

What's the Best Way to Trade Using the January Barometer?

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Abstract

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According to Streetlore, as embedded in the adage “As goes January so goes the rest of the year,” the market return in January provides useful information to would-be investors in that the January market return predicts the market return over the remainder of the year. This adage has become known as the January Barometer. In an earlier paper (Cooper, McConnell and Ovtchinnikov, 2006) we investigated the power of the January market return to predict returns for the next 11 months using 147 years of U.S. stock market returns. We found that, on average, the 11-month holding period return following positive Januarys was significantly higher, by a wide margin, than the 11-month holding period return following negative Januarys. In this paper we update that analysis through 2008 and address the question of how an investor can best use that information as part of an investment strategy. We find that the best way to use the January Barometer is not the obvious one of being long following positive Januarys and short following negative Januarys, but to be long following positive Januarys and invest in t-bills following negative Januarys. This strategy beats various alternatives, including a passive long-the-market-all-the-time strategy, by significant margins over the 152 years for which we have data.

What's the Best Way to Trade Using the January Barometer?

The Wall Street adage “As January goes, so goes the rest of the year” has appeared in published form since at least 1973 when Yale Hirsch coined the term the “January barometer” and is revisited each January in the popular press. The customary popular press account appears sometime in the first week or so of January and asks an academic and a professional trader or two whether the stock market return for the current January is likely to be a precursor of stock market returns over the remainder of the year. In the typical rendition, in a harmonious showing of opacity, the academic and the traders agree that “the adage has been around for quite a while and may have some validity, but caution should be the order of the day.” Such advice would appear to be worth exactly what the reporter paid for it. Arguably, the advice is worth less than the investor paid for it given that the investor actually bought the newspaper.

In a recent article (Cooper, McConnell and Ovtchinnikov, 2006) we undertook a careful examination of the adage using stock market returns from 1857 through 2003. In that article, we dubbed the adage “The Other January Effect” to distinguish the predictive power of January returns from the well-studied “January Effect” in which January returns tend to be higher than returns for other months of the year, especially among small cap stocks. In retrospect, perhaps we should have continued with Hirsch’s label of the “January Barometer” rather than the less descriptive “The Other January Effect.”

To make amends, we revert to Hirsch’s moniker here. In this article, we revisit the January Barometer. We do so in two respects. First, we extend our analysis of the predictive power of January returns for the remainder of the year to encompass the most recent five-year interval. Consistent with the evidence from the prior 147 years, we find that, over the most

recent five years, January market returns have been a predictor of market returns over the following 11 months - - when the January market return was positive (2004, 2006 and 2007), the average market return over the subsequent 11 months was 8.75%; when the January market return was negative (2005 and 2008), the average market return over the following 11 months was -13.63%.

Second, and more importantly, we address a new question: assuming that January returns do have predictive power for returns over the next 11 months of the year, and assuming that the predictive power is in line with historical data, how should an investor use that information to his best advantage?

As it turns out, we found in our earlier study that the adage holds true in part, but only in part. We found that over the 147 years encompassed by our study, the market return in January did have predictive power for market returns over the next 11 months. Following Januarys in which the market return was positive, the average market return over the following 11 months was significantly higher than the average market return over the 11 months following Januarys in which the market return was negative. Further, the gap between the two average returns was not small. Indeed, the gap was an impressive -7.76%. Clearly, an investor would have preferred to be long the market following Januarys in which the market return was positive rather than during Januarys in which it was negative. In that sense, the data support the virtue of the January Barometer as a predictor of stock market returns over the remainder of the year.

However, the large spread does not necessarily mean that an investor should not be long the market following Januarys in which the market return was negative. The reason is that the average market return over the 11 months following Januarys in which the market return was negative was actually a positive 5.71%. This figure is much smaller than the average market

return over the 11 months following Januarys in which the market return was positive, but it is still a positive number. At first blush, the implication would appear to be that the optimal strategy is to be long the market all the time. That is, the best strategy would appear to be to follow a purely passive “long-all-the-time” strategy. Or, to put it differently, despite its impressive predictive power, the January Barometer provides no useful information to would-be investors.

Upon closer inspection, the first-blush implication is not correct. In this article, we consider possible ways in which the predictive power of the January Barometer might be used by an investor. One of these is to accept the adage at face value which would lead an investor to be long the market following Januarys in which the market return is positive and to be short the market following Januarys in which the market return is negative, but we consider other strategies as well.

We compare the strategies with the benchmark of a purely passive long-only strategy. Starting with a \$1.00 investment in January of 1857 and following a purely passive long-only strategy, an investor would have ended up with a very handsome \$170,807 in December 2008. However, the “winning” strategy for the investor is to be long all Januarys (recall that Januarys tend to have high positive returns), to be long the market over the 11 months following Januarys in which the market return was positive, and to be invested in t-bills following Januarys in which the market return was negative. We call this the long/t-bill strategy. Had an investor followed this strategy, the \$1.00 invested in January 1857 would have compounded to an even more handsome \$562,773 by December 2008. In that respect, the January Barometer does contain valuable information indeed, but it does not entail a strict adherence to the adage. That is, the strategy that leads to the highest wealth accumulation involves no short sales.

Of course, there are other ways to evaluate strategies than merely the greatest wealth accumulation over a long time interval. A second, and arguably more informative, metric for evaluating investment strategies is the Sharpe ratio which measures return per unit of risk. But, the long/t-bill strategy also yields the highest Sharpe ratio of the various strategies considered. The impressive accumulated wealth is accompanied by an annual standard deviation of return of 16.8% and an annual Sharpe ratio of 0.38. In comparison, the purely passive long-only strategy embeds an annual standard deviation of return of 19.2% and an annual Sharpe ratio of 0.31. Thus, the long/t-bill strategy beats the passive long-only strategy on each dimension - - greater wealth accumulation, a lower standard deviation of return, and a higher Sharpe ratio.

In the following section of this paper, we recount Hirsch's original advice and present a representative popular press rendition of the January Barometer. We then summarize and update the findings of our 2006 article through the end of 2008. Among other things, we show that, for the period 1857 – 2008, following the 100 Januarys with a positive market return, the average 11-month holding period market return was 11.01%; following the 52 Januarys with a negative market return, the average 11-month holding period market return was 2.84%. We find that this predictive power was persistent in that the January return had predictive power for the years both before (1857-1939) and after (1940-2008) the period encompassed by and following Hirsch's analysis.

