From Plutocracy to Progressivism?
The Assassination of President McKinley as a Turning Point in American History

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Abstract: We use the assassination of President McKinley in September 1901 to measure the value of his Presidency to large corporations. McKinley's campaigns were funded by major business interests, and while in office he permitted an unprecedented wave of merger activity without much enforcement of antitrust laws. His Vice President, Theodore Roosevelt, was known to be a progressive reformer. Using newly collected data, we estimate the effect of McKinley's assassination on share prices. We distinguish among firms with varying degrees of vulnerability to antitrust prosecution, and among firms with varying degrees of political influence. Our analysis indicates that firms with vulnerability to antitrust prosecution saw greater decreases in their valuations following the assassination, suggesting that regulatory forbearance was an important mechanism by which firms benefited during McKinley's Presidency. In contrast, we find little evidence that politically connected firms, such as those affiliated with the largest donors to the McKinley campaign, saw their values fall to a greater degree following the assassination.

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1   Introduction

In many countries, powerful interest groups dominate political and economic life. Far from the competitive markets described in textbooks, the economies of these places are characterized by high levels of corruption and "crony capitalism." Recent research has argued that such environments hinder economic growth, and that inclusive political and economic institutions are the key to development (Acemoglu and Robinson, 2012). Other work has shown that in the absence of inclusive institutions, the political connections of firms can account for a substantial fraction of their values (Fisman, 2001; Johnson and Mitton, 2003).

Relative to most economies, the United States has facilitated broad access to economic opportunity and political participation (Engerman and Sokoloff, 2002). And in general, the value of political connections among American firms is relatively low (Roberts, 1990; Jayachandran, 2006; Fisman et al, 2012), except in extraordinary circumstances, such as financial crises (Acemoglu et al, 2013). Yet the inclusive nature of American institutions has been threatened at times by powerful groups that have sought to attain control over them. In particular, the period known as the Gilded Age is commonly characterized as one of rampant corruption, with railroad barons and industrialists manipulating the political system in order to protect and perpetuate their interests. How significant was this corruption? And if American political institutions were subsequently strengthened, how was the influence of the 'robber barons' brought under control?

We study the assassination of President William McKinley in September 1901 to estimate the value of political connections among large American corporations in the early twentieth century, and to assess the significance of the accession of Theodore Roosevelt, McKinley's progressive Vice President, to the presidency. The quasi-random nature of the assassination enables us to estimate the market's reaction to the change from McKinley to Roosevelt in a way that election outcomes, which were generally well anticipated, do not (see Rhode and Strumpf, 2004). In response to the shooting of McKinley, the value of NYSE-traded firms fell by an average of 6.2%. We find little evidence that firms with close ties to McKinley, such as those affiliated with major campaign donors, suffered differentially. We also find no evidence that firms led by executives with personal connections to Roosevelt benefited. However, we do find that firms that were likely to be targets of antitrust prosecution saw a decline in their share prices of an additional 2.4%. Our results suggest that regulatory forbearance was an important mechanism by which firms benefited from McKinley's Presidency.

A possible source of concern regarding these results is that the effects of the unexpected change from

McKinley to Roosevelt may be confounded with the effects of a presidential assassination. For example, the fact that an anarchist was able to murder the President may have been perceived by the markets as a sign of rising unrest or political instability. Fortunately, the experience with McKinley offers a unique opportunity to address this concern. The President survived the initial shooting, and three days following the shooting his doctors announced that they expected him to make a "full recovery." On that day, the losses experienced following the announcement of his shooting were largely reversed, and firms particularly vulnerable to antitrust enforcement saw differentially large gains. Then, seven days following the shooting, it was announced that McKinley was in fact near death. Upon this news, the market reversed again, with an overall fall in share prices of similar magnitude and with differentially greater losses for the antitrust targets.

An additional source of concern might be that the transition from McKinley to Roosevelt may have been regarded as generally bad for business, for example since Roosevelt had no business experience, or that Roosevelt's accession may have been harmful to particular firms for reasons unrelated to antitrust policy, such as Roosevelt's stance toward labor relations. Yet in a placebo test, we find no differential effects on share prices of Roosevelt's surprise October 1, 1902, announcement that he would invite labor union leaders to the White House to help resolve an ongoing coal mining strike, a deviation from historical precedent. If the differential effects on the share prices of likely antitrust targets surrounding Roosevelt's accession to the Presidency were due to his labor relations agenda, then the surprise announcement of this first-ever presidential effort to mediate a labor dispute should have caused the same pattern of share price declines as his accession to the presidency.

