



The name game: The importance of resourcefulness, ruses, and recall in stock ticker symbols



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ABSTRACT

A BABY, a GEEK, and a COW all walk into a bar looking for some BEER and VINO. What happens next? They all beat the market. [Head, Smith, and Wilson \(2009\)](#) (the “2009 Study”) found that a portfolio of stocks with clever ticker symbols beat the market by a substantial margin during the years 1984–2005.

In recent years, the credibility of scientific research has been damaged by the reproducibility crisis—the failure of attempts to replicate published, peer-review studies. Two important examples are [Herndon, Ash, and Pollin \(2014\)](#) and [Shanks et al. \(2013\)](#).

We re-examine the 2009 study’s surprising conclusion by updating the analysis for the subsequent years 2006 through 2018. In addition, we replicate its methodology with a new list of NASDAQ clever-ticker stocks.

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1. Background

The notion that stock ticker symbols influence stock performance contradicts the semi-strong form of the efficient-market hypothesis, which asserts that investors cannot use publicly available information to beat the market. In an efficient market with rational investors, stock prices should be based on anticipated cash flows and should not depend on something as superficial as ticker symbols. However, human decisions are often based on noisy data and flawed judgments (for example, [Daniel, Hirshleifer, & Subrahmanyam, 1998](#); [DeBondt & Thaler et al., 1995](#); [Kahneman et al., 1982](#)).

Our work contributes to a growing body of literature on the effects of ticker symbols on investment decisions. [Jacobs and Hillert \(2016\)](#) reported increased liquidity and trading volume for stocks with early-alphabet company names and ticker symbols. [Itzkowitz, Itzkowitz, and Rothbort \(2016\)](#) found that stocks with early-alphabet names and tickers are not only more liquid, but also more highly valued. [Green and Jame \(2013\)](#) report that the stocks of companies with fluent names have increased liquidity and higher market values, supporting the conclusion of [Alter and Oppenheimer \(2006\)](#) that pronounceable ticker symbols improved IPO performance. Similarly, [Anderson and Larkin \(2018\)](#) showed

that when ticker symbols are actual words in the English language, their stock liquidity increases and [Kadapakkam and Misra \(2007\)](#) concluded that there is usually a stock-price decline after a company changes its ticker symbol. All of this research suggests that ticker symbols, which have nothing to do with the typical metrics used to evaluate companies, may affect stock trading and returns.

Although behavioral economics and neuroeconomics are relatively young fields, they offer a number of hypotheses that may help explain these phenomena. Memory involves the acquisition, storage, retention, and retrieval of information ([D’Esposito & Postle, 2015](#)) and our understanding of human memory suggests that clever tickers may heighten investors’ recall of companies. [Horner, Bisby, Bush, Lin, and Burgess \(2015\)](#) concluded that when humans encode memories, the separate elements that compose the memory are associated together via specific neurological mechanisms. If a ticker is easy to pronounce or clever, it is likely that the symbol invokes a sense of creativity and positivity when an investor reads or hears about it. This positive feeling—albeit completely unrelated to the success or relevant financial characteristics of the company—may then be implicitly associated with the stock when the investor recalls details about it. Thus, the recall of a clever ticker may lead the investor to have an irrationally positive and confident feeling that the company is a good investment. In addition, positive arousal has been shown to induce memory broadening effects that augment memory for peripheral details and increase the chance that investors remember other relevant investment information about companies ([Yeghiyan & Yonelinas, 2011](#)).

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It has also been repeatedly demonstrated that experiences that elicit emotional arousal are remembered at higher rates than neutral experiences (Kensinger, 2009). In two studies examining the relationship between arousal and memory, researchers noted that participants subjected to enhanced emotional experiences exhibited greater long-term memories than control subjects who were exposed to neutral stimuli (Cahill & McGaugh, 1995; Kensinger & Corkin, 2003). Ticker symbols may invoke smaller emotional arousals than purposefully-crafted emotional stories, but this arousal-mediated enhancement has also been demonstrated to occur between individual words and when there are rapid changes between emotional and neutral stimuli (Anderson, Yamaguchi, Grabski, & Lacka, 2006). This implies that psychological effects could be induced by clever symbols, causing clever tickers to be more likely to be remembered than neutral tickers. Thus, the higher returns for clever-ticker stocks may be a combined consequence of two similar but distinct mechanisms: emotional memory enhancement causes investors to recall clever tickers at higher rates than neutral tickers, and the heightened positive association with clever tickers causes investors to consider them more attractive investments.

