Senators vs Santa's Reindeer: 2020 Stock Picking Roundup

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ABSTRACT

Given the concerns over informed stock trading by U.S. senators and congresspeople at the beginning of the COVID pandemic, we examine these legislators' short term stock trading results during 2020. We find little evidence for market timing or stock selection ability. Both Senators' and House Members' stock selections underperform the S&P at the one month horizon and underperform a size-industry adjusted benchmark at the 3 and 6 month time frames. Returns to legislators' purchases contrast with returns to the top stock picks from U.S. brokerage houses and stocks chosen by Santa's Reindeer (Santa's Village Jefferson NH). As a group the Reindeer outperform the S&P by 4.89 percent in a single month, or over 70 percent on an annualized basis. However reindeer exhibit herding behavior and a preference for momentum stocks.

At the beginning of the COVID pandemic in the U.S., several U.S. Senators and members of the House of Representatives came under scrutiny for their sales of stock. Legislators sold stock in the days following private briefings in January and March of 2020 and later bought technology stocks and healthcare stocks that benefited from the emergency.[1] The issue has regained national prominence in part because both incumbents in the Georgia special Senate elections are among the more frequent traders of stock in and both had a series of trades which have the appearance of unusually good market timing and industry and stock selection.

In this paper we provide initial evidence on stock selection and market timing for 2020 for Senate and House members. This paper updates the pre-2020 results in our March 2020 working paper on senator stock trading and in Eggers and Hainmueller (2013) and Ziobrowski et al (2004 and 2011). We find that stocks purchased by Senators perform either in line with the market or modestly lag the market depending on the benchmark chosen. Senators underperform the industry-size benchmark by 1.6 percent at the three month level and 3.1 percent at the six month level. Stocks sold by Senators also underperform both the S&P 500 and the industry-size benchmark by 2.1 to 2.5 percentage points at the six month time horizon. Purchases by House Members also underperform the S&P at the three and six month levels. Stock's sold by House Members subsequently *outperform* the S&P but perform in line with the industry-size benchmark.

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[1] See for example https://www.theguardian.com/world/2020/apr/13/unfair-advantage-concerns-us-lawmakers-are-using-coronavirus-briefings-to-make-stock-decisions and https://www.washingtonpost.com/politics/2020/03/20/richard-burrs-kelly-loefflers-suspiciously-well-timed-stock-trades-during-coronavirus-examined/

We compare the returns to stocks picked by the legislators to the top picks of analysts at U.S. brokerage houses and short term results for picks made by Santa's Reindeer (at Santa's Village). The Reindeer exhibit strong performance at the one month level, though admittedly much of this is explained by the industries in which they invest. Reindeer appear to use a COVID related strategy, investing in both pharma and life sciences companies (e.g. Zoetis and Myovant Sciences) and the technology sectors (e.g. a NASQAQ 100 etf). Reindeer have industry selection ability but not stock picking prowess per se.

"Top picks" by stock analysts follow the opposite pattern. Analyst stock picks underperform the S&P but outperform their industry size adjusted benchmark. However unlike the Reindeer both those results are statistically insignificant.

Background and Literature Review

Reindeer are four legged mammals often associated with pulling Santa's sleigh (Moore 1864). To the best of our knowledge, this is the first study to use reindeer in asset selection. Monkeys have been used in several stock picking studies (Feri 2012), but researchers have found that monkeys load heavily on small stock risk and have, at best, uneven long run risk adjusted performance (Arnott et al 2013). We couldn't find monkeys in NH to be involved in the study, whereas the reindeer were happy to participate.

Senators and Congresspeople are required to report within 45 days any asset trades that exceed $1000 in value. This is a requirement of the 2012 Stop Trading on Congressional Knowledge (STOCK) Act. Several researchers including us have previously used financial

disclosures and STOCK act data to study returns earned by Senators and Congresspeople. Ziobrowski et al (2004) found that stocks purchased by Senators outperform by 85 basis points per month. These results are confirmed by Huang and Xuan (2018) who find that prior to passage of the STOCK Act, the long short portfolio of members of congress' purchases minus their sales earned Carhart alpha's of 9.5% annually. Eggers and Hainmueller (2013) and our recent 2020 working paper (Belmont et al 2020) find that Senate and House member stock selections underperform a passive index fund.