In order to analyze the significance of Roosevelt's policy agenda once he took office, we also use an event study methodology to estimate the stock market's reaction to the announcement of his first antitrust suit. In another surprise announcement, on February 19, 1902, Roosevelt's Attorney General stated that he was going to file suit against the Northern Securities Company, an enormous holding company formed in 1901 that controlled several competing railroads. In response, we find that cumulative returns of railroads that were likely antitrust targets fell by as much as 4.5% relative to other railroads.

Overall, our results suggest that Roosevelt's accession to the Presidency marked an important change in the regulation of American businesses. His agenda likely helped restrain the power of the "trusts" over the economy, relative to the counterfactual had McKinley recovered. At the same time, Roosevelt's policies were perceived by economic elites as a much more palatable alternative to the radical populism then prevailing within the Democratic Party, and many of the same large donors who had backed McKinley in 1896 and 1900

would help fund Roosevelt's campaign in 1904. Roosevelt eventually developed a stance toward the large industrial combinations that differentiated the "good trusts" that created efficiencies from the "bad trusts" that merely cartelized markets.

The results of this paper contribute to a growing literature that uses asset prices to measure the value of political connections for firms. Precisely how political connections benefit firms is not well understood. Earlier work has found that political connections are positively associated with bailouts (Faccio et al, 2006), the allocation of procurement contracts (Goldman et al, 2013), and access to external financing (Khwaja and Mian, 2005; Claessens, Feijen and Laeven, 2008). Our findings suggest that protection from government regulation may be an important mechanism, and that direct personal connections to politicians—a metric often used by this literature to measure connections—are not always of value to corporate interests.

The results of this paper also add to a literature that uses deaths of individual national leaders to study their effect on economic performance and institutional development (for example, Jones and Olken, 2005; 2009). In contrast to theories that hold that social and economic forces, rather than particular individuals, determine the course of history, this literature finds that individual leaders do matter and emphasizes the role of historical contingency in economic development. The results of this paper are generally consistent with that literature in that they imply that the accession of Roosevelt to the Presidency resulted in significant changes in economic policy.

The quantitative estimates of the impact of the transition from McKinley to Roosevelt presented here may also shed some light on the longstanding debate among historians regarding the nature and significance of the McKinley and Roosevelt presidencies. For example, scholars have traditionally viewed McKinley as a weak president, largely controlled by Mark Hanna, the Republican Party chair who raised enormous sums from financiers and industrialists for McKinley's campaign (see, for example, Josephson, 1934). According to this view, Hannah's ties to business interests and major donors explain the lack of action by the McKinley administration in enforcing antitrust statutes. On the other hand, a revisionist view of McKinley has recently emerged, which portrays him as a shrewd and pragmatic politician, who had shifted toward a more reformist orientation by the time of his assassination (Phillips, 2003). Several have claimed that McKinley would have acted against the trusts had he not suffered an untimely death (for example, Morgan, 2003).

Likewise Roosevelt is sometimes portrayed as a Progressive hero, who boldly stood up to the plutocrats within his own party and enacted important reforms in the public's interest (for example, Morris, 2001; 2002). Yet other scholarship has concluded that Roosevelt was in fact quite conservative, and he "might not

perhaps have been a progressive at all if it were not for the necessity of fending off more radical threats" (Hofstadter, 1955). This latter view holds that, in spite of Roosevelt's 'trust-busting' rhetoric, his antitrust efforts were generally weak and ineffectual, and the regulations imposed during his presidency actually served the interests of big business (Kolko, 1967). However, the large stock price movements documented in this paper around McKinley's assassination imply that the market perceived Roosevelt to be quite different from McKinley in his stance toward business.

Finally, an earlier literature has also utilized stock prices to evaluate the effects of antitrust regulation of American companies. These studies often find modest to negligible effects of antitrust enforcement (Binder, 1988; Bittlingmayer, 1993), merger activity (Eckbo and Wier, 1985), and forced dissolution of trusts (Burns, 1977).[1] One potential limitation of these studies, however, is that they focus mostly on events that were well known by the market. Contrariwise, we study unanticipated events and find large negative effects of antitrust enforcement on potential targets.

2 McKinley, Roosevelt, and the Assassination

2.1 William McKinley, Mark Hanna, and Big Business

Perhaps more than any other politician before him, William McKinley's rise to the Presidency was due to the efforts of one man, Mark Hanna. A businessman with interests in street railways, banking, shipping, newspapers, and a growing range of other sectors, Hanna became active in politics as a representative of "the business interest" in the Ohio Republican Party (Croly, 1912: 145). He met then-Congressman McKinley at the Republican convention of 1888 and found McKinley's genial personality and demonstrations of loyalty to Republican figures quite appealing. Hanna engineered McKinley's campaigns for Governor of Ohio, in 1891 and 1893, and for President of the United States, in 1896 and 1900.

