Government Intervention in the 2008 – 2009 U.S. Automotive Crisis: Laissez-Faire Economics Abandoned

A thesis submitted to the Miami University
Honors Program in partial fulfillment of the
requirements for Business Honors with Distinction

by

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May 2010
Oxford, Ohio

"It is the highest impertinence and presumption… in kings and ministers, to pretend to watch over the economy of private people, and to restrain their expense... They are themselves always, and without any exception, the greatest spendthrifts in the society. Let them look well after their own expense, and they may safely trust private people with theirs. If their own extravagance does not ruin the state, that of their subjects never will."

~Adam Smith

The Wealth Of Nations, Book II, Chapter III, p.346

Introduction

As most are aware, 2008 and 2009 were defined by economic turmoil and uncertainty. Unemployment increased to levels not seen in decades. GDP growth stalled and dipped into the red. The NASDAQ and S&P 500 hit 20 year lows. The automotive industry was not immune to the panic, arguably feeling the wrath of the chaos more than any other industries. Its importance to the economic prosperity of the United States is unquestionable, contributing a sizable fraction to employment, boosting/dragging GDP, providing/deterring consumer confidence, and driving commodity usage. Believing the recession would persist lacking the health of the automotive sector, many experts turned to the U.S. government for a safety net. The government responded with two main tools in an effort to staunch the hemorrhaging of the auto industry: governmental loans ("bailouts" as they have come to be called) and an automotive sector specific policy, the Cash Allowance Rebate System (CARS), colloquially known as Cash for Clunkers. In this thesis, I aim to examine both the bailouts and CARS program in an effort to fully understand the effects (positive or negative) the governmental decisions had on the automotive industry.

Adam Smith's famous research of government intervention in private industry has served as the foundation for capitalism for over two and a quarter centuries. As the epitome of a free enterprise, no country has historically followed Smith's idea of laissez-faire capitalism more religiously than the United States. With minimal interference from the government, the U.S. economy has counted on markets and private industries to self-correct. "Let them [government] look well after their own expense, and they may safely trust private people with theirs," Smith says (Smith and Cannan, 346). With no government assistance, the strong survive and the weak parish, a concept which, according to the theory, inherently makes the economy, government, and financial systems stronger. During the automotive crisis, the United States government decided to abandon the laissez-faire strategy.

In an effort to gauge sentiment of the government's unprecedented decisions, I take a stock market analysis approach. Developing a subset of auto related companies which one could logically expect to be affected by the government assistance, I examine the stock price fluctuations around the dates of major governmental intervention announcements or information leaks. While dozen of these exist during the examined time horizon, I have chosen exactly twelve event windows which I believe to be the most significant and substantial. If markets are even semi-strong form efficient, it follows that the market will embed expectations of each announcement into the respective stock prices, hence, revealing whether the market anticipates the particular idea to be helpful, hurtful, or insignificant to the respective companies' cash flows. Logically, investors (who are in most cases considered to be experts) with a vested or soon to be established monetary interest in the companies will act according to their true beliefs and thus, signal the expected successes or failures of the events.

Governmental Intervention in Private Sector

In November of 2008, U.S. new vehicle sales fell 37% year over year to 746,789, registering the first month in decades that monthly sales were below 800,000. Detroit's "Big Three" auto manufacturers felt the brunt of the storm, as GM's sales fell 41%, Ford's 30%, and Chrysler's 47% during the chaotic month (Stoll, Dolan, Mccracken, and Mitchell). Blatant mismanagement of the three was the likely culprit which led to abysmal profitability and evaporating U.S. market share (70% in 1998 versus 53% at year end of 2008), with the Big Three coming very close to insolvency in the latter half of 2008 (Luhby). The automakers' made it clear that inefficient operations coupled with the recession could lead to their demise before the end of 2008. In desperate need of a lifeline, Ford's CEO Alan Mulally, Chrysler's CEO Robert Nardelli, and GM's CEO Rick Wagoner began pleas for aid from the U.S. government as early as October (Das and Krolicki). However, per Adam Smith's revolutionary research of laissez-faire economics, government cautiously approached involvement in the free market.

Proponents of governmental intervention argued that the car manufacturers' bankruptcies would not only devastate their workforces, investors etc., but would have a widespread, irreversible shock on all companies up and down their respective supply chains. This, in turn, would undoubtedly further shake consumer confidence, which according to the University of Michigan Consumer Sentiment Index hit a 30 year monthly low in November of 2008 (during the heart of initial governmental aid requests) (Lawder 2). Thus, while few denied the mismanagement of the car companies, those urging for federal assistance pleaded that this incompetence should not risk further crippling an already critically injured economy. With the auto industry comprising 3.6% of GDP and providing 776 thousand jobs to car manufacturers, as well as, over 1.7 million to auto part and car retailers, even a conservative 30% contraction in the industry would decrease total domestic economic output 1% and lead to a countless number of jobs shed ("Automotive Industry: Employment, Earnings, and Hours"). With the "too large to fail" premise as the backbone to their argument, proponents lobbied for the government to extend its pocketbook and policy making abilities to rescue the industry.

