

Automobile Performance & the Stock Market

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Automobile Performance

NASCAR-related revenues are hitting all-time highs. Two car-racing films (*Cars*, *Talladega Nights*) smashed the box office last year. And auto manufacturers are offering consumers far more performance capability than most will ever use. What can that trend tell us about the future of the U.S. stock market?

EWT's 1985 essay, "Popular Culture and the Stock Market," showed that the pace of human activities generally mirrors the major stock indexes. As the stock market rises during a boom cycle, the tempo of everything from car engines to dance halls picks up. In bear markets, the need for speed lessens.

Based on those empirical observations, we hypothesized that automobile manufacturers, responding to mood-driven fluctuations in consumer demand, would tend to increase power and speed capacities of production cars throughout bull markets and reduce them during bear markets.

Comprehensive historical data on horsepower is hard to come by, but EWT's friend John Carder of Topline Investment Graphics came up with a novel proxy: the highest Chevrolet Corvette engine power offered annually. As it turns out, these data are an excellent meter of social mood as confirmed by the inflation-adjusted Dow Jones Industrial Average (see Figure 1. Note: Since 1965, model years have included some cars introduced months in advance of the calendar year, so in Figures 1 & 3 we have placed the bars representing model years so that they properly straddle the year end date.)

The Corvette, introduced in 1953, was a product of the wave of positive mood that also lifted the stock market after 1949. (The title of first postwar U.S. sports car actually goes to the 1951 Nash-Healey.) In the early 1950s, society was interested in having fun, but flamboyance was still risky for both manufacturers and consumers. The stock market was gingerly stepping higher in a series of first and second waves, with the negative mood of the 1929-1949 correction still lingering. Conflict re-erupted internationally (in Korea), and political witch-hunts festered domestically in the form of McCarthyism. As the Socionomics Institute's Special Report, *Social Mood and Automobile Colors*, notes, "traditional" green colors in 1953 took a higher percentage of total U.S. new car sales than at any other time in the history of DuPont's records, while "sexy" red shades hardly registered. Sales of the 1953 Corvette were lukewarm, and in 1954 sales actually declined.

The demand for more "sportiness" in vehicles ramped up in 1955 along with the stock market. That year the Corvette's horsepower surged by 30%, and Ford joined the trend with the introduction of the Thunderbird. In 1956, construction of the Interstate Highway System began in earnest. The Corvette's horsepower surged again for the 1957 model year, in the middle of the postwar advance in stocks, and then paused for a few years. By 1963, when the Beach Boys released *Little Deuce Coupe*, an album devoted almost entirely to cars, the sports car trend had gone mainstream.

As the U.S. stock market roared to a peak in the mid-1960s, U.S. manufacturers pulled out all stops in an effort to appeal to the new performance fever. In 1964, General Motors' Pontiac division chief John De Lorean violated a GM ban on placing large engines in smaller cars and thereby introduced the first "muscle car," the Pontiac GTO. Chrysler