Hanna's own success as a chair of the Republican party can be attributed in part to his innovations as a fundraiser. He appealed directly to the wealthiest financiers and industrialists for contributions, framing them as "assessments" proportional to their means (Pollock, 1926), and quickly amassed unprecedented sums for the campaign. The 1896 political platform of the Democratic Party also aided Hanna's fundraising. Whereas

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[1]In contrast, Prager (1992) finds that various decisions related to the *Northern Securities* case had a significant legal precedent effect on the value of other railroads from 1901 to 1905. Mullin et al (1995) find large positive effects on the value of downstream customers of US Steel following the initiation of the (unsuccessful) suit for its dissolution in 1911.

the Republicans endorsed the gold standard, the Democrats abandoned their former support for gold and nominated the populist William Jennings Bryan, who advocated for free coinage of silver at an overvalued rate. Additionally, Bryan repeatedly called for the regulation of trusts; in one speech he colorfully stated, "one of the most important duties of government is to put rings in the noses of hogs" (Bryan, 1896: 378). Hanna solicited contributions from the financial and industrial interests that were most threatened by the prospect of a Bryan presidency. He received individual donations of $250,000 each from Standard Oil and from J.P. Morgan, and raised a total of at least $3.5 million for the 1896 campaign.[2] In comparison, the Democrats' total campaign budget for 1896 was just over $400,000 (Croly, 1912: 220).

The financial support of wealthy industrialists and bankers for McKinley actually preceded his presidential campaigns and extended into his personal finances. In the wake of the Panic of 1893, McKinley faced financial ruin after guaranteeing enormous debts for a friend who went bankrupt. Hanna was able to rescue his rising Republican star by raising more than $100,000 in financial aid for McKinley from individuals such as Andrew Carnegie, Henry Clay Frick, Philander Knox, George Pullman, and Philip Armour (Morgan, 2003: 133). There is some evidence that the more politically active among these donors sought to cash in on their "investments" once McKinley was elected President.[3]

Once in office, McKinley presided over the greatest wave of industrial mergers in American history, which gave rise to hundreds of new "trusts."[4] As interpreted by the courts, the Sherman Antitrust Act of 1890, the first federal antitrust statute, prohibited several anticompetitive practices, such as price fixing and pooling arrangements. Yet one of its unintended consequences was to encourage the further consolidation of big business—a process described by contemporaries as the "trustification" of the economy. Following the *E. C. Knight* case in 1895, in which the supreme court upheld the Sugar Trust consolidation, it was gener-

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[2]In contrast, the Republicans had raised only $1.6 million for the presidential campaign of 1892. Testimony of C. N. Bliss, Jr., in Senate Subcommittee on Campaign Finance (1913: vol 1, p. 204), indicated that the official total of campaign receipts was $3.5 million. However, Bliss also testified that the official records of the campaign of 1896 and list of donors was later destroyed (vol.1, p. 210). Some have speculated that the budget of the campaign was in fact much larger.

[3]The wealthy and influential Mrs. Bellamy Storer, whose family had given McKinley $10,000, sought senior appointments for her husband and for others in the McKinley Administration (see Leech, 1959: 58, 138; and Morris, 2001: 563).

[4]The onset of this merger wave was triggered by several legal and economic developments. New Jersey's liberal incorporation laws facilitating the creation of holding companies; legal precedents that "loose combinations"—cartels enforced among competitors through trade associations—violated the Sherman Act; the economic recovery following the Panic of 1893 and the surge in the stock market's appetite for the securities of the newly merged companies; and the Supreme Court's 1895 *United States v. E. C. Knight* case, which held that manufacturing was not subject to the federal government's powers to regulate interstate commerce, all contributed to the onset of the merger wave. See Lamoreaux (1985).

ally believed that mergers were permitted, whereas other anticompetitive practices were not (Bittlingmayer, 1985). In the years that followed, the American economy experienced the largest consolidation of business in its history—the Great Merger Movement (Nelson, 1959; Lamoreaux, 1985). Many of these new enterprises individually controlled more than 70% of the national markets for their goods (Moody, 1904).

Already alarmed by the emergence of large railroad systems that monopolized transportation, much of the nation greeted the emergence of these new institutions with the sense that they were "eating like a canker into the very vitals of society" (Josephson, 1962: 446). The new trusts increasingly seized control of economic life, and they entrenched their monopoly positions by using what were seen as unfair business tactics. Local business owners founded "antitrust leagues" and agitated for strict regulation. Several states even passed stricter regulations than the Sherman Antitrust Act, and they often enforced them against the trusts more severely than the federal government (Troesken, 2000).

