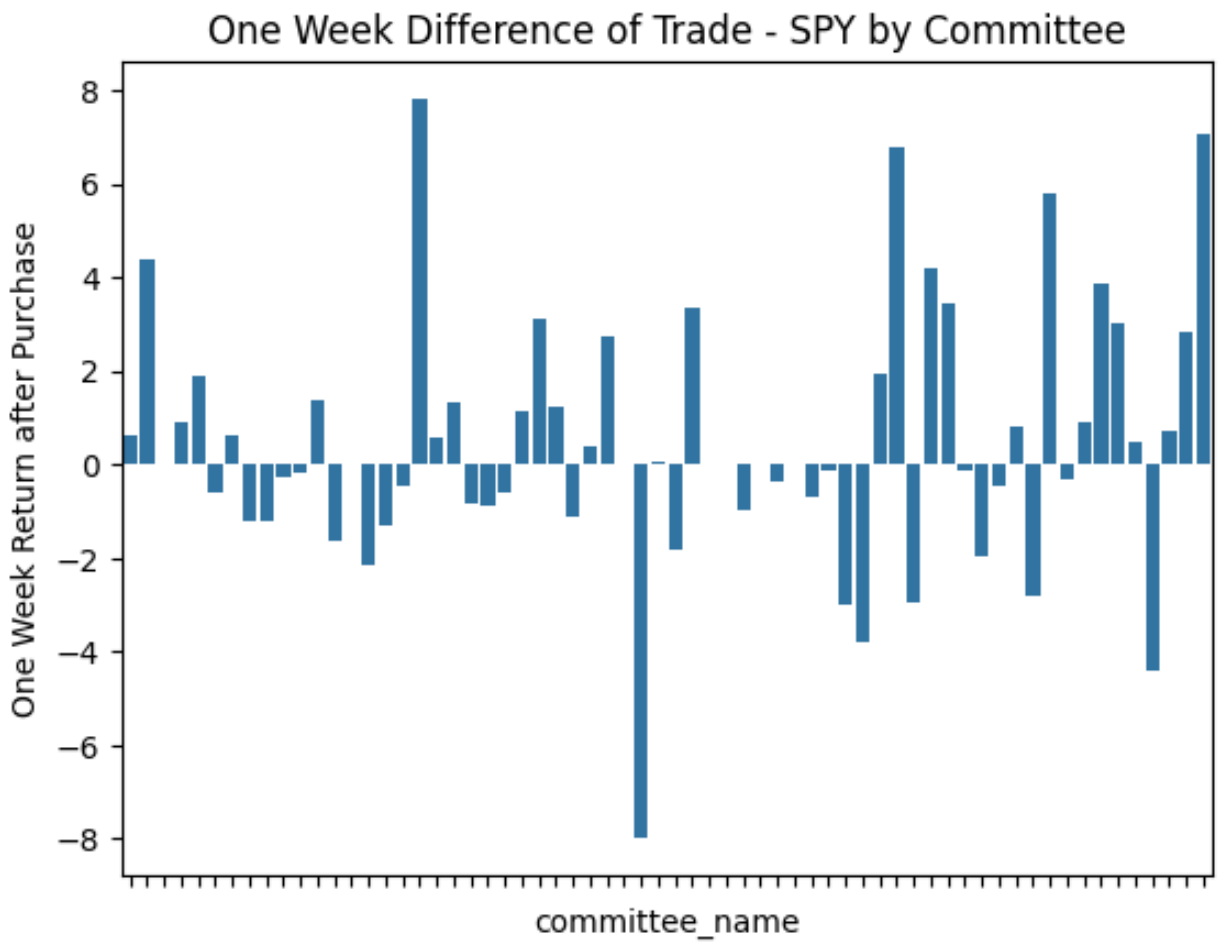

Figure 9

The committees with the best performance were the House Energy and Commerce Subcommittee on Commerce, Manufacturing, and Trade; House Ways and Means Subcommittee on Trade; and House Oversight and Government Reform Subcommittee on Government Operations. They had a 7.8%, 7%, and 6.7% advantage over SPY respectively, which is significantly higher than the 0.5% average. This supports my hypothesis. The highest performing stocks are ones bought by members of trade-related committees, directly after a meeting. Stocks bought in that timeframe perform significantly better than the rest of the market. The worst performing Committee is the House Foreign Affairs South and Central Asia Subcommittee. It is

unclear why this is such a large outlier, especially because it has a very large sample size. It could be because the members in that committee are less experienced, or because of bad luck.

Discussion

There is evidence to suggest that Congressmen use their committee meetings to their advantage in the stock market. With a significant number of purchases taking place by Congressman directly after their meetings, it can be inferred that the contents of the meeting influences their stock decisions. This is an issue when considering the integrity of Congress, because their decisions could often be impacted by their portfolio. ban on Congressional trades is required to ensure an ethical Congress. There is no correlation between an upcoming bill, and Congressional trading. This could be because I did not select an encompassing timeframe, family members are purchasing stock instead, or the public nature of bills prevents any meaningful insight. There is little doubt that Congress performs insider trading. However, they have several means of obscuring their data. They may rely on stock information friends and family, who can then trade without the watchful eye of the STOCK act. Or they get their information from other sources outside of bills and meetings. All information gathered in this study is based on public information. If we can already draw conclusions of insider trading from these meetings, then classified meetings would likely further confirm my hypothesis.

Limitations

Because I am only looking into House trades, and most bills end in the Senate, few conclusions can be drawn from bill and trade relations. Further studies should be done on Senate trading. Family members are also not included. The dataset only includes trades in 2025, which is one of the least impactful Congresses of recent times. So, there may not be enough data to

determine significant results. Because of the heuristic nature of my extraction and transforming, the data is not easily expandable. The SQL database functions as Excel tables, due to the lack of referencing. It is recommended to rebuild the tables with scalability in mind. There is also currently no way to determine if Congress is able to predict overall market trends. To do so, data preceding a trade would be required.

Bibliography

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Wei, Shang-Jin, and Yifan Zhou. *"Captain Gains" on Capitol Hill*, November 2025. https://doi.org/10.3386/w34524.