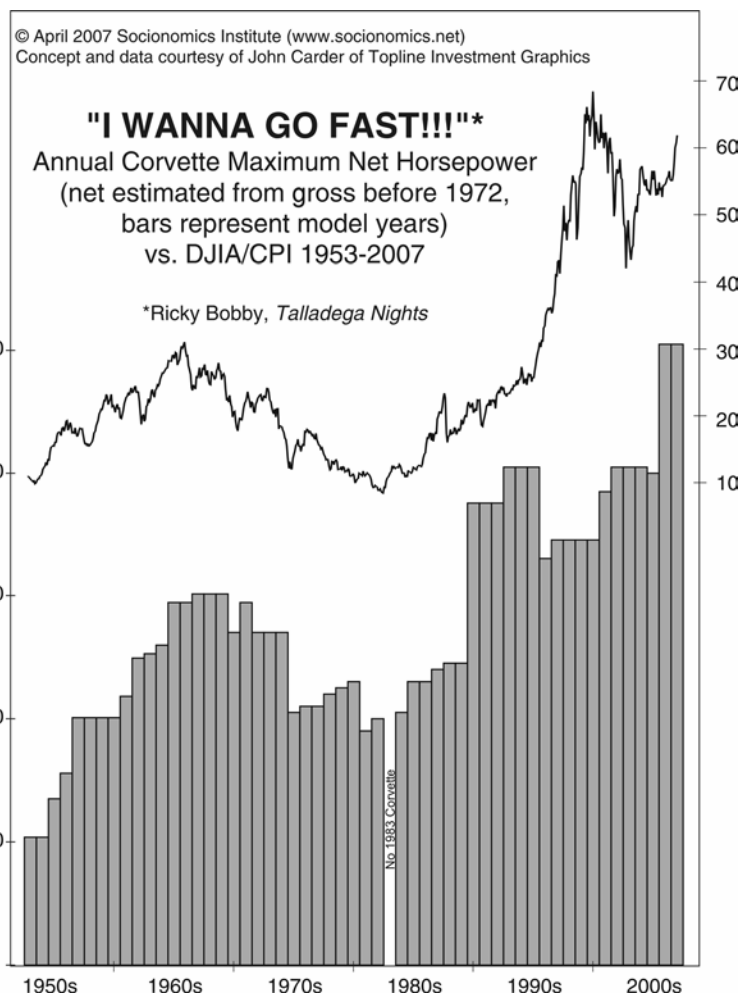


Figure 1

immediately countered with the first “pony” car, the Plymouth Barracuda. Later that year Ford followed with the Mustang, shocking the world by selling 1,000,000 units of the car in its first 18 months. In 1966, the year of the inflation-adjusted peak in the stock market, Ford became the first American manufacturer to field winning cars in Europe’s 24 Hours of Le Mans endurance race, General Motors added the Chevy Camaro and Pontiac Firebird to its lineup, and Chevrolet introduced its largest engine model, the “427” (for the number of cubic inches in its cylinder volume). Corvette engine power peaked the following year when the company offered twenty cars with the “L88” version of the engine, which produced 430 (gross) hp officially and 550 (gross) hp by unofficial estimates. Officially, horsepower in U.S. cars peaked with the introduction of the 450 (gross) hp Chevrolet Chevelle Super Sport 454 in the model year 1970.



Figure 2

Following the industry trend, the Corvette’s maximum horsepower began to decline along with the stock market in 1970. As with the decline of the convertible (profiled in the July 2006 EWT), the conventional wisdom holds that high performance died out in the 1970s due to the imposition (or the threat) of government regulation. In 1970, Congress passed the Clean Air Act and established the Environmental Protection Agency and the National Highway Traffic Safety Administration. Within the complacent U.S. auto industry, regulatory fears were real; “safety does not sell” was an oft-heard phrase. But adherents of that view miss the big picture. A more accurate explanation is that both government intervention and the performance decline were *products* of the waning social mood of the period, the same factor that caused the stock market to correct. Just as an astute market analyst recognizes the end of a financial trend, astute auto industry observers knew that the performance craze was exhausted, and some even noted it at the time. As *Car Life* wrote in its review of the 1970 Chevelle, “*Without even raising the specters of insurance and social justice* [italics ours], it's fair to say that the Supercar as we know it may have gone as far as it's going.” Americans *wanted* safety and economy, and their government representatives and automakers gave it to them.

By the 1973 oil crisis, dash and flash no longer sold. In 1974, the Federal government imposed a national 55 mph speed limit. Chevrolet eliminated the convertible Corvette in 1975. Maximum horsepower continued to decline into 1981, one year after the price of oil peaked and a year before the inflation-adjusted bottom in stocks. For 1983, the model year that encompassed the Dow’s lowest valuation of the bear market in real terms, Chevrolet did not even offer a new Corvette model due to production problems and a surplus of 1982 models.