One novel aspect that we consider here is the idea of "tail" risk (also known as "black swan" or "rare-event" risk) that has been much in the news of late. For example, we find that, had an investor followed the long/t-bill strategy beginning with a \$1.00 investment in January 1929, his portfolio would have been worth only \$0.34 by the end of 1931 as the January market return was positive in each of the years 1929, 1930, and 1931, but suffered negative returns over

the following 11 months in each of those three years. Had the investor continued to follow the long/t-bill strategy, his portfolio would not have recovered to its starting position of \$1.00 until February 1945. In comparison, had an investor followed a passive long-only strategy and started with \$1.00 in January 1929, his \$1.00 would also have been reduced to \$0.34 by the end of 1931, but would have recovered to \$1.00 by the end of 1943. Thus, both the long/t-bill strategy and the passive long-only strategy lost considerable value over the three years beginning with the market Crash year of 1929, but the long/t-bill strategy required an additional 14 months to recover in comparison with the passive long-only strategy.

We consider other characterizations of tail risk. For example, the three worst negative 11-month post-January market returns occurred in 1931 (-44.5%), 2008 (-38.3%), and 1937 (-34.6%). A follower of the long/t-bill strategy would have been out of the market only during 2008. Thus, the January Barometer did not help an investor avoid two of the three worst 11-month post-January markets between 1857 and 2008, but it would have avoided the miserable year of 2008.

What, then, is the information contained in the January Barometer? Recall that the long/t-bill strategy differs from a passive long-only strategy only in that the Barometer leads an investor to be out of the market following Januarys in which the market return is negative. Thus, on the one hand, the Barometer's value derives from directing the investor to be out of the market during some very bad years (for example, 2008) and, on the other hand, it does not direct the investor to be out of the market during most very good years.

Following the summarization and extension of our earlier study, we proceed to consider five ways or strategies in which an investor could consider using the January Barometer. These include (1) the purely passive strategy of being long the market all the time (we refer to this as

the “long-only” strategy), (2) a strategy that adheres strictly to the Barometer’s advice of being long the market over the 11 months following Januarys in which the market return is positive and being short the market over the 11 months following Januarys in which the market return is negative (coupled with being long the market during all Januarys) (we refer to this as the “long/short” strategy), (3) a strategy of being long the market over the 11 months following Januarys in which the market is positive and being in t-bills over the 11 months following Januarys in which the market is negative (coupled with being long the market during all Januarys) (we refer to this as the “long/t-bill” strategy), (4) a strategy of investing in t-bills all the time (i.e., a strategy of ignoring the Barometer) (we refer to this as the “t-bill-only” strategy), and (5) a strategy of being long the market during all Januarys and investing in t-bills during the other months the year (we refer to this as the January-plus-t-bill strategy).

Strategies (1) and (4) essentially serve as alternative benchmarks for considering whether, and to what extent, the January Barometer provides value to an investor. In none of the strategies do we consider trading costs or taxes.

For each strategy, we calculate the total wealth accumulation over various time periods, the annualized standard deviation of return, and the annualized Sharpe ratio. These statistics point to the long/t-bill strategy as the clear winner. From a tail risk standpoint, we consider the five worst 11-month returns following Januarys in which the January market return was positive. These illustrate that, while the January Barometer apparently does contain valuable information, the Barometer would have led an investor to be long the market during four of the five worst 11-month post-January intervals over the last 152 years. We also consider the five best 11-month intervals following negative Januarys. Of course, the January Barometer would have directed the investor to be in t-bills or to be short the market over these high-return 11-month intervals.

Shorting the market over these intervals would have been disastrous for the investor. Being in t-bills means the investor would have missed out on some handsome positive 11-month returns, but the long/t-bill strategy would have avoided the disaster of being short the market during these 11-month bull markets. Indeed, it is this set of outcomes that largely dooms the long-short strategy.

In the closing section of the paper, we very briefly summarize our conclusions as to how the January Barometer can best be used to trade. Or, more accurately, we summarize how the Barometer could have been best used to trade in the past. We offer no guarantees for the future. Just as there are no guarantees that history will repeat itself, there are no guarantees that the January Barometer will “work” in the future.

The January Barometer in the Popular Press

As best we can determine, the use of the January market return as a predictor of returns over the remainder of the year made its first appearance in print in the 1972 edition of Yale Hirsch’s *Stock Trader’s Almanac*. The 1974 edition refers to 1972 and offers the following:

We doubt that any technique or indicator ever devised has been so remarkably accurate as the January Barometer. The barometer, which indicates that as January goes, so will the market go for the total year, has proven correct in 20 of the last 24 years. The performance of this indicator becomes even more striking when you consider its simplicity, coupled with the fact that it is making its prediction eleven months in advance. Very few stock market indicators show such an 83.3 percent accuracy for even short spans of time.¹

Commentaries and testimonials regarding the predictive power of January stock market returns for market returns over the remainder of the year have appeared in the popular press regularly ever since. A recent, but very representative, example comes from the January 26, 2009 issue of the *Wall Street Journal*:

¹ Hirsch, Yale, *Stock Trader’s Almanac* (The Hirsch Organization, Nyack, NY, 1974), p. 11.

What the market does in January often foretells how U.S. stocks will perform during the rest of the year. It is looking rough so far. ...Both the Dow Jones Industrial Average and Standard & Poor's 500-stock index are down just shy of 8% in January. ..."[P]eople are hesitant to get into this market," said Thomas Nyheim, vice president at Christiana Bank & Trust Co. ..."We've seen mostly negative signals." ...Historically, January often augurs how the rest of the year will go, although this is hardly a perfect portent.

...[However] battered investors may want to pray for a reprise of 2003. After falling in January, the Dow and S&P 500 soared about 30% over the next 11 months. That turnaround also followed the bear-market lows of 2002. "I could see a down January, but an up year" in 2009, [said] Richard Campagna [Chief Investment Officer at 300 North Capital].²

A Reprise of the Evidence, 1857 – 2008

It was similar popular press accounts that piqued our initial curiosity about the predictive power of January market returns for market returns over the following 11 months and led to our 2006 publication. In that article, we spliced together two stock market indexes to examine data both prior to and following the appearance of Hirsch's testimonial. We have now updated that analysis, which ended with 2003, to include the years 2004 – 2008. Our time series of data now encompasses 1857 – 2008.