We add to the literature by studying 2020 specifically in part because of recent public and media interest in the topic. On January 24th, the Senate Health Committee held a private "all Senators" briefing including Dr. Robert Redfield and Dr. Anthony Fauci. In the following weeks several Senators sold large amounts of stock (in some cases buying stock in other companies). In March multiple media outlets reported the sales. That same month, the Justice Department opened an investigation into the trades of Senators Burr, Feinstein, Inofhe, and Loeffler. The latter three have stated publicly that their trades are directed by third party managers and that they (the Senators) have no control or discretion over trades made. In late May of 2020, the Justice Department concluded its investigation of Feinstein, Inhofe, and Loeffler having found no wrong doing.

Data and Methods

We pull all 2020 stock trades for members of the House and Senate using publicly available Periodic Transactions Reports (PTRs). [2] Trades can be reported electronically or by paper filing.

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[2] http://clerk.house.gov/public_disc/financial-search.aspx and https://efdsearch.senate.gov/search/

Both electronic and paper filings are available as pdfs, but the electronic versions are more easily read and we have written machine code to interpret the forms. For 2020, more than 90 percent of PTRs are electronic. Our data contain the complete set of Senate 2020 trades while we are missing a small number of paper filings for the House which we are still checking and hand coding. The data include the stock (or asset), whether it was purchased or sold, the date of the transaction, the data of the filing, and five possible buckets for transaction size.

Each periodic transaction report discloses all financial transactions made by the Senator or Representative, their spouse, or any of their dependent children over the last 45 days. The reported transactions span all classes of securities, public and private, including exchanges of public equities, options, bonds, private bonds, municipal bonds, mutual fund stakes, and hedge fund stakes. We record all transactions of publicly listed securities including stocks, over-the-counter stocks, stock options, bonds, index funds, and mutual funds, but exclude private and non-publicly listed securities. This paper limits the sample to publicly listed stocks and etfs for which daily returns are available in the Compustat/ CapIQ database.

We cumulate raw and abnormal returns for each stock for four different time periods: 20, 60, 127 trading days from purchase (sale) date. These are mean to correspond roughly to returns at the 1, 3 and 6 month horizons. We also calculate returns from purchase (sale) until the end of the data period which is December 14th 2020. The number of stocks available for each return period varies based on when in 2020 the transaction occurred. We report raw returns for each time period and we also report buy and hold abnormal returns (BHAR) relative to the S&P 500

and relative to returns on the portfolio of firms in the same four digit SIC code and same size quintile based on market capitalization at the beginning of 2020.

We use Lexis Nexis to determine "top picks" by analysts at bulge bracket investment banks. We conduct a Lexis Nexis search for the terms "top pick" and analyst and keep those picks which are publicly traded equities in the Compustat daily data and for which we can determine the date the pick was published and the brokerage house name. Our sample contains 68 top picks made throughout 2020. Birru et al (2020) find that top picks by analyst have significant investment value, delivering 17.2 percent annualized in characteristic adjusted returns. Top picks outperform buy recommendations by a wide margin, though buy recommendations also outperform by 6 percent in annual terms.

We follow 2020 top picks in the same manner as Senator or Congressperson purchases. We calculate buy and hold abnormal returns at the one, three and six month levels and we use both the S&P 500 and the industry-size portfolios as benchmarks.