The need for speed returned in the 1980s along with the rise in stock prices. By 1983, when Prince compared the object of his affection to a “Little Red Corvette” in a song by the same name, maximum and average horsepower began creeping up again. In 1987 and 1988, Congress permitted states to raise speed limits on rural highways and roads. Global optimism reached fever pitch during the 1990 model year, in the middle of the 1982-2000 bull market. Communism crumbled along with the Berlin Wall, South Africa freed Nelson Mandela, and Tim Berners-Lee penned the first World Wide Web page. Recalling the earlier leap in 1955, the Corvette’s horsepower surged 53%, the largest annual increase on record. A premium 1990 Corvette model, the ZR-1, set seven International and 3 World speed records, which remain unbeaten by any Corvette model since. In 1995, the first year of the late 1990s’ investment mania, U.S. states began raising speed limits after Congress repealed the 55 mph maximum.

In 1996 Corvette horsepower dropped steeply due to compliance with emissions-related regulations that California had initiated in 1994, a year marked by severe pessimism according to surveys of investment advisors conducted by Investors Intelligence (see *Social Mood and Automobile Colors*). But technological advances propelled by social mood steadily overcame those challenges so that maximum horsepower broke out to new all time highs by the 2006 model year.

From a low of 97 hp in the stock market bottom year of 1982, the average horsepower of new passenger cars in the U.S. has steadily risen to almost double that figure, with maximums climbing ever higher. The 2007

Corvette's 505-hp V8 remains among the most powerful engines offered by major manufacturers, but even it is dwarfed by the Bugatti's Veyron's 1000-hp turbocharged V-16, which at top speed gets 2.3 miles per gallon and burns through its 22 gallon tank in just 12 minutes. An Italian development team, Project 1221, is reportedly developing a turbine-powered 1500-bhp¹ production car that in theory will achieve 270 mph, beating even the Veyron's top speed record of 253 mph.

Highest horsepower and top speed always earn bragging rights. There are other measures of performance—acceleration, for example. Drag racing exploded in popularity in the late 1960s, and automakers happily indulged that market with ever-larger engine blocks. In 1968, the year that Mattel introduced its wildly popular Hot Wheels brand of die cast toy cars (see Figure 2, "Mongoose & Snake" Drag Race Set from 1970), the number of production car models manufactured for the North American market that were able to accelerate one quarter mile in 14 seconds or less boomed (see Figure 3).

The result was some monstrous automobiles. In 1968, Chrysler introduced the Plymouth Hemi Super Stock Barracuda (and its sister, the Dodge Super Stock Hemi Dart). The car was so quick that among production cars street-drivable in the United States and tested by major car magazines, no car was able to beat its 10.5-second time for a quarter mile until 2006, when the Bugatti Veyron bettered it by 3-tenths of a second.

Why did it take 38 years for a production car to exceed an acceleration record? Undoubtedly it took time to overcome the technical restrictions imposed on street-legal vehicles in the United States after 1970, as well as the weight added to automobiles during the 1980s and 1990s. But the timing of the second boom suggests a more important reason: society was waiting for another era of excess following a Cycle-degree stock market top. Offerings of fast-accelerating car models peaked at 23 in the 1969 model year, as the stock market approached the end of the 1967-68 bear market rally (i.e., a rebound within a larger bear market). This time, the 2002-2007 bear market rally appears to have produced a peak of 27 such models (but we will not rule out a final surge if stock prices continue rising).

Another performance measure that has become increasingly popular is the 0-100-0 mph time, which requires not only acceleration but also braking. Since acceleration is mainly a function of a vehicle's power-to-weight ratio (horsepower divided by total vehicle weight) and deceleration much easier with lower mass, this measure allows even lower-horsepower cars to compete. The best racing cars of the 1960s, such as the Shelby AC Cobra 289, which reportedly achieved 0-100-0 times of less than 14 seconds, sported ratios approaching 0.2 hp/lb. Due to its high horsepower, the heavyweight Bugatti Veyron boasts 0.24 hp/lb, and completes the 0-100-0 in 9.9 seconds. In 2006, a British design team with a racing pedigree unveiled the Caparo T1, an ultralight carbon composite two-seater that claims a ratio of 0.46 and a 0-100-0 time of only 8.5 seconds.