For the years 1926 – 2008, to represent the market return including dividends, we use the value-weighted (VW) market index from the Center for Research in Security Prices (CRSP) database. These returns include equities listed on the New York Stock Exchange (NYSE) for the years 1926 – 2008, equities listed on the American Stock Exchange (AMEX) for the years 1962 – 2008, and equities listed on Nasdaq for the years 1972 – 2008. For the years 1857 – 1926, we use the price-weighted index of NYSE stocks created by Goetzmann, Ibbotson and Peng (2001).³ Goetzmann et al. calculate returns with a high-dividend index, a low-dividend index, and an

² Lobb, Annelena, "If January Is a Guide, 2009 Won't Be Pretty," *The Wall Street Journal*, January 26, 2009, C.1.

³ Goetzmann et al. create indexes using low-dividend estimates, high-dividend estimates and ignoring dividends. We use the low-dividend estimates in our analysis.

index that ignores dividends. The returns of the low dividend index lie between the returns of the other two. We use the low-dividend index in our analysis as a mid-point indicator. However, we have also conducted our analysis using the high-dividend index and the zero-dividend index. In each instance, the “winning” strategy is the long/t-bill strategy.

In our earlier analysis, we classify a January market return as positive only when the January market return is at least as great as the t-bill rate for the month. Here we use a slightly more liberal classification and one that is, arguably, more in line with Hirsch’s initial observations: we consider the January market return to be positive if the January market return is greater than zero, otherwise it is negative. For the t-bill rate, for the period of 1926 – 2008, we use the one-month t-bill rate from Ken French’s website which, in turn, is from the Ibbotson & Associates database. For the period of 1857 – 1925, we use the U.S. call money rate from the National Bureau of Economic Research (NBER). The original source of the NBER data is Macaulay (1938).

Panel A of Figure 1 shows the 11-month holding period returns following Januarys in which the market return was positive (henceforth we refer to these as positive Januarys) for the years 1857 – 2008. As the figure shows, positive Januarys tend to be followed by positive 11-month holding period returns. That is, perhaps, not surprising - - on average, market returns are positive. Panel B shows the 11-month holding period returns following Januarys in which the market return was negative (henceforth we refer to these as negative Januarys). These results are more interesting. As the figure shows, negative Januarys have a much higher tendency to be followed by negative 11-month holding period returns than do positive Januarys.

Table 1 quantifies the data in the figure. As shown in the first row of the table, of the 152 years encompassed by our analysis, the January market return was positive in 100 of them. Over

the 11-month intervals following these 100 positive Januarys, the average 11-month holding period market return was 11.01%. Following the 52 negative Januarys, the average 11-month holding period market return was 2.84%. As the last column of the table shows, the spread between the two of 8.17% was not only economically, but also statistically, significant. Over this full time period, the January Barometer appears to have had powerful predictive abilities.

The next four rows of Table 1 give the results for four interesting subperiods: 1857 – 1939, 1940 – 2008, 1929 – 1939, and 1929 – 2008. The first time interval encompasses the years prior to the year identified by Hirsch as the first year of his analysis. This interval also encompasses the years of the market Crash of 1929 and the Great Depression. The second time interval encompasses the years beginning with the first year of Hirsch’s analysis and ending with the last year for which we have complete data as we begin this analysis, 2008. The third interval begins with the year of the market Crash of 1929 and ends with the year that is often identified as the last year of the Great Depression, 1939. The fourth interval begins with the year of the market Crash and ends with 2008.

The second and third rows of the table show that, as with the full time period, over the subperiods prior to and after the year in which Hirsch begins his analysis, the spread between 11-month holding period returns following positive and negative Januarys was economically impressive. Over the two subperiods, the spreads were 4.37% and 12.76%, respectively. However, the spread over the first time interval is not statistically significant. The t-statistic for the 1857 – 1939 period is only 0.97. This lack of statistical significance is largely due to the fact that this interval encompasses the market Crash of 1929 and the following two years. During each of these years, the January market return was positive, but the subsequent 11-month return was extremely negative.

The effect of these adverse years for the Barometer is apparent in the fourth and fifth rows of the table. Over the years 1929 – 1939, the spread is dramatically reversed. It is -20.98%. A comparison of the spreads for 1929 – 2008 and 1940 – 2008 further illustrate the effect of the Crash on the predictive power of the Barometer. The spread of 8.26% for the former interval includes the Crash and subsequent years of the Great Depression, while the spread of 12.76% for the latter interval does not. This comparison also hints that the success of the Barometer over shorter intervals can depend upon the starting year for implementing the strategy. We shall elaborate on this point later.

Panel B of Table 1 parallels Panel A except that Panel B reports 11-month holding period “excess” returns. Monthly excess returns are calculated by subtracting the monthly t-bill rate from the corresponding monthly market return for each month for the years 1926 – 2008 and the monthly call money rate from the corresponding monthly market return for each month for the years 1857 – 1925. The 11-month holding period excess return is calculated by compounding the monthly excess returns.

These data highlight the degree to which the use of the January Barometer beats (or does not) the benchmark of the “risk-free” rate. Over each of the time intervals except the Crash and Great Depression years of 1929 – 1939, a strategy of being long the market following positive Januarys achieves a return greater than the t-bill rate. Further, a strategy of being long the market following negative Januarys would have earned a return less than the t-bill rate over the full time period and over the two intervals that end with 2008. That is, following the January Barometer adage would have served an investor well. However, over the interval of 1857 – 1939 and the interval of 1929 – 1939, being long the market following negative Januarys would have yielded higher returns than being in t-bills. These phenomena are not unrelated and again demonstrate

the failure of the Barometer during the Crash year of 1929 and the subsequent several years. However, our point here is not to dwell on the failures of the January Barometer, but rather to demonstrate that over most long intervals, the Barometer had powerful predictive ability.

Trading Strategies Using the January Barometer: Wealth Accumulation

We now turn to an analysis of the five trading strategies described above. Figures 2, 3, and 4 plot the cumulative wealth that an investor would have achieved had he followed each of the five trading strategies over the time periods of 1827 – 2008, 1857 – 1939, and 1940 – 2008, respectively. Table 2 provides a description of each of the five strategies. Table 3 reports, among other statistics, the dollar amount of the ending period wealth achieved with each strategy. To begin, Figure 2 plots the wealth that an investor would have accumulated by the end of 2008 had he invested \$1.00 in each of the five strategies beginning on January 1, 1857 and followed the strategy over the ensuing 152 years. As we noted, this analysis ignores trading costs and taxes.