Yet the McKinley administration did little to impose regulations on the new enterprises, or even to enforce the Sherman Act against these firms. From 1897 to 1901, the federal government initiated only three suits for violation of federal antitrust laws. Scholars skeptical of McKinley's character suggest that this inaction was a way to conform to the national Republican Party's preferences. A more benign view is that McKinley was considering taking a more forceful stance against the trusts by the time of his death (Phillips, 2003).[5] Regardless of which of these two portraits is more accurate, it is likely that the public would have expected a government led by Theodore Roosevelt to enact policies against the trusts in a more expedient and, perhaps, stronger manner than those followed under McKinley's leadership.

In September 1901, President McKinley was assassinated by an anarchist, and Theodore Roosevelt succeeded him as President. As the President and Vice President of the United States are chosen together, one would normally expect that they would share a common agenda, and therefore that the assassination of the president would not result in a significant policy change. Yet in this very particular instance, that was not the case.

2.2 Theodore Roosevelt

The son of a wealthy merchant, Theodore Roosevelt was born into an elite New York City family, attended Harvard University, and was a member of the Union League Club, one of the most exclusive and prestigious

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[5]As a Congressman, McKinley had supported the Sherman Act, and he spoke strongly against combinations that restrained competition in his address to Congress in 1899 (Morgan, 2003).

of its kind in the United States. Yet he was also a one-time cattle rancher in the Dakota territory and leader of a volunteer cavalry brigade during the Spanish-American War, and his immense popularity transcended regional prejudices.

While there may be questions about McKinley's orientation toward the Republican Party "machine" and the business interests it served, there is little doubt that Roosevelt was much more independent of it. From the beginning of his political career, he fought for the passage and enforcement of civil service reform measures, which threatened the ability of political parties to allocate civil service jobs to loyal partisans. Moreover, Roosevelt's signature political achievements were efforts to regulate or discipline big business. In the New York State Assembly, he attacked the corrupt manipulations of the judicial system by Jay Gould and his associates (who he said "belong to that most dangerous of classes, the wealthy criminal class").[6] As Governor of New York, he enacted important pieces of progressive legislation, including a corporate franchise tax, and successfully opposed the reappointment of a corrupt "machine politician" as the regulator of insurance companies (Roosevelt, 1920: 285-304).

Following the battle over the choice of insurance commissioner, representatives of New York's insurance companies and franchise corporations urged Senator Thomas C. Platt, boss of New York's Republican machine, to find a way to remove him from office. Since Roosevelt was an extremely popular politician, challenging his renomination for Governor would have been folly. Instead, a plan to add him to the national ticket to replace the recently deceased Vice President Hobart was devised. At the 1900 Republican convention in Philadelphia, machinations were put in place for a groundswell of support from the delegates. As Platt himself put it, "Roosevelt might as well stand under Niagara Falls and try to spit water back up as to stop his nomination at this convention."[7] Roosevelt privately expressed genuine opposition to taking the office, knowing that as Vice President he "could do nothing." Yet he was too ambitious to resist the nomination and worked to ensure he would receive it when he arrived at the convention.

While neither Hanna nor McKinley publicly expressed reservations about the popular Governor, behind the scenes Mark Hanna strongly opposed the nomination of Roosevelt and tried frantically to build support for other candidates. In one heated outburst, Hanna reportedly threatened to resign as party chairman and presciently exclaimed, "Don't any of you realize that there's only one life between that madman and the Presidency?"[8] But the support Roosevelt received at the Republican convention eventually proved impossible

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[6]Quoted in Morris (2001: 177).
[7]Quoted in Morris (2001: 757).
[8]Quoted in Leech (1959: 537). Morgan (2003: 376) presents a slightly different version of this quotation.

to resist; Hanna quietly withdrew his objections, and Roosevelt himself accepted.[9] A charismatic speaker, Roosevelt was a great asset to the campaign and spoke vigorously in favor of the McKinley Administration's accomplishments during its first term.

2.3   The Assassination and the Roosevelt Presidency

In September 1901, President McKinley traveled to Buffalo, New York, to attend the Pan-American Exhibition. On September 6, he was shot twice by the anarchist Leon Czolgosz. The best qualified surgeon available to treat him was a gynecologist with no experience with bullet wounds. The surgery, performed in the small hospital at the Exhibition, was only partially successful as one of the bullets within his abdomen was never found.

Following the surgery, McKinley's condition initially improved, and over the ensuing days the press was filled with optimistic reports of his health. By September 9 his doctors pronounced that he would make a full recovery. However, on September 13, McKinley's condition suddenly deteriorated, as gangrene had developed. He died early in the morning on September 14.