2. Methods

Head, Smith, and Wilson (2009) found that a portfolio of clever-ticker stocks beat the overall market by a substantial margin during the years 1984–2005. To determine whether the findings of the 2009 Study withstood the test of time, we extended The 2009 Study (which covered 1984–2005) to the subsequent years 2006–2018. The 2009 Study looked at 82 clever-ticker stocks for the years 1984 through 2005, using the Center for Research in Security Prices (CRSP) Permnos to track the daily returns for these stocks and for the CRSP market portfolio, in both cases including all dividends and other distributions. During these 22 years, some Permnos ended because of buyouts, mergers, bankruptcies, or other reasons and other Permnos appeared as stocks became publicly traded. The clever-ticker portfolio began with 17 stocks on the first trading day of January 1984 and ended with the 22 stocks shown in Table 1 on the last trading day of December 2005. We compared the daily returns for these 22 stocks with the daily returns for the CRSP market portfolio for the subsequent years 2006–2018. As in the original 2009 Study, taxes and transaction costs were ignored for both the clever-ticker portfolio and for the CRSP market portfolio.

To investigate whether similar results might occur for a new list of clever-ticker stocks, we focused on NASDAQ-traded stocks, which historically use four-digit ticker symbols, in contrast to the NYSE and AMEX, which use three or fewer characters. To ensure consistency, we used the same definition as in the 2009 Study: a ticker symbol is clever if it is related to the company's business in a witty way that makes the symbol memorable to investors. Two examples are BDAY (Celebrate Express Inc.) and SEED (Origin Agritech Limited).

Following the methods employed in the 2009 Study, we used the CRSP database to collect approximately 13,000 ticker symbols for companies traded on the NASDAQ at any point between 2006 and 2018. From this list of tickers, two of the authors independently examined every symbol and noted tickers that might be considered clever and memorable. Clever tickers included symbols such as PZZA and WIFI, respective tickers for Papa John's Pizza and Boingo Wireless. Eighty-seven percent of our selections coincided. The matched tickers in the two lists were then merged into a single

Table 1
Clever Ticker Portfolio at the End of 2005.

BABY	Natus Medical	medical products for babies
BID	Sotheby's Holdings	auctions
BUD	Anheuser Busch	Budweiser beer
BOOM	Explosive Fabricators	explosives
BTU	Peabody Energy Corp	coal
CASH	Comdata Network	ATM networks
CAKE	Cheesecake Factory	restaurant and dessert chain
CHIC	Charlotte Russe Holding	teeny-bopper clothing
DNA	Genentech	gene research
FUN	Cedar Fair L P	amusement parks
GAIT	Langen Biomechanics Group	orthotics products company
GRIN	Grand Toys International	toy manufacturer
GRR	Asia Tigers Fund	closed-end investment company
JOB	General Employment Entrepreneurs	employment
LENS	Concord Camera Corporation	cameras
LUV	Southwest Airlines	low-fare airline
POPS	National Beverage Corp	beverages
ROCK	Gibraltar Industries	metal processing (Rock of Gibraltar)
TUTR	Plato Learning	computer and Web-based instruction
TINY	Harris & Harris Group	venture capital in tiny technology
WOOF	VCA Antech	veterinary services
YUM	Tricon Global Restaurants	quick-service restaurants

Table 2
NASDAQ Clever Ticker Portfolio. Top 20 tickers with votes in parenthesis.

PZZA (125)	Papa John's Pizza	pizza restaurant franchise
WIFI (121)	Boingo Wireless	mobile internet access
ZEUS (102)	Olympic Steel Inc.	steel processor bonding
BAGL (93)	Einstein Bros. Bagels	bagel and coffee chain
OINK (85)	Tianli Agritech Inc.	hog farming
KOOL (67)	Thermogenesis Corp.	bio-tech
LAVA (65)	Magma Design Automation	software
BOOM (64)	Dynamic Materials Corp	explosives
TUSK (62)	Mammoth Energy Services	construction and energy services
LENS (58)	Concord Camera Corp.	camera manufacturer
BDAY (53)	Celebrate Express Inc.	online party supplies retailer
SHOO (53)	Madden Steven Ltd.	shoe manufacturer
SAVE (50)	Spirit Airlines	budget airline
PETS (50)	PetMed Express Inc.	online pet pharmacy
WATT (49)	Energous Corp.	wireless charging technology
SEED (48)	Origin Agritech Limited	agricultural technology
SALE (45)	RetailMeNot, Inc.	coupon websites
EYES (45)	Second Sight Medical Inc.	prosthetics for the blind
XRAY (45)	Dentsply Sirona	dental equipment
CHIC (39)	Charlotte Russe Holding Inc.	women's fashion brand