Based on total accumulated wealth, the long/t-bill strategy is the clear “winner.” To recall, the strategy involves investing in the market portfolio in all Januarys, investing in the market portfolio following positive Januarys, and investing in t-bills following negative Januarys. By the end of 2008, the accumulated wealth achieved with this strategy is an eye-popping \$562,773. In comparison, the purely passive long-only strategy achieves a still-handsome, but comparatively small, cumulative wealth of \$170,807. Perhaps more surprisingly, adherence to a strict interpretation of the January Barometer’s guidance - - to be long the market following positive Januarys and to be short the market following negative Januarys (and long the

market during all Januarys) (i.e., the long/short strategy) -- comes in a distant third with a cumulative wealth of \$6,423.

The January-plus-t-bill strategy and t-bill-only strategies achieve cumulative wealths of \$2,074 and \$382, respectively. Given the long upward trend of equity prices over the past 152 years, it is not surprising that strategies involving long positions in equities have outperformed the t-bill oriented strategies over that time period. Nevertheless, as we showed above, there have been reasonably extended periods over which a t-bill strategy considerably outperformed strategies based on the January Barometer.

Due to the scale of the graphs in Figure 2, it is difficult to see the strategies' wealth accumulation over the first 120 years or so of the analysis. Thus, in Figures 3 and 4, we plot the wealth accumulation over shorter intervals. Figure 3 plots the 83-year interval of 1857 – 1939. Even including the Crash of 1929 and the ensuing several years, the long/t-bill strategy increased the investor's 1857 initial \$1.00 wealth more than 257-fold, to \$257.97, over this time period. The passive long-only strategy increased the investor's 1857 wealth more than 181-fold, to \$181.31, over the same interval. In comparison, long/short strategy ended up with just \$16.52.

Of perhaps the greatest interest for our purposes is that the t-bill-only strategy achieved a cumulative wealth of \$22.69 and the January-plus-t-bill strategy achieved a cumulative wealth of \$57.89. Thus, over this 83-year period, both t-bill strategies outperformed the long/short strategy based on the January Barometer. Clearly, over the first 83 years, adherence to a strict interpretation of the January Barometer adage would not have served an investor well.

Figure 4 plots the wealth accumulation over the 69-year interval of 1940 – 2008 for each of the five strategies. Again the starting point is \$1.00. Over this interval, the passive long-only strategy accumulates to an impressive \$942.08. In comparison, however, under the long/t-bill

strategy, the \$1.00 accumulates to an even more impressive \$2,181.55. And, although the long/short strategy comes in a distant third with an accumulation of \$388.86, it does surpass by significant margins, the two t-bill strategies that end up with cumulative totals of \$16.82 and \$35.83, respectively.

An obvious question is - - why does the long-short strategy perform so poorly given that it involves a strict adherence to guidance given by the January Barometer and the Barometer does have predictive power for post-January returns? Essentially it is because the 11-month returns following negative Januaries are not, on average, negative, so a strategy of shorting the market following negative Januaries earns less than t-bills and less than a passive buy-and-hold-the-market strategy.

Rows 5 and 6 of Table 3 illustrate the importance of the starting date of the analysis. Row 5 gives the terminal wealth for the period beginning with 1857 and ending with 1928, the year prior to the market Crash of 1929. Row 6 gives the terminal wealth for the period beginning with the year of the Crash, 1929, and ending with December 2008. The latter interval encompasses an additional 11 years relative to the analysis of row 3, but it also encompasses the market Crash of 1929 and the subsequent years. In each of the years 1929, 1930 and 1931, the January market return was positive so that an investor would have been long the market with each of strategies (1), (2) and (3), but as we noted above, the post-January 11-month holding period return was extremely negative at -18.96%, -32.35%, and -47.73% in each of these years. Thus, an investor who had been following the January Barometer would have begun this era in a deep hole. In contrast, rows 2 and 4 both begin with 1857, but the analysis of row 4 ends just prior to the Crash and Great Depression years, thereby, cutting off these miserable 11 years for the Barometer.

Finally, comparing row 6 with row 3 shows that the investor still fared best with the long/t-bill strategy, but rather than achieving a cumulative wealth of \$2,181.55 had he started in 1939, he would have accumulated only \$1,224.33 had he started in 1929. Clearly, the starting point matters for the total wealth achieved. But the important point to take away from the total cumulative wealth analysis of Figures 1 – 3 and Table 3 is that, regardless of the time period considered, the January Barometer does contain valuable information.

Trading Strategies Using the January Barometer: Returns, Risk, and Sharpe Ratios

Total cumulative wealth over a long time period certainly provides an investor with useful information about alternative trading strategies, but this statistic ignores risk. Table 3 provides some data regarding the risks of the alternative strategies over the entire time period of our analysis and over various subperiods. A common measure of risk is standard deviation of return.

The standard deviation of returns is calculated using annual data. So, for example, for the entire period of 1857 – 2008, under the passive long-only strategy, the standard deviation of annual returns is 19.2%. With the long/short strategy, the standard deviation of annual returns is 20.1%. And with the long/t-bill strategy, the standard deviation of annual return is 16.8%. Thus, of the three, the long/t-bill strategy has the lowest standard deviation of returns. Of course, the t-bill strategies both have lower standard deviations of returns than any of the equity strategies.

The Sharpe ratio standardizes returns per unit of risk by subtracting the average t-bill rate from the average annual portfolio return and dividing the difference by the portfolio's annual standard deviation of returns. The Sharpe ratio is not a sensible statistic for the two t-bill strategies.

Of strategies (1), (2), and (3), the long/t-bill strategy has the highest Sharpe ratio at 0.38. However, the passive long-only strategy is not far behind with a Sharpe ratio of 0.31. Perhaps, not surprisingly by this point, the pure January Barometer strategy is much further behind with a Sharpe ratio of 0.19.

Thus, after adjusting for a common measure of risk, the long/t-bill strategy is still the “winner.” Again, this statistic supports the idea that the January Barometer provides useful information and the information it provides is to invest in t-bills following negative Januarys.