Conversely, opponents of the requested bailout criticized the management of auto companies, furiously pointing to the lavish arrival in personal jets to Washington D.C. to beg for money as just one example of the Big Three's CEO's disregard for the severity of the situation ("TAKE A LOOK-Congress Wrestles with U.S. Auto Aid."). They argue that approving the enormous loans would simply pass the cost of the bailouts to innocent taxpayers, who would subsequently be burdened by continual mismanagement of their money; money which would not necessarily equate to an improved auto industry. Many free market economists explained that the inability of the manufacturers to control their respective operations necessitated a deserved organic dismantling of the organizations. A failure to do so would only create a moral hazard where a governmental backstop would insulate the automakers from risk, spurring continued managerial and operational negligence.

Governmental Allowances

While the vehement battle between the two sides forced a lag in decision making, the United States government eventually chose to aid the ailing automotive sector. By extending bridge as well as longer term loans, equity infusions, and a targeted sales enhancing program (CARS), the government attempted to revive the ailing auto industry.

GM

GM's first, badly needed infusion was allotted on December 31, 2008, when the Treasury granted it a $13.4 billion loan. While the aid alleviated bankruptcy pressures, on April 22, 2009 and May 20, 2009, GM was forced to take $2 billion and $6 billion respectively in debt obligations in hopes of avoiding bankruptcy. However, as insolvency seemed inevitable, the manufacturer accepted an approximate $361 million debt obligation on May 27 to guarantee its car warranties as it moved into bankruptcy. Four days later, on June 1, GM announced its bankruptcy, in which the government pledged about $30 billion in loans for a 60% equity stake in the company. These last promised debt obligations were realized on June 3 and July 10, when GM received loans of $23 and $7 billion respectively. Throughout the aforementioned six or so month time span, funds granted to GM totaled ~$52 billion, representing 7.9% of all TARP allowances and 75.7% of the Auto Company industry bailout (defined as GM, Chrysler, GM Supplier Receivables, Chrysler Receivables) ("Eye on the Bailout").

Chrysler

On January 2, 2009, Chrysler joined GM, receiving an initial $4 billion loan to help bridge its financial woes (Retzing). Much like GM, nearing imminent bankruptcy, Chrysler was given a $280 million debt obligation on April 29 to back its car warranties as it prepared to restructure. Subsequently on May 1, following Chrysler's April 30 bankruptcy announcement, for which the government agreed to loan up to $8 billion more giving it an 8% stake in the company, the Treasury issued an additional debt obligation of $1.9 billion to support the manufacturer through its insolvency. Chrysler's last infusion came on May 27 when it was allotted a $6.6 billion debt obligation. At the end of the day, Chrysler received a total of ~$12.8 billion in aid, representing 2% of all TARP funds and 19.1% of the Auto Industry company bailout ("Eye on the Bailout").

Ford

In an effort to display its dominance in the industry, exhibit solvency, boost its investor confidence, and indicate future potential, Ford declined all governmental aid.

Other Related Allowances

The first tangible allotment of governmental aid to the automotive sector came on December 29, 2008, when the U.S. government allotted GMAC, the biggest lender to both GM and its 6,500 dealers nationwide, $5 billion in exchange for preferred equity shares, paying an 8% dividend, as well as, warrants, paying 9% if exercised. A similar infusion of $7.5 billion followed in May 21, 2009 (Luhby). Additionally, GM was allotted $884 million to invest in this financing arm in order to convert it into a bank holding company, for which the government received a portion of GM's equity interest ("Automotive Industry: Employment, Earnings, and Hours"). GMAC's last infusion came on December 30, when it received $2.5 billion of trust preferred securities and $1.3 billion of mandatory convertible preferred stock. Similar to GM/GMAC, on January 16, 2009, the Treasury extended Chrysler's financing arm, Chrysler Financing Services, $1.5 billion, although in the form of debt rather than equity ("Eye on the Bailout").

Another pertinent TARP infusion was actually not allotted to GM or Chrysler directly, but rather their respective suppliers. On April 9, 2009, in order to ensure the car manufacturers' credit trustworthiness dow5n the supply chain, the government committed loans of $3.5 and $1.5 billion (reduced to $3 and $1 billion on July 1, 2009) to GM Supplier Receivables and Chrysler Receivables, subsidiaries developed to guarantee the payment of receivables to each firms' suppliers ("Eye on the Bailout").

Auto Industry Specific Policy

The most prominent industry specific policy discussed during legislation consideration was the Cash Allowance Rebates System (CARS). Most commonly known as Cash for Clunkers, this federal scrappage program intended to provide incentives for citizens to trade their older vehicles for new, more fuel efficient ones. When debating whether to enact the program, the U.S. government took into account two growing concerns in the United States, the continued weakening of the domestic automotive industry and the growing apprehension about the deterioration of the environment. Logically, by incentivizing the upgrade in vehicles, the program looked to promote a stimulus to the economy via a boost in auto sales, while simultaneously putting cleaner cars on the road. While most agreed that CARS would have positive affects on the economy and environment, a number of discrepancies existed in regards to the stipulations of the program. After months of debate, the guidelines for the final Cash for Clunkers proposal were released.

Firstly, the vehicles traded in must have gas mileage of 18 MPG or fewer, must be in drivable condition, and must have been registered and insured continuously for a full year preceding the trade-in. Furthermore, the program required that the dealers properly "scrap" the car (ruin the engine and dispose the vehicles to a junk yard), paying the owner the salvage value of the scrapped car in addition to the rebate. Having met the above criteria, a customer would receive $3,500 for a vehicle which had fuel efficiency of

4 to 10 MPG's better than the used vehicle and $4,500 for more than a 10 MPG improvement (*Car Allowance Rebate System*).