Finally we include results for a database of stocks picked by the reindeer at Santa's Village in Jefferson NH. Reindeer indicated their selections by making hoofprints on the stock pages of the Wall Street Journal. The point of the hoof was used to determine which ticker and company was selected. The Wall Street Journal pages contain the 1000 largest publicly traded companies which helps control for the small stock tilt observed in studies with monkeys.[3] The selection process was monitored by Christian the Elf who transmitted the information to the authors. In

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[3] Plus the WSJ was all we had handy. Unfortunately we only have six weeks' worth of results for the reindeer picks since this project was partly inspired by the Holidays.

order to have as much data as possible for the reindeer portion of the study, we assume that reindeer report on the same basis as Senators and Congresspeople, namely that reports occur with an average of a 40 day lag after trading occurs. However we find larger annualized outperformance when we instead assume that the reindeer trade on the same day that they report.

Our results are robust to clustering at the reindeer level. A listing of the 41 securities chosen by 10 reindeer is contained in Appendix 1. All reindeer including Dasher, Dancer, Prancer, Vixen, Comet, Cupid, Donner, Blitzen, Rudolph and Boris (a trainee) provided data. Blitzen and Rudolph focused on ETFs and mutual funds, most of which are not included in the Compustat daily data but some of which we were able to obtain via YahooFinance. Appendix 1 shows that reindeer concentrate many of their picks within life sciences, pharma, technology, and financial services. Chevron (chosen by Dancer) is a contrarian pick especially given the danger posed by fossil fuel consumption to arctic habitats.

Table 1 reports summary statistics for the transactions by the source of the stock pick and whether the legislator bought or sold. Senators invest in much larger companies than either reindeer or brokerage analysts. The average market cap for a company purchased by a Senator is $176 billion versus $50 billion for the Reindeer and $44 billion for analyst top picks. As in our earlier working paper, Senators are contrarians choosing stocks with low 3 month prior returns. Unadjusted three month prior returns are -5.6% and relative to the market, Senators' purchases underperformed by 1.9%. Reindeer are momentum traders, buying stocks that outperformed the market by an average of 4.2% in the prior three months. Stock analysts recommendations outperform the market by a similar amount.

Results

We show returns both graphically and in tables. Figure 1 graphs the 25 trading day cumulative abnormal returns to stocks purchased by reindeer versus Senators. Abnormal daily returns (above the S&P 500) are cumulated and averaged for each group. The reindeer portfolio shows steady increases in its outperformance achieving statistical significance at about the 15 trading day mark. In contrast purchases by Senators underperform modestly by about 1 percentage point and the effect is never statistically significant.

Figure 2 shows 1,3, and 6 month buy and hold abnormal returns (relative to the S&P 500) for purchases by reindeer, top picks by analysts, and purchases and sales by senators. Reindeer outperform at the one month level. Stocks bought by senators show modest underperformance followed by outperformance at the three and six month time horizons. Stocks sold by senators underperform the market by 2 percentage points and we show in the next section that this effect is statistically significant at the 3 month time horizon. Top picks by stock analysts initially underperform but then outperform at the six month level.

We examine these impacts in more detail in Table 2 where we include both the S&P benchmark (columns 1-3) and the size-industry adjusted benchmarks (columns 4-6). The top line shows that the analysts underperform the S&P insignificantly at the one and three month levels. However this reverses at the six month level and also reverses when we use the industry-size benchmark. None of the effects for the analysts are statistically significant.

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Effects for Senator purchases are generally modest. However at the six month time horizon, Senator purchases underperform the industry-size benchmark by a statistically significant 3.1 percent. Most notably, stocks sold by Senators lag at all three time horizons and lag using either benchmark. In results not reported, we find that this underperformance of Senator Sells is not driven solely by the first four months of the year (at the beginning of the COVID pandemic). The underperformance is similar in the remaining 8 months of the year.

The reindeer results are only available at the one month level. Reindeer outperformance is a statistically significant 4.9 percent relative to the S&P. This disappears when we industry and size adjust. In Appendix Table 3 we take a deeper look at the sources of reindeer outperformance. Four of forty one reindeer chosen companies are pharma companies and these outperform the S&P by 8.5 percent, while two additional companies are in life sciences. The reindeer are also heavily invested in technology companies, tech related ETFs and financial services including insurance. Finally the reindeer have 3 picks within entertainment and television broadcasting, an industry which has benefited from the shutdown. All of this suggests that the reindeer are playing a COVID strategy while also betting that eventual higher interest rates will aid financial services companies.