Tail or Black Swan Risk

A further way to consider risk is by examination of the strategies’ worst outcomes. Unusually bad outcomes are often referred to as tail, black swan, or rare event risk. Panel A of Table 4 gives the worst five annual returns for each of the strategies over the full 152-year period. Of course, the t-bill strategies present the least unfavorable outcomes. That is because neither of them are long equities over any post-January 11-month interval. In comparison, the long-only strategy is long the market over every post-January 11-month interval. The long/t-bill strategy is long the market only following positive Januarys. Thus, there are some 11-month post-January periods in which the long/t-bill strategy is in t-bills. Almost by construction, this strategy will experience fewer extremely bad 11-month post-January outcomes than the passive long-only strategy. That is, indeed, the case. The long/t-bill strategy is out of the market during the post-January 11-month period of 2008, the year in which the holding period return was -38.3%. However, the long/t-bill strategy did experience four of the other worst annual returns. Thus, the January Barometer was not successful in directing an investor to be out of the market during four of the five worst 11-month post-January intervals over the 152 years of our analysis.

In that regard, the Barometer was not especially useful to an investor. However, the Barometer did direct the investor to be out of the market during the horrid 11 post-January months of 2008. Thus, the Barometer did avoid at least one very black black swan.

Another way to think of rare event risk is whether the Barometer led the investor to be out of the market during a lot of very good Januarys. To examine that question, we identified the five best annual holding period returns over the 152 years of our analysis. These are given in Panel B of Table 4. Of course, the long-only strategy would have led the investor to be long the market over every 11-month post-January interval. Thus, the passive strategy never misses a bad year, but is also never misses out on any very good year. The test for the Barometer is whether a bad January directs the investor to be in t-bills during a really hot market.

As shown in Panel B, the long/t-bill strategy is long the market during every one of the five best years. Each of these episodes provides a holding period return in excess of 50% with 1879 leading the way at 59.30% -- what a great year to be in the market. Interestingly, the second best year is the Depression year of 1933 in which the market achieved a return of almost 58%. This occurred after the three terrible years of 1929, 1930 and 1931.

In short, the January Barometer did provide discriminatory power with respect to very good years. Each of the exceptionally good years started with a positive January. And, thus, the Barometer directed an investor to be long the market each year.

Conclusion

Questions as to whether the January market return, historically identified as the “January Barometer,” provides useful information to investors about market returns over the remaining months of the year appear each January in the financial press. These questions are prompted by

the Wall Street adage “As goes January, so goes the rest of the year.” In an earlier article (Cooper, McConnell and Ovtchinnikov, 2006) we examined in detail the difference between 11-month holding period returns following Januarys with positive and those with negative market returns. Our data encompassed 1857 – 2003. We found that 11-month holding period returns following positive January market returns were economically and statistically greater than 11-month holding period returns following negative January returns - - the spread was 7.76%. Here we update those data through 2008 and address the question of how best an investor could have used that information to achieve superior portfolio returns over this 152-year interval.

We find that the Barometer did provide useful information to would-be investors, but the best strategy was not the obvious one of being long the market following positive Januarys and short the market following negative Januarys. That strategy came in a distant third behind strategies of being long-the-market-all-the-time (a passive long-only strategy) and a strategy of being long the market during all Januarys, being long the market following Januarys with positive market returns, and being in t-bills following Januarys with negative market returns. For example, over the full 152-year interval, \$1.00 invested in the long/short strategy as of 1857 accumulated to \$6,423 as of December 2008. In comparison, \$1.00 invested in a passive long-only strategy accumulated to \$170,806 and \$1.00 invested in the “winning” strategy accumulated to \$562,773 over the same interval.

In sum, the January Barometer does appear to provide useful information for would-be investors, or, at least historically, it would have contained useful information. We make no guarantees about the future. But, we have, at a minimum, provided useful information to journalists who are compelled each January to write something about the January Barometer. That, in itself, we hope, is a useful contribution.

References

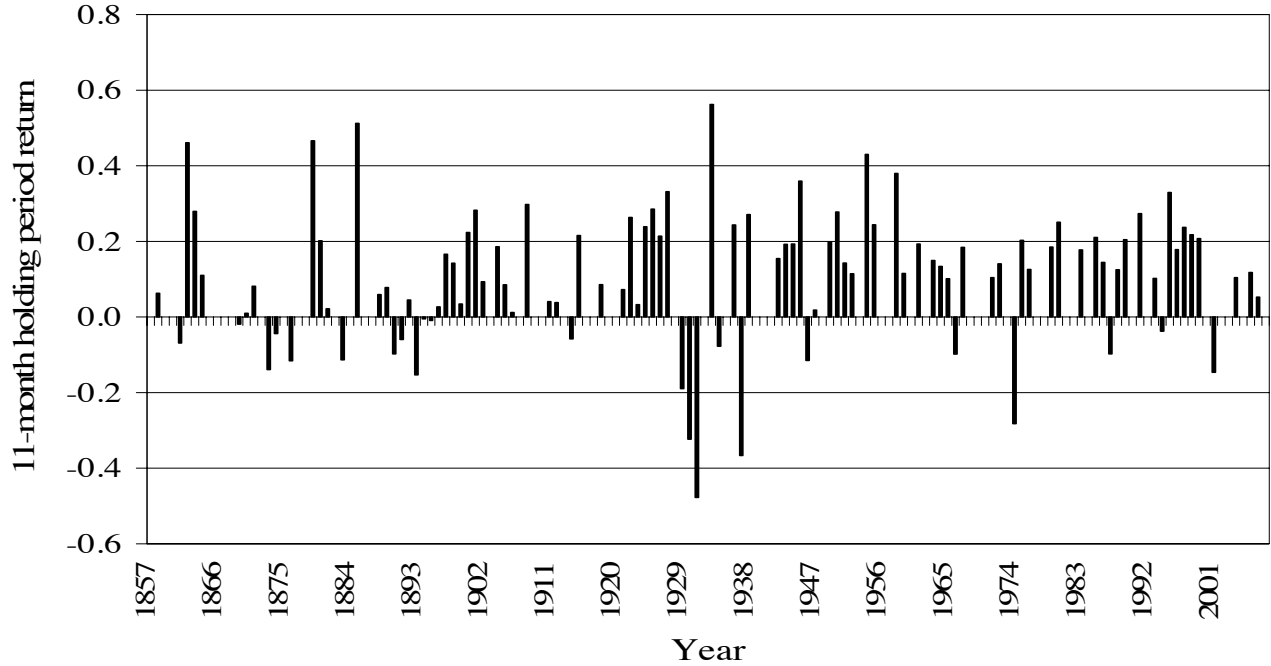
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Figure 1
Eleven-month post-January holding period market returns conditional on positive and negative
Januaries, 1857 – 2008