With the aforementioned stipulations, on June 24, 2009, President Obama signed off on the Cash for Clunkers program, which officially began on July 1, 2009 with a Congress approved appropriation of $1 billion (Healey and Woodyard). While the $1 billion was anticipated to last until November 1, an unexpectedly high demand for the rebates exhausted the resources by July 30, making some experts nervous that the program was too generous. Nonetheless, within 24 hours of learning about the shortage in funds, the House signed off on adding $2 billion more to the program stipulating it end by August 24, with the final approval coming from President Obama on August 7 (Bolton). With no other alterations, the Cash for Clunkers program ended at 8 p.m. on August 24 leaving many to speculate about its true effectiveness.

Results

When the smoke cleared on August 24, the Department of Transportation announced that the program resulted in 690,114 dealer transactions totaling $2.878 billion in rebates. Of the new cars purchased under the program, notable fractions came from: Toyota - 19.4%, General Motors - 17.6%, Ford - 14.4%, Honda - 13.0%, Nissan - 8.7%, Hyundai – 7.2%, Chrysler - 6.6%, and Kia – 4.3% (all others < 2.51%). The average miles per gallon of these new cars were 24.9 compared to 15.8 for the traded in vehicles, representing a 58% improvement in fuel efficiency (Bolton).

Undeniably, Cash for Clunkers spurred a badly needed spike in car sales with the largest vehicle sale month of 2009 occurring in August during the heart of the program (Dolan and Linebaugh). Many argue that the surprisingly high demand for the program's rebates indicated that the stimulus was exactly what the economy needed to avoid furthering the country's "liquidity trap," a theory conspired by John Maynard Keynes which predicts that during economic distress consumers cling to liquid wealth, cut their spending, and in essence, worsen the crisis they feared. Furthermore, the spike in sales gave the domestic automotive industry the crutch it needed during one of the driest spells the struggling industry has experienced in some time. According to the White House Council of Economic Advisors, the stimulus created or saved over 42,000 jobs in the second half of 2009 (Dolan and Linebaugh). In addition to the economic boost, environmentalists praised the program for replacing fuel inefficient vehicles with significantly more eco-friendly ones, expediting a movement to more environmental awareness within the automotive field.

While many praise the program for the aforementioned reasons, others discredit its effectiveness with a plethora of counterattacks. A number of opponents point to the simple fact that the program merely shifted the demand curve for vehicles forward by a short time period. A study conducted by Edmunds.com supports this theory stating that only 125,000 of the over 690,000 cars purchased were spurred by the stimulus (Fu). Former head of the Federal Reserve, Alan Greenspan, credited the high demand for the rebates as an effect of the timing of the economic rebound rather than being its cause ("US: Senate Approves US$2bn CARS Extension"). Others took the stance that by destroying vehicles that still had plenty of life, the program destroyed wealth by redirecting useful resources from other industries to otherwise useless auto constructions. Peter Schiff, economist and candidate for a seat on the Senate in 2010, sarcastically stated, "We've [U.S. government] borrowed all this money, and we are basically broke, right?...

What should we do? Lets destroy some cars… Why not buy up houses and bulldoze them?... [Then] we can have a real economic boom" (Fernando). In addition to the destruction of resources, Schiff introduces an interesting point when mentioning the government borrowing taxpayer money to pay for the program. "My children and grandchildren are going to have to pay for these cars," agreed Senator Jim DeMint ("US: Senate Approves US$2bn CARS Extension"). Furthermore, opponents battle the environmental impacts of the program, claiming that simply manufacturing the new cars has significant negative effects on the environment, which are not taken into account when discussing the improvement in vehicle fuel efficiency. Furthermore, Edward Glaeser, Harvard economics professor, explains that as the marginal cost of driving an extra mile decreases with the fuel efficient cars consumers are encouraged to drive more, diluting expected fuel consumption savings (Joyce). Others even point to the increased price pressure of automobiles in secondary markets and the negative affects this may have on the less affluent.

Methodology and Event Study

Clearly, both sides of the arguments for bailout funds and the CARS program present compelling claims. Rather than debate abstract concepts introduced by some experts, I will gauge the conglomerated reaction of the plentiful experts acting on this information continually in the stock market. By analyzing the abnormal returns of a specified automotive company subset during particular time frames, I will effectively segregate expected market returns from returns attributed to specific pieces of information (in my case, news of government intervention) and thus, quantify reaction to the governmental action.

Statistical Analysis Explanation

To analyze abnormal stock returns around the information events, I estimate the market model to calculate expected returns (SOURCE??):

$$R_{jt} = \alpha + \beta_j R_{mt} + \varepsilon_{jt}, \tag{1}$$

where R_{jt} is the return on the j^{th} stock on day t and R_{mt} is the return on the S&P500 index on day t. β_j measures a stock's sensitivity to the market risk factor.

The daily abnormal returns model is as follows:

$$AR_{jt} = R_{jt} - (\hat{\alpha}_j + \hat{\beta}_j R_{mt}), \tag{2}$$

measuring returns for stock j on day t, where $\hat{\alpha}_j$ and $\hat{\beta}_j$ are the ordinary least squares estimates from Eq. (1). I estimate Eq. (1) over (MUST DISCUSS TIME HORIZON still) and calculate abnormal returns for each stock with Eq. (2).