Roosevelt had come to Buffalo following the shooting but had left for a vacation with his family in the Adirondacks once the doctors had pronounced that McKinley would recover. In response to an urgent telegram sent on the 13th, Roosevelt returned to Buffalo on the 14th and took the oath of office there. After taking the oath, he made a brief but important statement: "In this hour of deep and terrible national bereavement I wish to state that it shall be my aim to continue absolutely unbroken the policy of President McKinley for the peace and prosperity and honor of our beloved country." This statement dispelled fears that he would shake up the cabinet, which was filled with old-guard Republicans, or break with McKinley on key policy issues.

Over the following weeks, Hanna pressured Roosevelt to pursue a moderate path and "go slow." Partly on Hanna's advice, Roosevelt reached out to important figures from the world of business and sought their advice (Pringle, 1931). Prominent figures from the world of finance also sought to influence Roosevelt. In October, two J.P. Morgan & Company partners, George W. Perkins, who had known Roosevelt since he was Governor of New York, and Robert Bacon, one of Roosevelt's Harvard classmates, met with Roosevelt to try to persuade him against imposing new regulations on industrial trusts. They were greeted politely, but

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[9]Hanna's support was attained partly through blackmail. Platt's allies proposed a procedural reform that would have undermined the party chairman's ability to control the convention. Their price for withdrawing the proposal was support for Roosevelt. See Morris (2001: 766).

Roosevelt did not reveal to them how he intended to proceed.

The first indication that Roosevelt would pursue an aggressive stance toward the trusts came in the form of Roosevelt's first address to Congress in November 1901. In this message, he argued that there were "real and grave evils" among large corporations, called for disclosure requirements to be imposed on corporations with interstate operations, and argued that they should be "subject to proper governmental supervision" by the federal government (Roosevelt, 1901). Although this message revealed much about Roosevelt's intentions, it had been leaked to important Senators, including Hanna, well before it was released, and when presented to Congress its contents surprised no one.

A much more telling and surprising announcement came in February 1902. In the fall of 1901, after Roosevelt had become President, J.P. Morgan had created an enormous holding company, the Northern Securities Company, which held the capital stocks of two competing railroads, the Northern Pacific and Great Northern, as well as a railroad that connected them to Chicago, the Chicago, Burlington and Quincy.[10] The shear scale of the firm, along with its potential to monopolize rail transportation in a large area of the country, concerned Roosevelt, who asked his Attorney General, Philander Knox, to quietly study the possibility of pursuing an antitrust action against the company. On February 19, Knox filed a bill in equity against Northern Securities, shocking the financial world. In response, Morgan himself went to Washington to meet with Roosevelt and Knox, bringing Senators Mark Hanna and Chauncey Depew with him to the February 23 meeting. Unaccustomed to policy decisions that concerned his interests being made without his consultation, Morgan said "If we have done anything wrong, send your man [the Attorney General] to my man [his attorney Frank Stetson] and they can fix it up."[11] Over the subsequent weeks, Morgan conferred repeatedly with Hanna regarding the case, but the case against Northern Securities followed its course (Strouse 2000: 442).

The contrast between the McKinley and Roosevelt Administrations in antitrust enforcement is illustrated in Figure 1. While McKinley's administration pursued just three antitrust cases, a historically low number, Roosevelt initiated unprecedented numbers of them. The contrast in the counts of cases actually under-states the difference across the two administrations, since it does not distinguish among the size or economic

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[10]Northern Securities was created as a way of accommodating competing railroad interests—those aligned with E.H. Harriman, and those aligned with James J. Hill and Morgan—who had fought for control of the Northern Pacific because it held control of the Burlington. With the single firm controlling all three roads being jointly owned by the Harriman and Hill interests, conflict between the two competing railroad groups was resolved.
[11]Quoted in Bishop (1920: 184).

importance of the defendants. Whereas McKinley's administration pursued cases against coal dealers in California, and livestock dealers in Kansas City, Roosevelt initiated suits against Standard Oil, American Tobacco, Du Pont, and several major railroads.

3   Impact of the Assassination in Historical Perspective

The news that President McKinley had been shot after the market closed on Friday, April 6, triggered a wave of selling on Saturday, April 7, at the NYSE. A comparative perspective on the market's reaction is presented in Table 1, which presents the stock market's reaction to assassination attempts on U.S. Presidents in which someone actually fired a gun at the President.[12] It should be noted that the variation of the timing of the different shootings relative to the opening hours of the NYSE, and the variation in the institutional response of the NYSE to the news of the shooting, limits the comparability of the data across events. Nonetheless, some suggestive evidence on the perceived significance of the transition from McKinley to Roosevelt relative to previous assassinations can be found in Table 1.