Panel A: Eleven-month post-January holding-period market returns for years in which the January VW market return was positive



Panel B: Eleven-month post-January holding-period market returns for years in which the January VW market return was negative

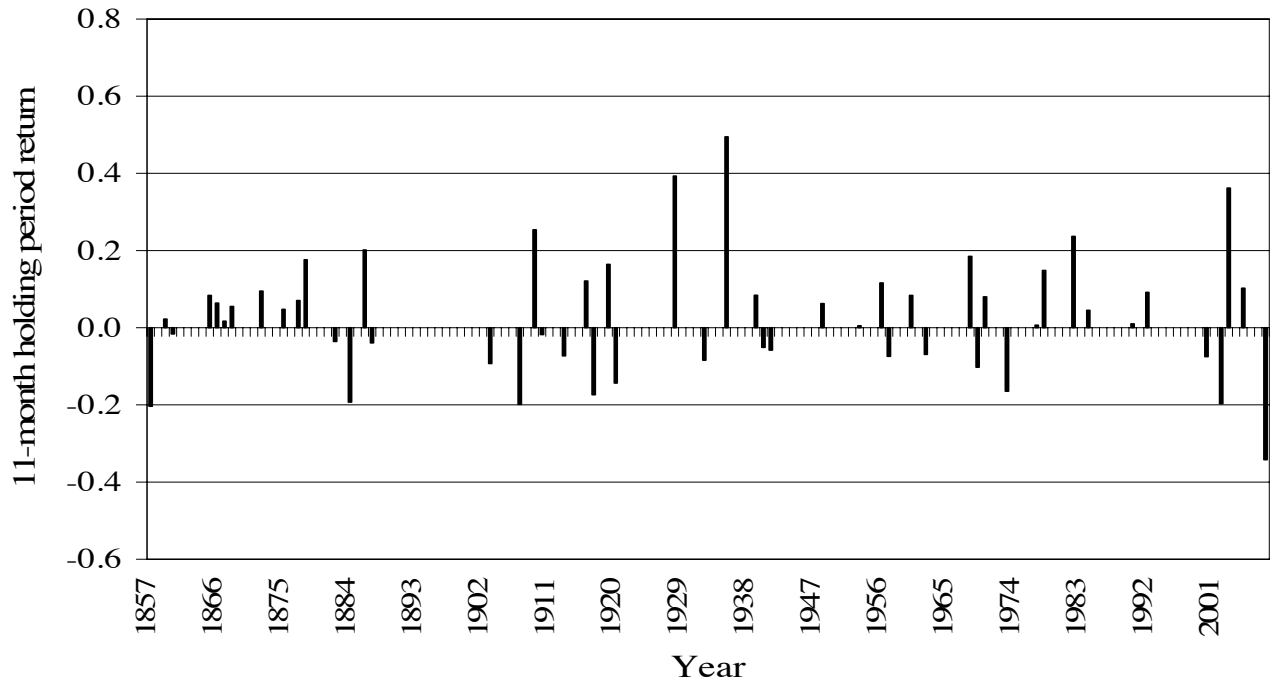


Figure 2
Wealth accumulation with various investment strategies based on the January Barometer, 1857 – 2008

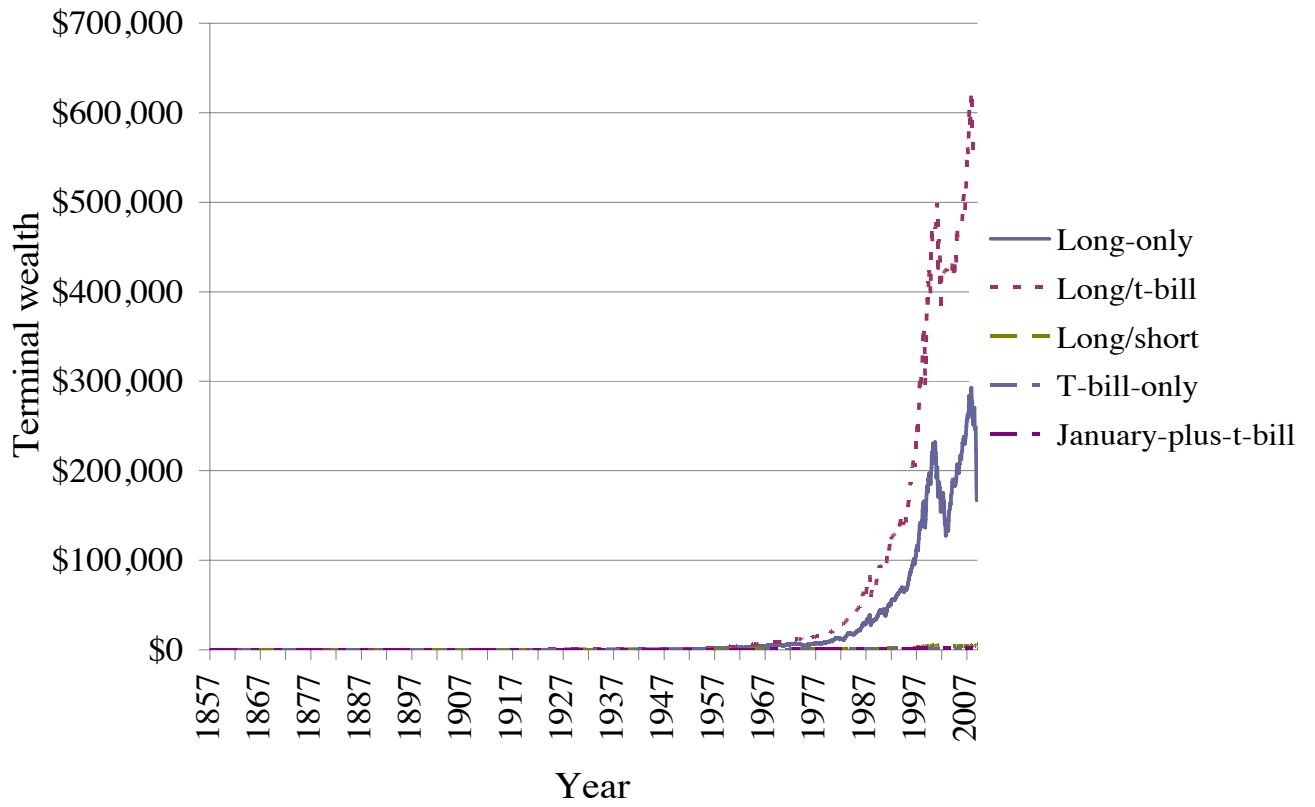


Figure 3
Wealth accumulation with various investment strategies based on the January Barometer, 1857 – 1939