Company Set Selection

In narrowing the public company subset for the study, I aimed to incorporate those whose investors would have a vested interest in governmental intervention in the U.S. automotive industry. Logically, car manufacturers, to whom the bailouts and policies were catered, would top the list. However, seeing as how three car manufacturers (two of which have been eliminated from the empirical tests due to untimely bankruptcy) would not comprise a meaningful sample, I broadened my selection criteria. Moving one link up and down the car manufacturers' supply chains, I widened my data set to incorporate pre-market car part suppliers as well as automotive retailers. It follows that legislation aimed to sustain or even spur manufacturers' production would be of interest to investors of those firms selling the necessary parts (part manufacturers/retailers) or the final product (auto retailers). Thus, while the correlation between governmental intervention and the stock prices of the suppliers and retailers may be weaker than with the manufacturers, I maintain a strong relationship should exist. Combining the firms from these three automotive subdivisions, I arrive at a total of 27 relevant, public companies. Please refer to Figure 1 for a list of the companies and respective industry sub-sectors.

Notable Dates and Analysis

The foundation of my research hinges on twelve carefully selected event studies. While I previously listed dates of the actual bailout allotments and policy introductions, these announcements dates are not what drive investor action; rather, the expectation or anticipation of these events serves as the forcing agent. Thus, a study's accuracy and integrity hinges on accurate pinpointing of the public acknowledgement of each incident. By analyzing the abnormal returns around the initial leakage of these events' information, I gauge the reaction of the automotive subset stock prices. While it is nearly impossible to extract the returns attributable solely to each event, the magnitude of the statistically significant abnormal returns around the documented occasions justifies the assumption that the returns are for the most part driven by the events. For a timeline and progression of the following dates, please refer to Figure 2. Additionally, the abnormal returns for each event window +/- 1 day (to compensate for potential unaccounted leakage) are summarized in Figure 3.

October 29-31 , 2008

In late October of 2008, GM made a feverish attempt at an anticipated merger with Chrysler. On October 28, Rick Wagoner, GM's CEO at the time, desperately lobbied for $10 billion in funds to support the merger between the two Detroit car manufacturers (Das and Krolicki). Few thought the merger would be beneficial to the firms' respective operations; rather, the $10 billion in aid would help GM stay solvent as the struggling automaker had just reported an 11.4% drop in third quarter (2008) sales ("GM's Third-quarter Global Sales Fall 11.4 Percent"). In the midst of GM's aid request, GMAC urgently pressed the Federal Reserve to convert it into a bank holding company, in an effort to be eligible for TARP funding (Paletta and Stoll). However, on October 30, the Bush administration nixed the idea of loaning money for the merger, but rather announced a plan to speed a $25 billion in low interest factory retooling funds into the pockets of automakers (Lawder 1). This proposed loan would be orders of magnitude larger than any other package offered to the auto industry.

The progression of potential aid provision fueled stock returns for the automotive sector, which realized abnormal returns of 9.8%, 6.0%, and 12.1% on October 29, 30, and 31, respectively, with 21, 24, and 26 of the 27 companies in the analyzed subset experiencing positive abnormal returns. Investors likely viewed the multilateral push for TARP loans as a positive initiative with the potential to increase shareholder wealth.

November 18-20, 2008

After a failed attempt in October to coax the government into providing $10 billion in aid for a GM/Chrysler merger, Rick Wagoner flew back to Washington on November 17, this time joined by Robert Nardelli and Alan Mulally, the CEO's of Chrysler and Ford, respectively ("GM, Ford, Chrysler CEOs Ask Senate Panel for Bail"). The three executives pleaded the Senate Banking Committee on November 18 and 19 for aid which they claimed was necessary for the domestic auto industry to stay solvent and operational. The requests were met with sarcastic rebuttals by Congressional leaders, who chastised the CEO's for the negligent mismanagement of their firms evidenced by their flight to Washington in private jets ("TAKE A LOOK-Congress Wrestles with U.S. Auto Aid"). On November 19, it appeared unlikely that Republicans would support a $25 billion aid package conjured by Democrats. With Democrats unwilling to compromise, Congress expectedly would not reach an accord with only two days left in its post election session. On November 20, Congress refused to make an immediate decision, demanding that the CEOs first provide rescue plans outlining their financial position, short term liquidity, and long term viability (Crawley and Drawbaugh).

As Congress reprimand the CEO's on November 18, automotive industry stocks began sliding with abnormal returns of -1.2%. Throughout the day of November 19, the progressively diminishing possibility of prompt TARP funding crippled the stocks which experienced abnormal returns of -10.6%. Stocks tumbled further realizing -4% abnormal returns on the 20th, when Congress officially denied the aid requests lacking enhanced turnaround plans from the automakers. Presumably, investors viewed the TARP funding as a critical factor to the ongoing success or failure of their respective companies.