The clustering of reindeer picks in four key area provides evidence that reindeer exhibit herding behavior. Formal tests of herding will be included in future drafts.

Conclusion

We review the short and medium run returns to Senators and House Members, top picks by analysts and Santa's reindeer. Consistent with our earlier work, we find little evidence for excess performance by Senators. If anything, stocks sold by Senators underperform modestly.

Evidence for analyst skill in designating top picks is not as strong as that found in Birru et al (2020) but we use a much smaller sample and we cannot rule out their effect sizes. The point estimates suggest that analysts are skilled at picking firms within industries. Analysts outperform the industry size benchmark by 5 percentage points at the six month time horizon.

The real story lies with Santa's reindeer who demonstrate exceptional short run performance relative to the S&P. Reindeer skill is largely explained by their ability to choose winning industries and in this case to successfully execute the COVID trade. Reindeer likely benefit from a high level view which enables them to sniff out emerging trends and to leap ahead of the crowd.

Figure 1:

Cumulative Abnormal Returns

Notes: We show buy and hold abnormal returns from the trade date forward for the first 25 trading days. Buy trades are from Senators during 2020 and Reindeer Nov-Dec. Returns are daily stock return minus the S&P 500 cumulated. Dashed lines show 95% confidence intervals.
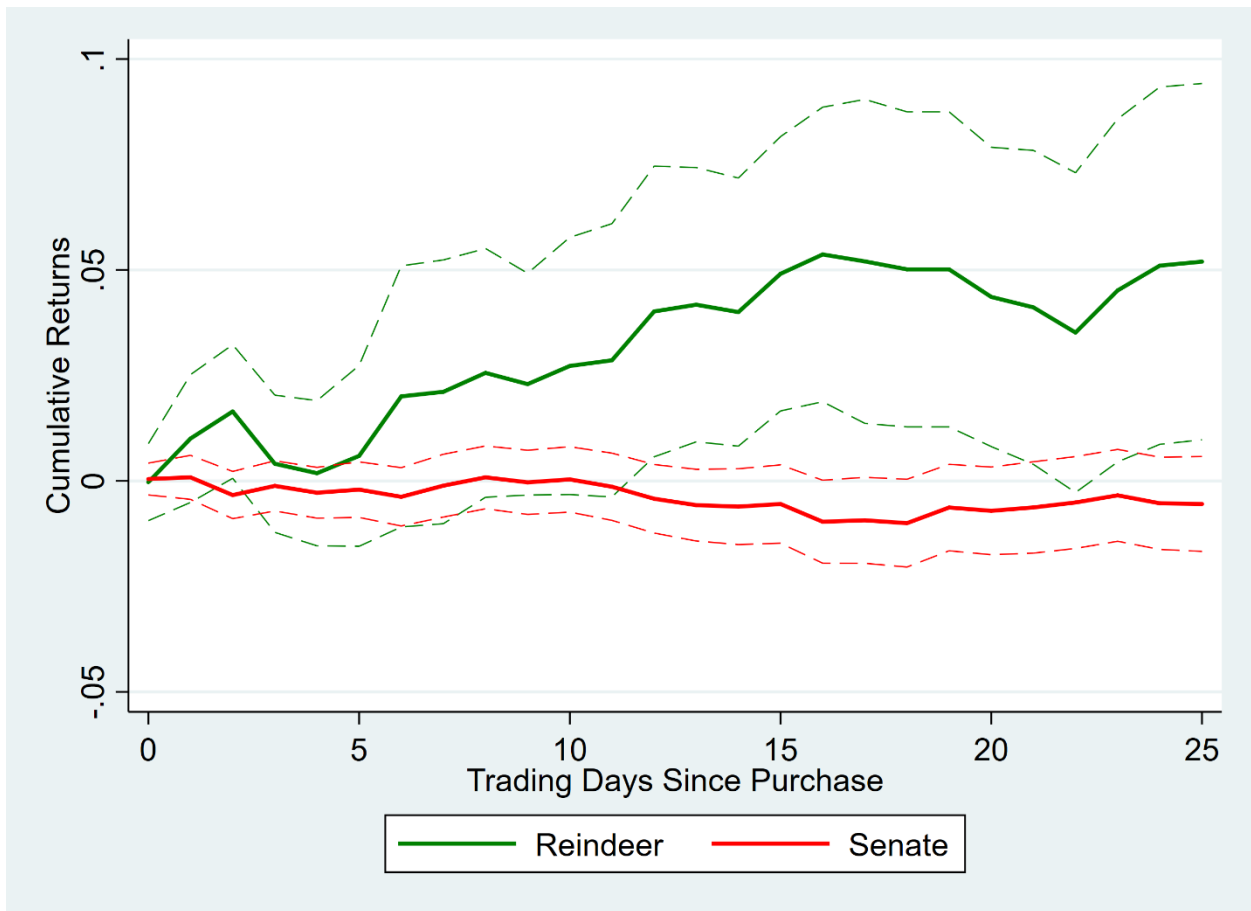
Figure 2 :