On average, the shootings resulted in a decline in share prices of 2.55%. The generally small effect is consistent with the notion that since Presidents and Vice Presidents are chosen together, the transition from one to the other typically does not signify a dramatic change in policy. Yet the stock market's decline in reaction to the shooting of McKinley—6.2%—was more than twice as large as the historical average. Another way to put this into perspective is to note that the second-largest stock market reaction, to the shooting of President Garfield, was only -3.3%. The only event we could identify that provoked a reaction similar in magnitude to the one caused by McKinley's shooting was the heart attack suffered by President Eisenhower on the evening of Saturday, September 24, 1955. On the following Monday, shares on the NYSE fell by an average of 6.6%.[13] The market reacted so dramatically to Eisenhower's heart attack because it came so late in his first term that it was believed he would not be able to run for reelection and a Democrat would likely win the Presidency in 1956.[14] Thus, one way to interpret the magnitude of the stock market's

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[12]Numerous other assassination attempts have been made on U.S. Presidents. The table includes all attempts in which someone actually shot at the President. An attempt on the life of President Andrew Jackson on January 30, 1835 is excluded from the table, as it occurred prior to the invention of the telegraph.

[13]Calculated from CRSP; 950 price changes relative to the previous day were observed.

[14]"Stock market trading, brokers said, appeared to be dominated by the conviction that President Eisenhower would not again be a candidate, and ... that only he could win in 1956 for the Republicans. Traders were credited with believing that a Democratic Administration would not be so friendly to business" (*New York Times,* 27 September 1955).

response to the accession of Roosevelt to the Presidency is that it was roughly comparable in magnitude to the effect of a surprise transition from a Republican to a New-Deal Democrat.

This evidence strongly suggests that Roosevelt was perceived to be quite different from McKinley, and less friendly toward business interests. It contradicts the arguments of some revisionist historians that Roosevelt's administration is best understood as a continuation of trends that developed under McKinley (for example, Phillips, 2003). Roosevelt was clearly expected to be pursue a substantially different agenda than McKinley.

4   The Effect of McKinley's Assassination on Non-Financial Firms

4.1   Data Sources

The analysis that follows analyzes the variation in the changes in market values of publicly traded firms in response to the assassination. It focuses on a variety of firm characteristics, most of which were hand-collected for this paper. In this section, we present a description of the sources and methods used in the creation of the dataset.

Our initial sample includes all railroads and industrial firms with shares listed on the NYSE in 1901 (a total of 75 railroads and 86 industrials), as identified in the 1901 volumes of the *Moody's Manual* and *The Manual of Statistics: Stock Exchange Handbook*.[15] For each firm, we collect financial information for the fiscal year 1900 or 1901 from those two sources, as well as the *New York Times' Investor Supplement* published on September 15, 1901, and various editions of the *Commercial and Financial Chronicle*. The availability of financial data is very limited at the onset of the twentieth century, particularly for industrial firms. When we cannot obtain information for 1900 or 1901, we fill in the data using later years from various volumes of the *Moody's Manual*.[16] Our final dataset contains information on firm age, size, profitability, and various financial policies.

No readily available dataset contains high frequency price data for our period of analysis. Thus, we collect daily closing prices of shares of common stock from the *New York Times*. We also obtain information on dividend payouts from the *New York Times* to adjust prices on the days shares went ex-dividend. It should

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[15]Prior to the Securities and Exchange Acts, publicly traded firms were not required to disclose financial data. Beginning around 1900, the NYSE began to require listed corporations to disclose basic income statement and balance sheet data, so our sample is restricted to NYSE-listed firms.

[16]For 29 of the 86 industrial firms, we fill missing accounting information with data from later years collected from the *Moody's Manuals* of 1902 to 1908.

be noted that many firms of interest for this analysis are not included in our data because they were not listed on the NYSE, as was the case with Standard Oil.

4.2 Variables and Hypotheses

4.2.1 Ties to McKinley or Roosevelt

We begin with measures of political influence or ties to the President. An expected transition of power from President McKinley to Roosevelt would have differentially affected firms with close ties to McKinley or to Roosevelt.

To measure ties to McKinley and/or Hanna, we construct indicator variables for firms owned or managed by major donors to the McKinley campaign. Although no comprehensive list of donors exists, the two largest donors by far were J.P. Morgan and Standard Oil. We therefore construct variables for firms affiliated with J.P. Morgan, and for firms affiliated with the Rockefellers or Standard Oil, from Moody (1904).[17] If those donations were perceived to buy influence with McKinley, but not with Roosevelt, the affiliated firms should have suffered differentially in response to the assassination.