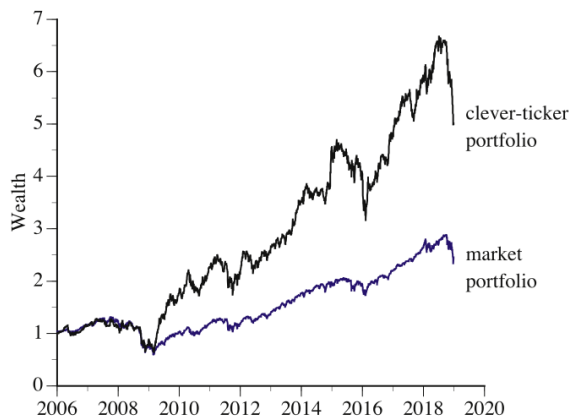
ated that included a list of the 69 tickers and their company names, and the following instructions:

Stocks are traded using ticker symbols. Some are simply the company's name (GM, IBM); some are recognizable abbreviations of the company's name (MSFT for Microsoft, CSCO for Cisco); and some are unpronounceable abbreviations (BZH for Beazer Homes, PXG for Phoenix Footwear Group). Some companies choose symbols that are cleverly related to the company's business; for example, a company making soccer equipment might choose GOAL; an Internet dating service might choose LOVE. From the list below of ticker symbols, please select 10 that are the cleverest, cutest, and most memorable.

We received 227 responses. The 20 tickers with the most votes

Table 3
Original Clever Tickers Daily Returns.

	1984–2005 (n = 5552)	2006–2018 (n = 3271)
Clever-Ticker Portfolio		
Mean	0.000918	0.000607
Standard Deviation	0.01269	0.015054
Market Portfolio		
Mean	0.000499	0.00035
Standard Deviation	0.009788	0.012132
Difference		
Mean	0.000419	0.000257
Standard Deviation	0.011739	0.009114
t-value	2.66	1.61
Two-sided p-value	0.0079	0.1074

**Fig. 1.** Original Clever-Ticker Portfolio and Market Portfolio.

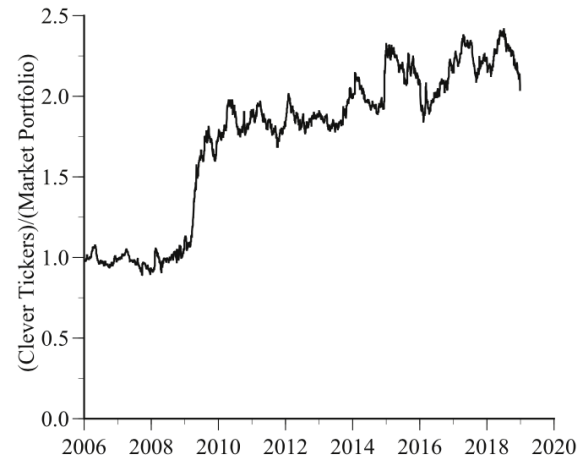
stocks. As time passed, some clever-ticker stocks stopped trading for a variety of reasons (such as bankruptcy, merger, or buyout) and other clever-ticker stocks entered the CRSP database. The comparison portfolio consisted of the stocks in the NASDAQ portfolio constructed by CRSP, which also had additions and deletions over time as stocks entered and left the market portfolio.

3. Results

We examined the daily returns for the 22 existing stocks from the 2009 Study from the beginning of 2006 until the end of 2018. **Table 3** shows the mean and standard deviation of the daily returns for the clever-ticker portfolio and for the CRSP market portfolio for both the initial 22-year period and for the subsequent 13 years. The t-values and two-sided p-values are for a matched-pair t-test of the null hypothesis that the average difference is zero.

As was true for the original 22 years, 1984 to 2005, the clever-ticker portfolio outperformed the CRSP market portfolio by a substantial margin for the subsequent 13 years, 2006 to 2018. **Fig. 1** shows that, starting with \$1 on the first trading day in 2006, the market portfolio grew to \$1.863 at the end of 2018, a 4.90 percent compounded annual return, while the clever-ticker portfolio grew to \$5.027, a 13.22 percent compound annual return. **Fig. 2** compares the relative sizes of the clever-ticker portfolio and the CRSP market portfolio. The two portfolios had comparable returns from 2006 through the financial crisis of 2007 to 2008, but the clever-ticker portfolio strongly outperformed the CRSP portfolio beginning in 2009 and continuing to the end of the sample period.

The superior performance of the clever-ticker portfolio was not

**Fig. 2.** Original Clever-Ticker Portfolio Relative to Market Portfolio.**Table 4**
Original Tickers, Estimates of a Four-Factor Model.

Number of Observations	1984–2005 5552	2006–2018 3271	Difference
Alpha	0.00049 (3.45)	0.00026 (1.78)	–0.00023 (1.04)
MKT	0.81 (39.52)	0.88 (64.56)	0.07 (2.85)
SMB	0.64 (22.96)	0.56 (20.82)	–0.09 (2.15)
HML	0.28 (7.48)	0.17 (5.97)	–0.11 (2.29)
UMD	–0.10 (4.56)	–0.10 (5.11)	0 (0.02)
Adjusted R-squared	0.29	0.68	0.47
(); t-values			

beating the market, the probability that more than 18 would do so is only 0.00043.