Buy And Hold Abnormal Returns By Purchaser/Seller

Notes: We show buy and hold abnormal returns from the trade date forward. Events are from Senators 2020, Reindeer, Analyst Top Picks. Buy and hold abnormal returns are the cumulative returns on the stock minus cumulative returns to the S&P 500 index. We equal weight trades as of day 0 and do not rebalance.

Figure 3

Number of Senate Trades By Month of Year

We show number of buy and sells trades during 2020 by month of year.

Table 1: Summary Statistics By Trade Type

We show means of one month returns, past 6 month returns, market cap (in millions) by type of trade.

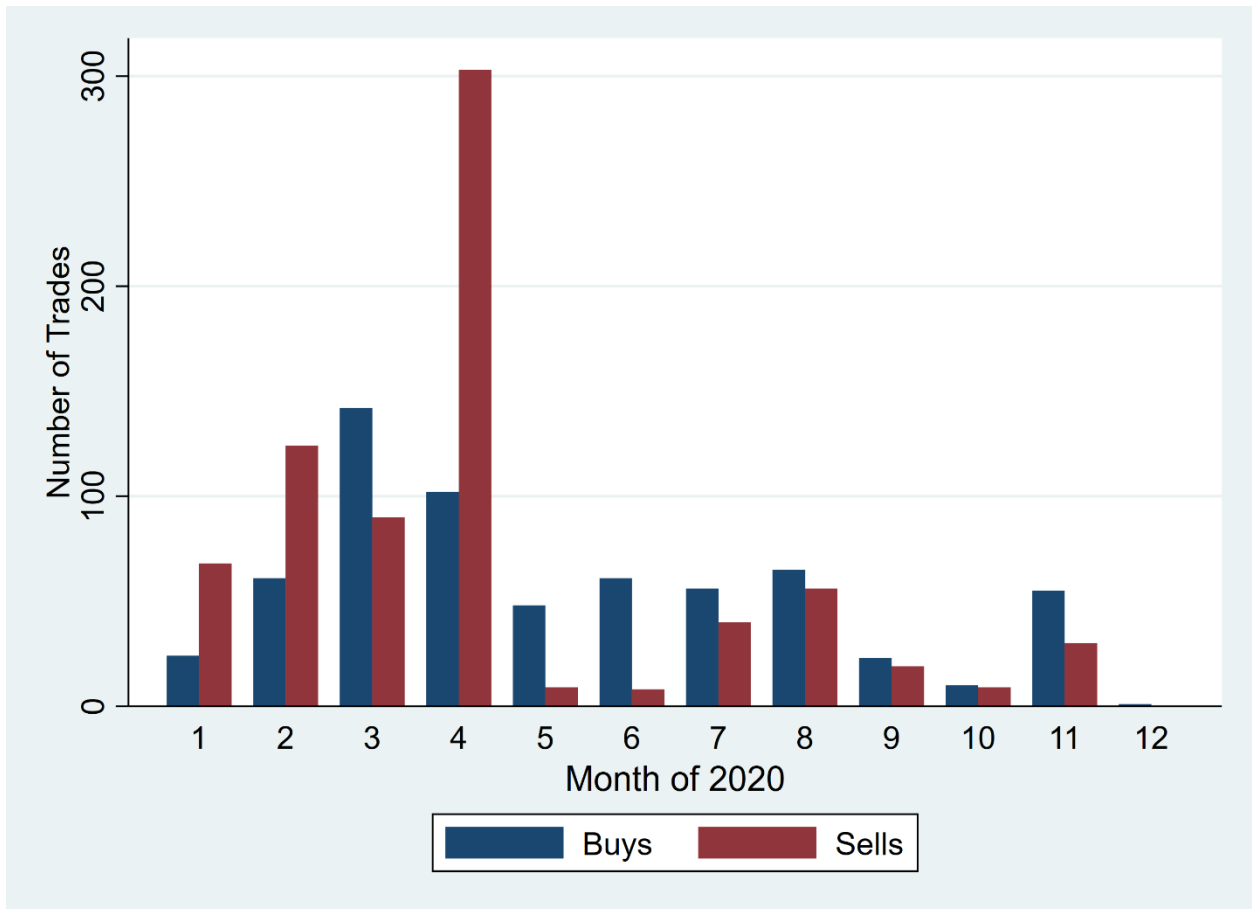| category	N	Prior 3 month Return	Prior 3 Month Abnormal Return	Market Cap (Millions)
Analyst Top Pick	68	0.1063	0.0489	$44,147.05
House Buy	2,137	0.0046	0.0028	$126,943.49
House Sell	1,887	0.0332	0.0229	$166,172.84
Reindeer	41	0.0224	0.0424	$50,755.96
Senate Buy	589	-0.0037	0.0155	$176,376.11
Senate Sell	747	-0.0559	-0.0188	$141,127.94

Table 2: Buy and Hold Abnormal Returns