December 5-19, 2008

After their December 2nd recovery plan presentation, the CEO's of the Big Three found a glimmer of hope when Democratic leaders and the White House introduced an aid package that would provide automakers $15 billion in relief ("White House, Democrats Reach Deal on $15 Bln Auto Aid"). While the amount was significantly less than the $34 billion requested, the Democrats believed the aid was a bridge until newly elected Barack Obama officially stepped into power on January 20, 2009. Throughout the next two weeks, the aid proposal was bounced between Congress, Senate, and the Bush administration. Withstanding a collapse in the Senate, a final version of the auto bailout was finally enacted by the Bush administration on December 19, allotting $17.4 billion of TARP funds to the Big Three (McKinnon and Stoll).

Automotive stocks rode a parallel rollercoaster with the aid proposal's chances of being signed. Stock prices soared on December 5 with the Democrats initial aid proposal realizing abnormal returns of 7.0%. December 8 held a similar story as Capitol Hill inched closer to inducting the bill with automotive stocks experiencing 11.2% abnormal returns ("White House, Democrats Reach Deal on $15 Bln Auto Aid"). Stocks took a hit the following day with -5.3% abnormal returns when it appeared as though the Republicans would not allow the proposal to pass. Prices were crippled again (-6.3% abnormal returns) when a Senate vote fell short of enacting the proposal ("Senate Democrats Challenge Republicans on Autos"). The next eight trading days were full of such swings as the Bush administration debated whether to pass the proposal. Finally, on December 19, the proposal was ratified. During the December 5-19 span, automotive stocks realized cumulative 12.1% abnormal returns signaling that investors anticipated relief was forthcoming.

December 30-31, 2008

Following months of speculation and negotiation, the automotive sector finally received tangible funds from the TARP bailout. Late on December 29, the U.S. Treasury allowed GMAC to transition into a bank-holding company making it eligible for government funding and subsequently, took a $5 billion equity stake, with an additional $1 billion loan funneled through GM ("US STOCKS-Wall St Gains as Latest Auto

Bailout Raises Hopes"). After the markets closed December 30, GM got into the act receiving the $4 billion emergency loan it needed to stay solvent.

The news was graciously received by the entire market with the Dow Jones climbing 2.17% on the 30th and 1.25% on the 31st ("US STOCKS-Wall St Gains as Latest Auto Bailout Raises Hopes"). The automotive stocks outperformed the overall market realizing cumulative abnormal returns of approximately 10.3% over the two days. Investors clearly looked favorably upon the government's decision to aid GM in its efforts to stay afloat.

March 17, 2009

With her introduction of the Consumer Assistance to Recycle and Save Act on March 17, 2009, Ohio Representative Betty Sutton proposed the first crutch to the auto industry that did not revolve around monetary allotment from the government to the Big Three (Reynolds). Her version of the CARS Act provided a $3,000 to $5,000 voucher to consumers purchasing a car or truck getting 24 or 27 miles per gallon, respectively, with graduated incentives based on greater fuel efficiency. The program was similar to a program in Germany that helped push German auto sales up 21% in the month of February ("Legislation Seeks to Boost U.S. Auto Sales").

Introduction of the legislation boosted the automotive stocks with 26 of the 27 companies realizing positive abnormal returns combining for a March 17 mean of ~6.0%. The positive abnormal returns indicate that investors believed the CARS program would provide a lift for the struggling automotive industry.

March 30, 2009

On March 30, 2009, Rick Wagoner traveled to present GM's second restructuring plan in three months. As a part of the proposal, he requested another $16 billion from the government (Crawley). With the sentiment that the government may be throwing good money at a bad business, the Obama administration rejected his $16 billion plea and "strongly encouraged" Rick Wagoner to step down as CEO.

Responding to the government's denial of Wagoner's bailout request, automotive industry stocks plummeted, realizing abnormal returns of -6.8% on March 30. With 25 of the 27 companies experiencing negative abnormal returns, stockholders became nervous as GM was left with no aid and a bleak chance of avoiding bankruptcy.

April 8, 2009

Not only were the Big Three on the government bailout horizon, but auto parts suppliers were targeted as well. Late on April 7, 2009, the Obama administration extended $3 billion ($2 to GM and $1.5 billion to Chrysler), with the potential of increasing to $5 billion, to back payments to their respective suppliers ("US Carmakers to Aid Suppliers, GM to Meet Task Force"). The assistance program came at a time when many part suppliers were on the brink of insolvency.

This first allotment of aid since the original $17.4 billion bailout in late December sent automotive stocks soaring, with a mean cumulative abnormal returns of 13.3% during April 8th and 9th. With all 27 companies experiencing positive abnormal returns, investors viewed the aid quite favorably.

April 20-21, 2009

Late on Friday, April 17, 2009, GM's new CEO, Frederick Henderson, explained that bankruptcy was more probable, as the car manufacturer was struggling to reach cost-cutting agreements with its union and bondholders (Terlep). Upon learning of the increased chance of GM's insolvency, the Obama administration, on April 21, offered GM up to $5 billion in loans to help it restructure outside of bankruptcy ("US to Give Chrysler $500 Mln, GM up to $5 Bln in New Aid"). Furthermore, in the same statement, the government allotted $500 million to Chrysler in an effort to keep it from collapsing before the end of April, after which a potential merger with Fiat would be a viable option.