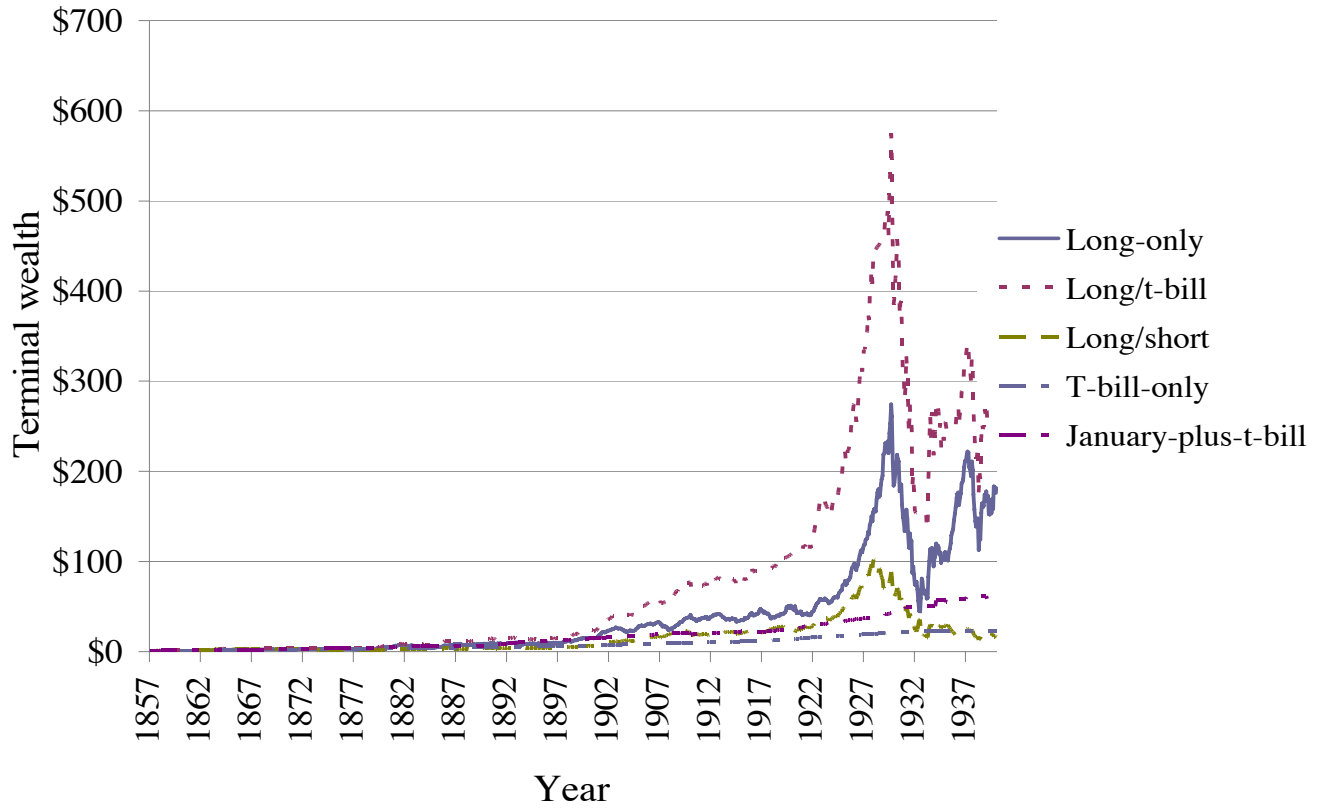


Figure 4
Wealth accumulation with various investment strategies based on the January Barometer, 1940 – 2008