We also consider the possibility that personal ties to Roosevelt may have mattered as well. To study this, we identify whether any director of a firm had a connection to Roosevelt while he was a student at Harvard. Specifically, we identify the names of graduates of Harvard in 1880 (Roosevelt's class) and the names of members of clubs of which Roosevelt was also a member (Alpha Delta Phi, Delta Kappa Epsilon, Hasty Pudding, Phi Beta Kappa, and the Porcellian Club) that were in the graduating classes of 1877 to 1883. We create an indicator variable *Roosevelt* that takes the value one for those companies that had a director or officer (as listed in the *Moody's Manual*) who was in one of these clubs or graduated from Harvard in 1880. Approximately 13% of the firms in our sample had such a connection.

Pursuing a similar strategy to identify social or personal connections to McKinley is much more difficult, because he was from a modest family in Ohio, did not attend prominent educational institutions, and was not a member of prominent social organizations.[18] An attempt to link members of McKinley's Civil War

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[17]William Rockefeller, brother of John D. Rockefeller and an executive at Standard Oil, also assisted Hanna in raising funds from other wealthy donors for the McKinley campaign (Rhodes, 1922). The firms designated with the *Morgan* variable are a subset of those with J.P. Morgan & Company partners on their boards. They are the firms listed by Moody as being under "Morgan domination" or "Morgan control." The Standard Oil firms include a number of firms founded by or strongly affiliated with the Rockefellers or Standard Oil.

[18]McKinley graduated from Albany Law School with William E. Barnett, future director of the New York, New Haven and Hartford Railroad, and Goodwin Stoddard, future director of the Atlantic Coast Line Railroad Company.

regiment, the 23rd Ohio Infantry, to corporate directors and officers produced no matches.[19]

4.2.2 Ties to Financiers

Faced with a sudden change in presidential power, investors' expectations about the firms' futures may have also differed by the level of connection that publicly-traded companies had to financiers. McKinley was perceived to be more favorable to the interests of bankers and industrialists than Roosevelt. Negative news on the President's condition may have had a detrimental effect on the value of firms with well-connected bankers on the board, suggesting that these connections made a non-financial corporation a more attractive target for legal attacks. However, some well-connected bankers had personal ties to Roosevelt that may have enabled them to try to influence him. Moreover, influential bankers usually helped their client firms in times of turmoil, for example by buying their shares to support their market value. Thus, it is possible that the presence of well-connected bankers on a firm's board had a positive effect on market values, relative to firms without these connections.

To study the differential effect of connections to important financiers, we use the board interlocks between non-financial and financial firms. We collect the names of the directors of railroads and industrial firms as listed in the 1901 *Moody's Manual* or, when not available from *Moody's*, in the 1901 *Manual of Statistics*. To identify which directors were bankers, we obtain the names of directors of commercial banks and trust companies in New York, Chicago, and Boston from the *Rand-McNally Bankers' Directory* in 1900. We match individuals across firms based on last name, suffix, and first and second initial. Once we identify the presence of bankers on boards, we define the degree of *Banker Centrality* by calculating the eigenvector centrality of the bankers' connections in the network of non-financial firms (see Bonacich, 1972). Essentially, this measure captures how connected a firm is to other firms in the sample through board interlocks with commercial banks, where the value of each bank interlock is weighted by how connected that commercial bank is to the rest of the sample. Thus, for those firms with representatives of the most important and well-connected financial institutions, such as National City Bank, on their boards, this measure takes a higher value.

While these two companies were listed on the NYSE in 1901, their shares were illiquid and did not trade on days of interest surrounding the assassination of President McKinley.

[19]The 23rd Ohio Infantry did, however, produce a number of successful politicians in addition to McKinley, including President Rutherford B. Hayes, Supreme Court Justice Thomas Stanley Matthews, and Congressman Robert P. Kennedy.

4.2.3 Vulnerability to antitrust prosecutions

If McKinley and Roosevelt differed in their stance toward antitrust enforcement, we would expect the market performance of firms that could be subject to antitrust suits to suffer disproportionately on days of negative news concerning McKinley's health. To assess this hypothesis, we construct an indicator variable *Antitrust Target* to identify the firms in our sample with a high risk of becoming a target of antitrust lawsuits.

Antitrust doctrines at the time were changing rapidly, and it would not have been easy to anticipate how the courts would have interpreted the Sherman Act with respect to mergers. In the early part of the nineteenth century, American corporations were often considered monopolistic simply because they were chartered by special legislation. As general incorporation laws began to spread across states, the distrust of corporations changed form. In the post-Civil War period, the criticism of the corporate form, and the calls for government regulation, were mostly concerned with abuses of power and unreasonable practices (Letwin, 1956).