Seeing as how the markets had closed on April 17 prior to Henderson's press conference, automotive stocks did not feel the wrath of the announcement until trading ensued on Monday, April 20, with all 27 companies experiencing abnormal returns, averaging to -7.8% for the industry. However, when Obama unveiled his aid plan on April 21, automotive stocks shot up realizing over 8% cumulative returns over April 21 and 22. The market's reaction suggests that investors overwhelmingly approved the decision to grant the car manufacturers more aid.

May 4, 2009

After over two months of back and forth discussion in regards to Chrysler's future, a hearing on May 4, 2009 decided the manufacturer's fate. Following its April 30 expedited bankruptcy plan announcement, the U.S. Bankruptcy Court hearing approved Chrysler access to a $4.5 billion bankruptcy loan from the U.S. and Canadian governments to push it further along its way to a Fiat acquisition ("Chrysler Gets Court OK on Loan, Seeks Fiat Sale"). While the Chrysler insolvency had been imminent, the extension of the bankruptcy loan had been up in the air. The day after this announcement came more positive news when President Obama and Democratic lawmakers reached an agreement on “Cash for Clunkers” legislation ("Obama, Lawmakers Agree on "cash-for-clunkers" Bill”). The finalized proposal, similar to the aforementioned one, included voucher rebates worth up to $4,500 for those trading in their vehicles.

The automotive industry investors greeted the loan allotment with open arms, as Chrysler would remain open regardless of ownership. Of the companies in the automotive subset, 23 experienced positive abnormal returns on May 4 averaging to 5.6%. The Cash for Clunkers announcement nicely complimented Chrysler’s news, with automotive stocks realizing over 11% abnormal returns May 5 and 6.

June 1, 2009

Following six months of loans and aid packages, General Motors finally surrendered its fight with insolvency and filed its bankruptcy plan on June 1, 2009, becoming the second largest industrial bankruptcy of all time (King and Terlep). While seemingly catastrophic, the dark cloud came with a silver lining as the U.S. government provided a capital infusion of $30 billion dollars (on top of the $20 billion of U.S. funds already invested in the company) in return for a 60% equity stake in the company (King and Terlep). As the majority owner of the company, the U.S. government became inherently responsible for the operations of the company.

The news spurred automotive stocks, with 25 of the companies experiencing positive abnormal returns for an average of over 7.1%. Arguably the most unprecedented, controversial move of the automotive crisis, investors responded well to the switch of ownership from the private sector to the government. This could indicate shareholders anticipate the U.S. government to run the manufacturer successfully.

June 24, 2009

On Wednesday June 24, 2009, President Obama signed the $106 billion Supplemental Appropriations Act, dominated by a $79.9 allotment of Iraq war funds. However, the pertinent auto-tag-along on this Christmas tree bill was the $1 billion dollar kick off of the Cars Allowance Rebate ("Obama Signs $106 Bln Bill for Iraq, Afghan Wars”).

A little over a month and a half after its finalized proposal was agreed upon, investors witnessed the bill enacted. The legislation was greeted warmly with 26 of the auto companies experiencing positive abnormal returns on June 25, 2009, shortly after the bill’s signing. Cumulative three day abnormal returns for June 24-26 came to over 9%. Signaling their approval of the stimulus attempt, investors drove automotive stocks up expecting the incentive scheme to positively affect the respective companies.

July 31, 2009

After an unexpectedly quick expenditure of the first $1 billion allotment, on Friday July 31, 2009, the House approved moving $2 billion from a program to back renewable energy companies to Cash for Clunkers (King and Grossman). Originally, the first $1 billion was expected to last until October of 2009. However, with the unanticipated bombardment of dealers, during its discussion, the House expected the added $2 billion to last only until early September.

After witnessing the surprisingly high demand for the stimulus, automotive shareholders positively received the additional allotment of $2 billion. With the pre-House approval anticipation and the post-approval speculation of the other legislative arms’ chances of signing off on the deal, the three day abnormal returns surrounding July

31 totaled 12.3%. Investors likely expect the incentive program to have long lasting positive affects on their respective companies.

Conclusion

The automotive sector has been a key contributor to the U.S. economy since Henry Ford's mass production of the Model T. As the industry developed over the last decades, it became more engrained in to the country's financial system and thus, inherently surfaced as a political concern. As discussed, this governmental link strengthened significantly in 2008-2009. Counterintuitively, as the embodiment of a true capitalistic system, the bond between private industry and the U.S. government exemplifies socialist values. The aforementioned bailouts and policies completely violate the laissez-faire principle, irreversibly altering the business model and economic landscape and model of the U.S for years to come.

In an effort to gauge sentiment of the unprecedented governmental actions, I in essence poll the democratic stock market. Evidence overwhelming supports the notion that investors looked favorably upon the government intervention. The question becomes: isn't it obvious that allocation of money and enrollment of specific programs would benefit the specific companies and thus, positively affect their respective stock prices? Yes, logically receiving "free money" will never negatively affect the operations of a company. However, conversely, if investors think the companies will squander the funds or worse yet change their management philosophy expecting a governmental backstop upon any hint of trouble, stock prices would be unaffected or even decline. This was evidently not the case for this study as shareholders welcomed the assistance.

Why is this important? Simply put, this will impact the U.S. economy for generations. The U.S. has yet to experience private sector assistance of this magnitude. This will undoubtedly affect private industry's *expectations* for quite some time. Here lies the danger, regardless of what the government actually does, the private sector knows that governmental assistance is possible (and in some minds maybe even probable). Only time will tell what the implications of the discussed laissez-faire abandonment will mean for the U.S.