We investigated whether these excess returns could be explained by the [Fama and French \(1992, 1993\)](#) four-factor model,

$$R = \alpha + \beta_1 \text{MKT} + \beta_2 \text{SMB} + \beta_3 \text{HML} + \beta_4 \text{UMD} + \varepsilon$$

where

R = return on clever-ticker portfolio minus the return on Treasury bills

MKT = return on CRSP portfolio minus the return on Treasury bills

SMB = average return on three small-stock portfolios minus the average return on three large-stock portfolios (size factor)

HML = the average return on two value portfolios minus the average return on two growth portfolios (book-to-market factor)

UMD = average return on two high prior return portfolios minus the average return on two low prior return portfolios (momentum factor)

Table 4 shows that the clever-ticker portfolio had substantial positive alpha for both the initial 22-year period and the subsequent 13-year period, though the latter alpha is not quite statistically significant at the 5 percent level ($p = 0.075$), again perhaps due to the substantially smaller sample size. The last column shows the differences between the coefficient estimates in these two periods and the t-values for a test of the null hypotheses that there are no differences. The difference between the two alphas is

Table 5
New Clever Tickers, Estimates of a Four-Factor Model.

Alpha	0.00019 (1.1)
MKT	0.91 (55.68)
SMB	0.88 (27.64)
HML	0.11 (3.24)
UMD	−0.13 (5.8)
Adjusted R-squared	0.62
(): t-values	

the composition of the clever-ticker portfolio changed over time as clever ticker stocks came and went.

The new clever-ticker portfolio also beat the market, though not by as much as the original clever-ticker portfolio, either in the original sample period or the subsequent period. The difference between the daily returns on the new clever-ticker portfolio and the market portfolio had a mean of 0.000182 and standard deviation of 0.011492 (2-sided p -value = 0.347). Thirteen of the twenty new clever-ticker stocks did better than the market, while seven did worse, and the compound annual return was 11.27 percent, compared to the market portfolio's 4.90 percent. The Fama-French four factor model estimates are in Table 5. The alpha is again substantial and positive, though not statistically significant at the 5 percent level.

4. Discussion

Many published studies have failed to replicate; for example, Herndon, Ash, and Pollin (2014) and Shanks et al. (2013). We considered: (1) whether the clever-ticker stocks analyzed in the 2009 Study continued to do well over the subsequent 13 years; and (2) whether a new collection of clever-ticker stocks would also do well. Our results were consistent with the 2009 Study as the original clever-ticker stocks and 20 new clever-ticker stocks did better than the overall market.

The fact that the original tickers continued to outperform the market over the course of 35 years contradicts the claim that clever tickers outperform the market in the short run, but not in the long run (Zweig, 2007). The positive excess returns could not be explained away by the Fama-French 4-factor model and, overall, 32 of the 42 clever-ticker stocks beat the market (2-sided p = 0.00094).

Although we intentionally excluded seasoned investors from our survey, the participants may have been influenced by a familiarity with the companies. For example, Papa John's Pizza (PZZA) received the most votes (125), while Allscripts Healthcare Solutions Inc. (MDRX) only received 4 votes. However, most of the tickers that were selected by the survey participants were for relatively obscure companies.

Another possibility is that the clever-ticker stocks clustered at the beginning of alphabet, in which case their success might be attributed to the observation that stocks with early-alphabet tickers tend to be highly valued (Itzkowitz et al., 2016). However, only 1 of our 102 clever-ticker stocks began with the letter A, and the proportion of clever-ticker stocks beginning with an A, B, or C was neither unusual or statistically significant. In our original database of 33,346 ticker symbols, 23.86 percent started with the letters A, B, or C, as did 26.83 percent of the clever tickers (hypergeometric p = 0.30). In the new database of 13,043 NASDAQ ticker symbols,

27.37 percent started with the letters A, B, or C, as did 20.00 percent of the clever tickers (hypergeometric p = 0.55).

5. Conclusion

In recent years, many companies have chosen clever ticker symbols. On average, the tickers identified as the cleverest have outperformed the market by a substantial margin. We demonstrate the resiliency of this phenomenon with respect to both the original clever-ticker stocks and a more recent set of clever-tickler NASDAQ stocks, a phenomenon that strongly contradicts the efficient market hypothesis.

The long-run superior performance of the original clever-ticker stocks suggests that clever tickers are not just short-term gimmicks. An appealing explanation is that the enhanced memorability and positive salience of clever tickers contributes to disproportionately high recall.

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