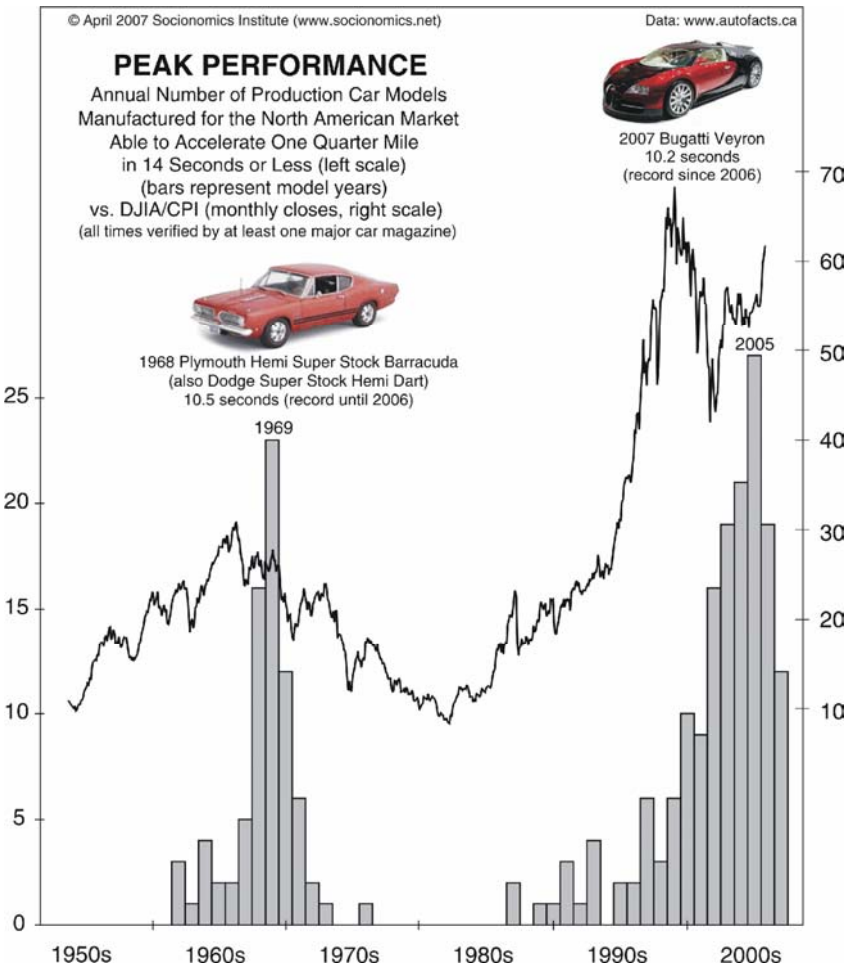


Figure 3

¹ "brake horsepower," a raw measure that does not factor in power losses that result when the engine is integrated into the car.

Post-Peak Extremes

Based on the history of performance manias and our long-term wave count for the stock market, we hypothesize that the performance capabilities of production automobiles tends to reach an extreme shortly following orthodox Elliott wave tops of bull markets. The lag effect is due partly to the amount of time required to implement plans initiated near peaks. But it is also due to a spirit of excess that attends the initial (“B”-wave) rebound following the peak. In *Elliott Wave Principle* (1978), Frost and Prechter described “B” waves as a “speculators’ paradise, orgies of odd-lotter mentality or expressions of dumb institutional complacency (or both).” They were talking about the stock market, but the same could be said of automotive and other social trends.

The earliest example of performance going “over the top after the top” was the 1932 Duesenberg SJ, a supercharged version of the Model J that appeared in 1928, one year before the end of the 1921-1929 bull market. The SJ boasted 320 hp and a top speed of 135 mph at a time when even the best cars rarely exceeded 100 mph. The maker of the “doozy,” Cord Corporation, like many automakers at the time, continued to invest in such luxury models right up until declaring bankruptcy some years later.