Trades are for Reindeer, top picks by analysts, purchases and sales by Senators, purchases and Sales by House members. We show two forms of buy and hold abnormal returns. Columns 1-3 are relative to the S&P 500. Columns 4-6 are relative to an industry-size matched portfolio in which we match on four digit SIC and 5 quintiles of lagged market cap

category	BHAR Market 1 Month	BHAR Market 3 Months	BHAR Market 6 month	BHAR Ind-Size 1 Mont	BHAR Ind-Size 3 Mont	BHAR Ind-Size 6 Mont
Analyst Top Pick	-0.0013	-0.0369	0.0431	0.0103	0.0152	0.0513
	(0.0159)	(0.0369)	(0.0823)	(0.0117)	(0.0255)	(0.058)
	68	62	45	68	62	45
House Buy	-0.0018	-0.0068	0.0098	-0.0052	-0.0243	-0.0329
	(0.0027)	(0.005)	(0.0118)	(0.0023)	(0.0043)	(0.0095)
	2,137	1,772	1,304	2,137	1,772	1,304
House Sell	0.0149	0.0412	0.0124	0.0062	0.0116	-0.0118
	(0.0032)	(0.0072)	(0.0091)	(0.0027)	(0.0061)	(0.0085)
	1,887	1,634	1,161	1,887	1,634	1,161
Reindeer	0.0489			-0.0174		
	(0.0196)			(0.0155)		
	41			41		
Senate Buy	-0.0061	0.0104	0.0081	0.0001	-0.0159	-0.0309
	(0.0049)	(0.0079)	(0.0132)	(0.0041)	(0.0083)	(0.014)
	589	573	401	589	573	401
Senate Sell	-0.0134	-0.022	-0.0214	-0.0096	-0.0279	-0.0246
	(0.0055)	(0.008)	(0.0126)	(0.0042)	(0.0072)	(0.012)
	747	709	594	747	709	594