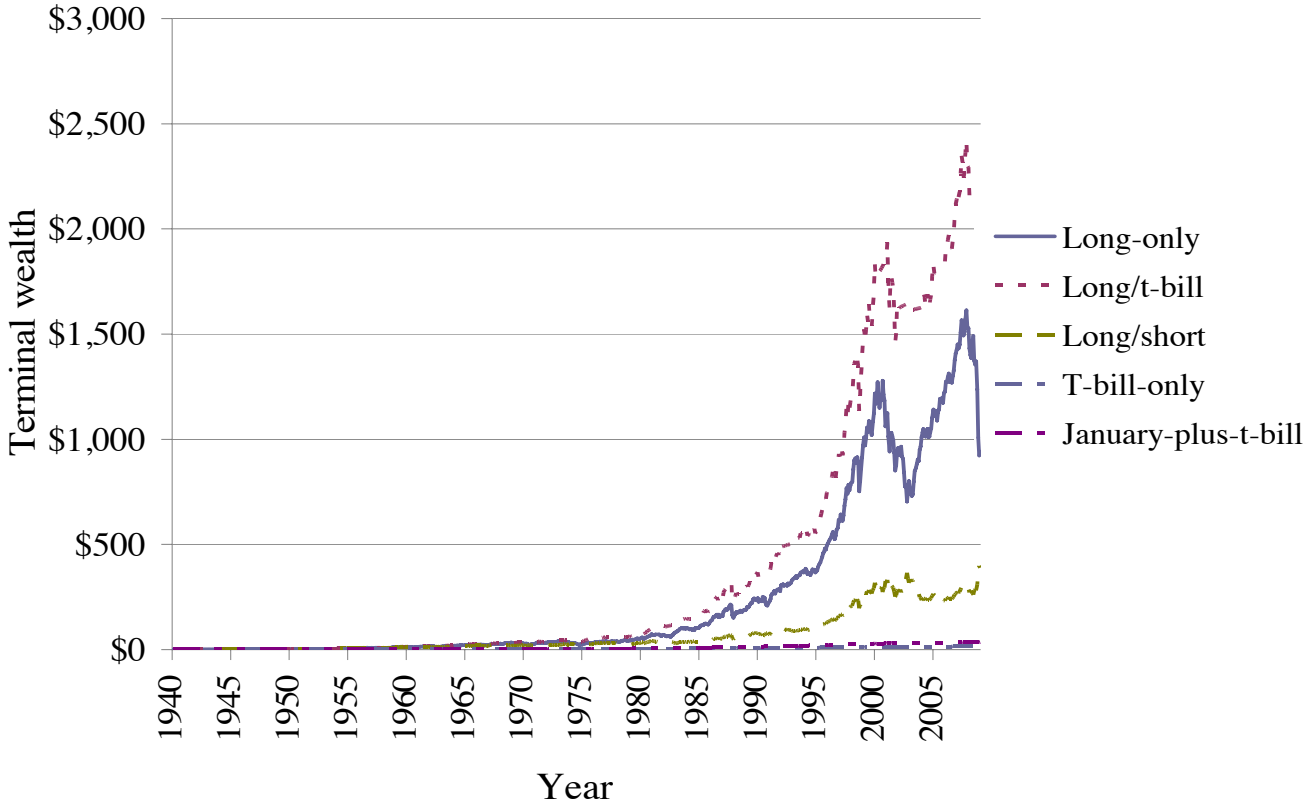


Table 1
Eleven-month holding-period market returns following positive and negative Januarys, 1857 – 2008

Years	Positive January years			Negative January years			Spread (%)	t-statistic for spread
	Number of years	Number of positive 11-month returns	Ave 11-month return (%)	Number of years	Number of positive 11-month returns	Ave 11-month return (%)		
<i>Panel A: Raw returns</i>								
1857-2008	100	77	11.01	52	31	2.84	8.17	2.77
1857-1939	55	38	8.21	28	16	3.84	4.37	0.97
1940-2008	45	39	14.44	24	15	1.68	12.76	3.57
1929-1939	8	3	-4.48	3	2	16.50	-20.98	-0.88
1929-2008	53	42	11.58	27	17	3.32	8.26	1.86
<i>Panel B: Excess returns</i>								
1857-2008	96	69	7.68	56	25	-1.02	8.70	3.02
1857-1939	52	30	4.43	31	15	1.12	3.32	0.75
1940-2008	44	39	11.51	25	10	-3.67	15.18	3.65
1929-1939	8	3	-5.28	3	2	16.20	-21.48	-0.89
1929-2008	52	42	8.93	28	12	-1.54	10.47	1.92

Table 2
Strategy descriptions

Strategy	Name	Description
1	Long-only	A purely passive strategy of being long the market all the time
2	Long/short	A strategy that adheres strictly to the Barometer's advice of being long the market over the 11 months following Januarys in which the market return is positive and being short the market over the 11 months following Januarys in which the market return is negative (coupled with being long the market during all Januarys)
3	Long/t-bill	A strategy of being long the market over the 11 months following Januarys in which the market is positive and being in t-bills over the 11 months following Januarys in which the market is negative (coupled with being long the market during all Januarys)
4	T-bill-only	A strategy of investing in t-bills all the time
5	January-plus-t-bill	A strategy of being long the market during all Januarys and investing in t-bills during the other months the year

Table 3
Terminal wealth, average returns, standard deviation of returns, and Sharpe ratios for various investment strategies based on the January Barometer, 1857 – 2008

Years	Long-only				Long/short				Long/t-bill				T-bill-only				January-plus-t-bill			
	Terminal Wealth (\$)	Ave Ret (%)	St Dev (%)	Sharpe Ratio	Terminal Wealth (\$)	Ave Ret (%)	St Dev (%)	Sharpe Ratio	Terminal Wealth (\$)	Ave Ret (%)	St Dev (%)	Sharpe Ratio	Terminal Wealth (\$)	Ave Ret (%)	St Dev (%)	Sharpe Ratio	Terminal Wealth (\$)	Ave Ret (%)	St Dev (%)	Sharpe Ratio
1857-2008	170,806.6	9.98	19.2	0.31	6,423.4	7.87	20.1	0.19	562,773.5	10.38	16.8	0.38	381.7	4.02	2.6	N/A	2,074.1	5.27	5.1	N/A
1857-1939	181.3	8.36	20.2	0.22	16.5	5.54	21.0	0.08	258.0	8.38	17.9	0.25	22.7	3.85	2.1	N/A	57.9	5.11	4.6	N/A
1940-2008	942.1	11.94	17.8	0.43	388.9	10.68	18.8	0.34	2,181.6	12.79	15.1	0.57	16.8	4.22	3.1	N/A	35.8	5.47	5.7	N/A
1929-1939	0.8	3.42	33.7	0.07	0.2	-7.40	33.5	-0.25	0.6	-0.82	30.7	-0.06	1.1	0.93	1.5	N/A	1.5	3.75	5.8	N/A
1857-1928	219.5	9.11	17.5	0.28	70.6	7.52	18.0	0.18	459.7	9.79	14.9	0.37	20.5	4.30	1.8	N/A	39.2	5.32	4.4	N/A
1929-2008	778.1	10.77	20.6	0.34	90.9	8.19	22.0	0.20	1,224.3	10.92	18.4	0.39	18.6	3.77	3.1	N/A	52.9	5.24	5.7	N/A

Table 4
Five worst and best annual holding period returns with various investment strategies based on the January Barometer, 1857 – 2008

Performance ranking	Long-only		Long/short		Long/t-bill		T-bill-only		January-plus-t-bill	
	Year	Annual return (%)	Year	Annual return (%)	Year	Annual return (%)	Year	Annual return (%)	Year	Annual return (%)
<i>Panel A: Five worst annual holding period returns</i>										
1	1931	-44.49	1931	-44.49	1931	-44.49	1938	-0.04	1910	-7.91
2	2008	-38.32	1935	-37.20	1937	-34.62	1940	-0.02	1939	-5.95
3	1937	-34.62	1937	-34.62	1930	-28.60	1939	0.00	2008	-4.89
4	1930	-28.60	1928	-30.77	1974	-27.94	1941	0.04	1960	-4.48
5	1974	-27.94	2003	-29.62	1929	-14.65	1935	0.14	1941	-4.00
<i>Panel B: Five best annual holding period returns</i>										
1	1879	59.30	1879	59.30	1879	59.30	1981	14.72	1863	20.10
2	1933	57.72	1933	57.72	1933	57.72	1980	11.26	1975	20.07
3	1862	53.99	1862	53.99	1862	53.99	1982	10.53	1987	18.53
4	1885	52.62	1885	52.62	1885	52.62	1979	10.38	1891	17.88
5	1954	50.28	1954	50.28	1954	50.28	1984	9.84	1976	17.77