Following the 1949-1966 bull market, the craze for performance reached a crescendo after the secondary peak in stocks in late 1968. The most recent cycle appears to have reached its peak during the bear market rally of 2002-2007. During the rebound, U.S. car manufacturers introduced a host of high-performance vehicles inspired by cars from the late 1960s and early 1970s. In 2004, Ford offered a “New” Mustang based on the ’67-’68 model and began production of the GT, a car inspired by the Le Mans-winning GT-40 of the late 1960s. In 2005 the Mustang line expanded with the Shelby GT500, which in 2007 is available with “an upgrade racing pack that boosts output close to 540 horsepower.” In 2005, Chrysler introduced two new models with decidedly muscular features, the Dodge Magnum and Chrysler 300. In 2006, Dodge unveiled an update of the 1970 Challenger that will begin production in 2008, and Chevrolet a “retro” Camaro for 2009. Manufacturers, then, are revisiting the 1960s in more ways than one.

Whether the car-performance craze for this cycle has passed remains to be seen. Topline’s John Carder notes that that at the end of last year, the most commonly sold vehicle on eBay Motors was a Ford Mustang (particularly the 1966 model), with one going every 26 minutes. He says a Corvette went every 46 minutes.

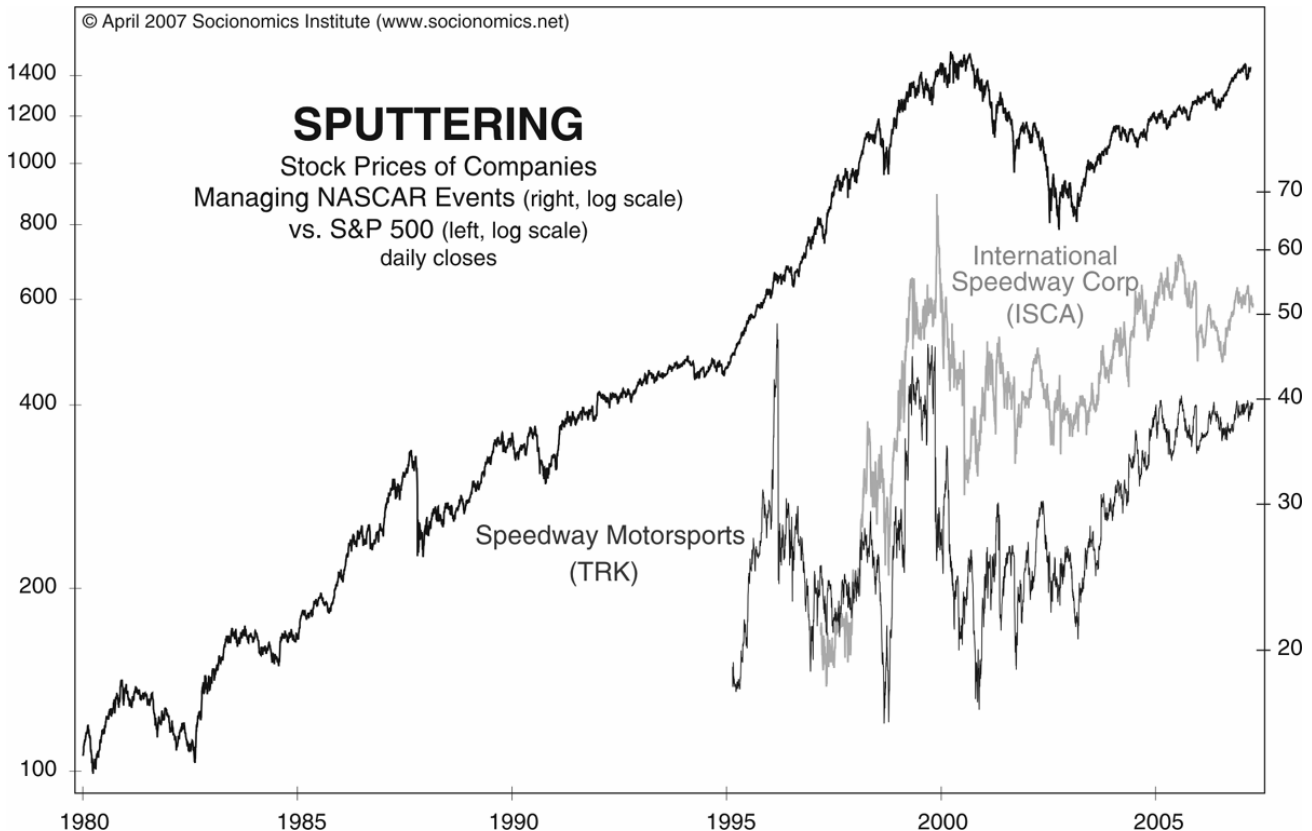


Figure 4

Veteran market watcher Doug Casey reports that some months ago he watched a 1970 Plymouth Hemi Barracuda go for \$2 million on a televised car auction. Such anecdotes certainly fit the profile of an extreme.

But the clearest indicator of a coming collapse in demand for high performance cars is the stock market, which is slated to end its 2002-2007 “B”-wave rebound within months. The excuses to be cited after the fact are already prevalent. Gasoline prices are creeping up again. Fears of global warming are rampant. U.S. federal, state and city governments are increasingly providing tax and other incentives for environmentally friendly vehicles. This month the U.S. Supreme Court ruled that the Environmental Protection Agency has the authority to regulate carbon dioxide from automobile emissions and scolded it for not doing so. There is growing pressure on U.S. regulators to mandate increases in manufacturers’ Corporate Average Fuel Economy (C.A.F.E.) again, as they did in 1975—long after the high-performance trend had exhausted itself. The European Commission has proposed stricter emissions and speed limits. The German