Appendix Table 1
Stock Picks By Reindeer

reindeer	ticker	Company Name
Boris	STZ	CONSTELLATION BRANDS
Boris	CSGP	COSTAR GROUP INC
Boris	BAP	CREDICORP LTD
Boris	FICO	FAIR ISAAC CORP
Boris	FSLY	FASTLY INC
Dasher	EVRG	EVERGY INC
Dasher	IBN	ICICI BANK LTD
Dasher	IDXX	IDEXX LABS INC
Dasher	TM	TOYOTA MOTOR CORP
Dasher	TSCO	TRACTOR SUPPLY CO
Dancer	CVX	CHEVRON CORP
Dancer	CHWY	CHEWY INC
Dancer	CHU	CHINA UNICOM (HONG KONG) LTD
Dancer	CMG	CHIPOTLE MEXICAN GRILL INC
Dancer	CB	CHUBB LTD
Prancer	UI	UBIQUITI INC
Prancer	ZBRA	ZEBRA TECHNOLOGIES CP -CL A
Prancer	ZTS	ZOETIS INC
Prancer	RIO	RIO TINTO GROUP
Prancer	GNTX	GENTEX CORP
Vixen	HIG	HARTFORD FINANCIAL SERVICES
Vixen	JHX	JAMES HARDIE INDUSTRIES PLC
Vixen	JAZZ	JAZZ PHARMACEUTICALS PLC
Vixen	JLL	JONES LANG LASALLE INC
Vixen	JNPR	JUNIPER NETWORKS INC
Comet	MRTX	MIRATI THERAPEUTICS INC
Comet	MUFG	MITSUBISHI UFJ FINANCIAL GRP
Comet	MHK	MOHAWK INDUSTRIES INC
Comet	PG	PROCTER & GAMBLE CO
Comet	PUK	PRUDENTIAL PLC
Cupid	QQQ	INVESCO QQQ TRUST SERIES 1
Cupid	IEF	ISHARES 7-10 YR TREAS BD ETF
Cupid	SCHB	SCHWAB US BROAD MARKET ETF
Cupid	ASPN	ASPEN AEROGELS INC
Cupid	GATX	GATX CORP
Donner	MYE	MYERS INDUSTRIES INC
Donner	NATR	NATURES SUNSHINE PRODS INC
Donner	MYOV	MYOVANT SCIENCES LTD
Donner	TLT	ISHARES 20 PLUS YR TREAS ETF
Blitzen	VWO	VANGUARD FTSE EMRG MKTS ETF
Rudolph	VB	VANGUARD SMALL-CAP ETF

Appendix Table 2

Frequency Tab of Trades by Senators

Senator	Buy	Sell	Total
Blumenthal, Richard	8	2	10
Boozman, John	29	30	59
Burr, Richard	2	22	24
Capito, Shelley	6	2	8
Carper, Thomas	33	26	59
Cassidy, Bill	6	20	26
Cassidy, William	0	18	18
Feinstein, Dianne	0	8	8
Hoeven, John	1	0	1
Inhofe, James	11	38	49
King, Angus	1	4	5
Loeffler, Kelly	53	198	251
McConnell, Mitch	6	0	6
Moran, Jerry	14	29	43
Perdue, David	119	243	362
Roberts, Pat	128	51	179
Smith, Tina	0	5	5
Sullivan, Dan	0	4	4
Toomey, Pat	2	2	4
Whitehouse, Sheldon	1	8	9
Wicker, Roger	38	23	61
Wyden, Ron	190	23	213
Total	648	756	1,404