Figures

Figure 1: Publicly traded auto company subset

Company Name	Ticker	Industry
Advance Auto Parts	AAP	Part Retailers
Asbury Automotive Group	ABG	Auto Retailer
Autoliv	ALV	Auto Part Manufacturers
Autonation	AN	Auto Retailer
ArvinMeritor	ARM	Auto Part Manufacturers
American Axle & Manufacturing	AXL	Auto Part Manufacturers
Autozone	AZO	Part Retailers
BorgWarner	BWA	Auto Part Manufacturers
Copart	CPRT	Vehicle Auctioneer and Junkyard
America's Car-Mart	CRMT	Auto Retailer
Dana Holding Corporation	DAN	Auto Part Manufacturers
Dorman Products	DORM	Auto Part Manufacturers
Ford	F	Car Manufacturer
Genuine Parts Company	GPC	Part Retailers
Group 1 Automotive	GPI	Auto Retailer
CarMax	KMX	Auto Retailer
Lithia Motors	LAD	Auto Retailer
Magna International	MGA	Auto Part Manufacturers
O'Reilly Automotive	ORLY	Part Retailers
Penske Automotive Group	PAG	Auto Retailer
Pep Boys - Manny, Moe, & Jack	PBY	Part Retailers
Sonic Automotive	SAH	Auto Retailer
Strattec Security Corp.	STRT	Auto Part Manufacturers
Superior Industries International	SUP	Auto Part Manufacturers
Tenneco	TEN	Auto Part Manufacturers
TRW Automotive Holdings	TRW	Auto Part Manufacturers
WABCO Holdings	WBC	Auto Part Manufacturers

Figure 2: Timeline of relevant announcements

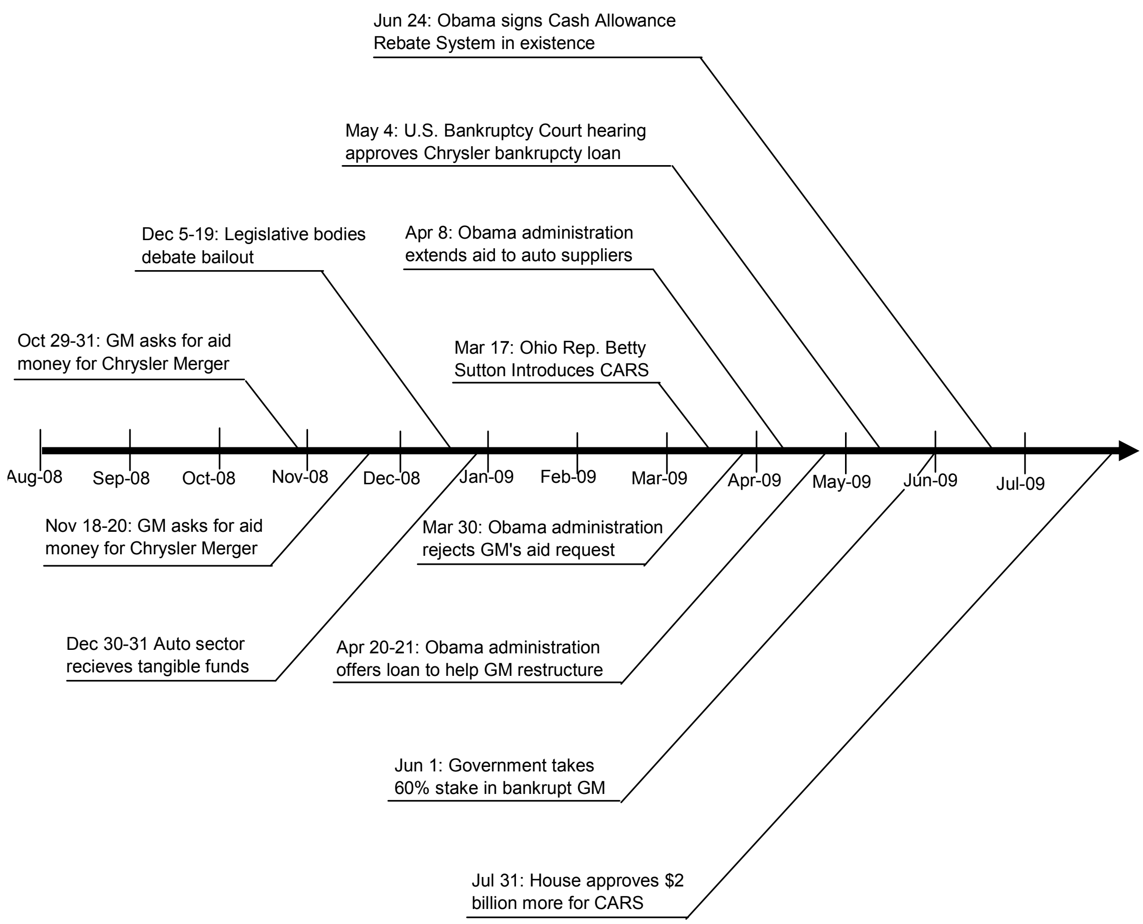

Figure 3: Abnormal returns around examined events +/- 1 day (Note: Larger bold numbers signify actual event day/s, while smaller numbers represent +/-1 day)