federal government is proposing an emissions-based car tax. After an E.U. minister called for speed limits on the autobahn recently, a poll showed that a majority of Germans favor such limits. One London borough plans to levy parking permit charges according to engine size. As the social mood turns critical of excess, more governments will likely be tempted to impose such fees to supplement dwindling tax revenues.

On the consumer side, interest in racing appears to be waning. The two publicly traded NASCAR companies, International Speedway Corporation of America (ISCA) and Speedway Motorsports (TRK), reported record annual revenue in 2006, largely as a result of existing broadcast, advertising and sponsorship deals. Yet event attendance and TV ratings languished, and their stocks remain well off their 2000 highs (see Figure 4). The companies went public during the early portion of the stock market mania of the 1990s and have generally tracked the broad indexes since. Like the major indexes, their prices will soon complete “B”-wave bear market rallies.

On the producer side, resources of the traditional developers of high-performance production cars in the U.S. and Europe are already strained. Ford’s stock price is 80% off its all time high, and General Motors’ is down two-thirds, even lower than it was in 1963. The optimistic mergers of the late 1990s appear to be unwinding as well. Daimler is divorcing Chrysler. In 2005, BMW dumped MG Rover into receivership. Ford is selling sports car maker Aston-Martin. It may be only a matter of time before Fiat sells Ferrari and Volkswagen gives up Bugatti, Lamborghini or Bentley. In January, *Automobile* magazine reported that at a Volkswagen board meeting one influential member, referring to the Bugatti Veyron, said it was time for “these costly sandbox exercises to end.” The article added that the car “probably won’t achieve its 300-unit sales target, which now seems optimistic.” As in past cycles, the industry again appears to have placed its chips on premium models. The power and speed of the coming stock market decline will end production of many, if not most, of those.

Mark Galasiewski (pronounced gala-shev-ski) graduated in East Asian Studies from Middlebury College in Vermont. Fluent in Japanese and conversant in Mandarin Chinese, he lived in Japan for 6 years during the 1990s before returning to the U.S. to work as a financial researcher. Since joining the Socionomics Institute in 2005, he has commuted to work on foot.