Appendix Table 3

Reindeer Stock Picks by SIC

SIC Code	Corresponding Industry Title	Mean 1 month	Mean 1 month Industry Size Ret	Mean 1 Month SPY Return	N
1000	Metal Mining	0.148	0.244	0.106	1
2082	Malt Beverages	0.25	0.222	0.106	1
2273	Carpets & Rugs	0.243	0.243	0.106	1
2834	Pharmaceutical Preparations	0.185	0.168	0.106	4
2835	In Vitro & In Diagnostic Substances	0.067	0.055	0.106	1
2836	Biological Products (non-diagnostic)	0.062	0.109	0.106	1
2840	Soap, Detergent, Cleaning Preparation, Perfumes, Cosmetics	0.013	0.033	0.106	1
2911	Petroleum Refining	0.285	0.366	0.106	1
3086	Plastics Foam Products	0.245	0.245	0.106	1
3089	Plastic Products, NEC	0.187	0.241	0.106	1
3270	Concrete, Gypsum & Plaster Products	0.207	0.177	0.106	1
3576	Computer Communications Equipment	0.106	0.141	0.106	1
3577	Computer Peripheral Equipment, NEC	0.319	0.214	0.106	1
3663	Radio & TV Broadcasting & Communications Equipment	0.311	0.285	0.106	1
3711	Motor Vehicles & Passenger Car Bodies	0.033	0.224	0.106	1
3714	Motor Vehicle Parts & Accessories	0.184	0.182	0.106	1
4700	Transportation Services	0.167	0.34	0.106	1
4812	Radiotelephone Communications	-0.029	0.123	0.106	1
4931	Electric & Other Services Combined	0.021	0.076	0.106	1
5200	Retail-Building Materials, Hardware, Garden Supply	0.019	0.112	0.106	1
5812	Retail-Eating Places	0.056	0.149	0.106	1
5961	Retail-Catalog & Mail-Order Houses	0.176	0.224	0.106	1
6020	Television Programming And Broadcasting Activities	0.212	0.206	0.106	3
6311	Life Insurance	0.289	0.208	0.106	1
6331	Fire, Marine & Casualty Insurance	0.161	0.151	0.106	2
6531	Real Estate Agents & Managers (for others)	0.201	0.209	0.106	1
6722	Management Investment Offices, Open-End	0.076	0.096	0.106	6

7370	Services-Computer Programming, Data Processing, Etc.	0.209	0.161	0.106	2
7373	Services-Computer Integrated Systems Design	0.213	0.139	0.106	1
Total		0.155	0.172	0.106	41

Appendix Table 4

Main Results Table For Sample Observed All Six Month

category	BHAR Market 1 Month	BHAR Market 3 Months	BHAR Market 6 Months	Ind Size 1 Month	Ind Size 3 Months	Ind Size 6 Months
Analyst Top Pick	0.013	-0.0289	0.0431	0.0291	0.0134	0.0513
	(0.0214)	(0.0498)	(0.0823)	(0.0152)	(0.0336)	(0.058)
	45	45	45	45	45	45
House Buy	-0.0067	-0.0089	0.0098	-0.0049	-0.0273	-0.0329
	(0.0038)	(0.006)	(0.0118)	(0.003)	(0.0052)	(0.0095)
	1,304	1,304	1,304	1,304	1,304	1,304
House Sell	0.0033	0.003	0.0124	0.0027	-0.0096	-0.0118
	(0.0037)	(0.0061)	(0.0091)	(0.0031)	(0.0055)	(0.0085)
	1,161	1,161	1,161	1,161	1,161	1,161
Reindeer	0.0489			0.0174		
	(0.0196)			(0.0155)		
	41			41		
Senate Buy	-0.0103	0.0188	0.0081	0.0024	0.0101	0.0309
	(0.0064)	(0.0103)	(0.0132)	(0.0052)	(0.0107)	(0.0143)
	401	401	401	401	401	401
Senate Sell	-0.02	-0.0293	-0.0214	0.0119	0.0274	0.0246
	(0.0066)	(0.0091)	(0.0126)	(0.005)	(0.0081)	(0.0123)
	594	594	594	594	594	594

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