Date	Sample Size	Mean AR	Mean Test	Median AR	Median Test
10/28/2008	27	0.0999	0.0000	0.0834	0.0000
10/29/2008	**27**	**0.0978**	**0.0509**	**0.0330**	**0.0030**
10/30/2008	**27**	**0.0595**	**0.0000**	**0.0530**	**0.0000**
10/31/2008	**27**	**0.1214**	**0.0000**	**0.0816**	**0.0000**
11/3/2008	27	-0.0092	0.5266	-0.0118	0.3585
	5 Day Total:	**0.3695**			
11/17/2008	27	-0.0489	0.0000	-0.0287	0.0000
11/18/2008	**27**	**-0.0115**	**0.3468**	**-0.0049**	**0.2270**
11/19/2008	**27**	**-0.1058**	**0.0000**	**-0.0900**	**0.0000**
11/20/2008	**27**	**-0.0404**	**0.0522**	**-0.0557**	**0.0122**
11/21/2008	27	0.0338	0.0369	0.0348	0.0074
	5 Day Total:	**-0.1728**			
12/4/2008	27	-0.0114	0.3698	-0.0049	0.5114
12/5/2008	**`**	**0.0704**	**0.0002**	**0.0595**	**0.0000**
12/8/2008	**27**	**0.1120**	**0.0001**	**0.1053**	**0.0000**
12/9/2008	**27**	**-0.0532**	**0.0003**	**-0.0381**	**0.0000**
12/10/2008	**27**	**0.0154**	**0.0569**	**0.0160**	**0.0180**
12/11/2008	**27**	**-0.0626**	**0.0001**	**-0.0663**	**0.0000**
12/12/2008	**27**	**-0.0121**	**0.3802**	**-0.0010**	**0.5740**
12/15/2008	**27**	**-0.0310**	**0.0043**	**-0.0271**	**0.0062**
12/16/2008	**27**	**0.0659**	**0.0000**	**0.0483**	**0.0000**
12/17/2008	**27**	**0.0221**	**0.0055**	**0.0104**	**0.0016**
12/18/2008	**27**	**-0.0385**	**0.0021**	**-0.0295**	**0.0020**
12/19/2008	**27**	**0.0323**	**0.0076**	**0.0303**	**0.0033**
12/22/2008	27	-0.0488	0.0000	-0.0361	0.0000
	13 Day Total:	**0.0607**			
12/29/2008	27	-0.0237	0.0023	-0.0135	0.0005
12/30/2008	**27**	**0.0456**	**0.0000**	**0.0348**	**0.0000**
12/31/2008	**27**	**0.0570**	**0.0002**	**0.0469**	**0.0000**
1/2/2009	27	0.0386	0.0000	0.0289	0.0000
	4 Day Total:	**0.1176**			
3/16/2009	27	0.0593	0.0610	0.0040	0.2667
3/17/2009	**27**	**0.0596**	**0.0009**	**0.0377**	**0.0000**
3/18/2009	27	0.0766	0.0004	0.0469	0.0000
	3 Day Total:	**0.1956**			
3/27/2009	27	-0.0387	0.0020	-0.0300	0.0002
3/30/2009	**27**	**-0.0679**	**0.0000**	**-0.0517**	**0.0000**
3/31/2009	27	-0.0129	0.2428	-0.0020	0.3972
	3 Day Total:	**-0.1196**			

Date	Sample Size	Mean AR	Mean Test	Median AR	Median Test
4/7/2009	27	-0.0636	0.0000	-0.0502	0.0000
4/8/2009	**27**	**0.0527**	**0.0000**	**0.0390**	**0.0000**
4/9/2009	27	0.0810	0.0000	0.0722	0.0000
	3 Day Total:	**0.0701**			
4/17/2009	27	0.0236	0.0147	0.0222	0.0062
4/20/2009	**27**	**-0.0780**	**0.0000**	**-0.0793**	**0.0000**
4/21/2009	**27**	**0.0426**	**0.0000**	**0.0248**	**0.0000**
4/22/2009	27	0.0376	0.0003	0.0269	0.0004
	4 Day Total:	**0.0258**			
5/1/2009	27	0.0159	0.1918	-0.0016	0.5902
5/4/2009	**27**	**0.0562**	**0.0006**	**0.0298**	**0.0000**
5/5/2009	27	0.0443	0.1271	-0.0064	0.9256
	3 Day Total:	**0.1164**			
5/29/2009	27	0.0099	0.1504	0.0109	0.1202
6/1/2009	**27**	**0.0711**	**0.0000**	**0.0495**	**0.0000**
6/2/2009	27	0.0143	0.0152	0.0135	0.0155
	3 Day Total:	**0.0953**			
6/23/2009	27	-0.0084	0.3349	-0.0099	0.1326
6/24/2009	**27**	**0.0271**	**0.0018**	**0.0202**	**0.0007**
6/25/2009	27	0.0489	0.0000	0.0446	0.0000
	3 Day Total:	**0.0676**			
7/30/2009	27	0.0353	0.0025	0.0315	0.0001
7/31/2009	**27**	**0.0527**	**0.0026**	**0.0182**	**0.0003**
8/3/2009	27	0.0355	0.0157	0.0170	0.0048
	3 Day Total:	**0.1235**			

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