These concerns were further heightened in the 1880s, as industrial interests organized in large combinations, or "trusts." State attorneys first used *quo warranto* suits—a law suit brought by a firm's state of incorporation for violating its charter or engaging in illegal acts—but trusts often evaded state courts by reincorporating in friendlier states or adopting different organizational forms. Between 1888 and July 1890, thirteen states passed antitrust statutes. These laws typically included stronger penalties than those later introduced by the Sherman Act and gave most state courts the power to effectively terminate a trust in that state by revoking its charter (Troesken, 2000).

However, the U.S. Constitution confers Congress the authority to regulate interstate commerce, which severely curtailed the states' abilities to efficiently restrain "bad" combinations by applying common law and their own antitrust laws. It was in this context that in July 1890 Congress passed the first federal piece of antitrust legislation, the Sherman Act. The Act banned any contract in restraint of trade, but the broad terms of the law allowed sufficient leeway to distinguish between beneficial forms of cooperation that promoted economic growth from those that suppressed competition (Kovacic and Shapiro, 2000). Which specific practices (such as predatory pricing, price fixing, and many others) were considered violations of the law was evolving slowly over time as the courts were confronted with interpreting the Act's vague terms. Most importantly, the Act did not condemn monopoly or large concentration of market power per se. In *United States v. E. C. Knight Co.* (156 U.S. 1 [1895]), the Supreme Court ruled that a series of mergers that gave the American Sugar Refining Company (the *Sugar Trust*) 98% of the nation's sugar refining capacity did not

constitute interstate commerce, and was therefore not a violation of the Sherman Act. It was not until the case against Northern Securities Corporation, which we analyze later in the paper, that the Act was used to forestall mergers that conferred monopoly power.

In light of this legal history, it is not straightforward to determine which firms were likely to be held in violation of the Act if it were enforced more vigorously. We develop two alternative measures indicating a greater likelihood of an antitrust prosecution, which we denote *Antitrust Target* and *Monopoly*. Each identifies firms that a policy maker concerned with anticompetitive behavior might *attempt* to prosecute.

For the industrials, for the *Antitrust Target* variable, we hypothesize that firms with a high degree of market concentration were likely attractive targets for antitrust prosecutions. Although a high degree of market concentration would not per se indicate a violation of the Sherman Act, it is reasonable to expect that firms in highly concentrated markets would have made attractive targets for prosecutions for any illegal tactics they may have employed in expanding and protecting their market shares. Thus, we create an indicator variable based on the relative extent of monopoly at the two-digit SIC level, as calculated by Nutter (1951), to identify whether a firm was an Antitrust Target.[20] Specifically, we construct an indicator that takes a value of one for manufacturing firms in industries that were above the median level of relative extent of monopoly (more than 49% of market concentration). According to this measure, firms in the metal mining, paper, transportation equipment, rubber, primary metal refining, water transportation, transportation services, and tobacco industries were likely Antitrust Targets.[21]

As an alternative measure of industrial firms' vulnerability to antitrust enforcement, for the *Monopoly* variable, we use Moody's (1904) description of the strength or stability of the "element of monopoly" enjoyed by each industrial firm included in his volume. This measures the degree of barriers to entry faced by potential competitors to the firms listed in his volume, and may therefore provide an indication that antitrust enforcement against the firms, especially if antitrust enforcement was perceived to have been directed against firms that enjoyed the strongest degree of monopoly power. We therefore create an indicator variable equal to one for firms where Moody identified the degree of monopoly was the strongest.[22]

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[20]To establish the industrial code for the manufacturing firms in our sample, we use the code assigned to each of these firms for the year 1917 by Chandler (1990). When a firm in our sample is not listed by Chandler, we match the industry description provided in the *Moody's Manuals* to the definitions of standardized codes provided by the U.S. Department of Labor (http://www.osha.gov/pls/imis/sic_manual.html). For firms that Chandler scored, the two methods produce the same codes.

[21]We exclude public utilities from our analysis because all NYSE-listed utilities would be a likely target for antitrust scrutiny, according to Nutter's data.

[22]Moody does not always provide clear rankings of the strength of the element of monopoly. We code firms as equal

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In the case of railroads, vulnerability to antitrust prosecutions is more difficult to predict. Antitrust enforcement actions prior to the McKinley administration were focused on "pooling" agreements among competing roads, which were held to be in violation of the Sherman Act. In subsequent years, the railroads responded by forming what were called "communities of interest," or groups of firms bound together by common ownership or cross-ownership. These are difficult to observe, but available sources suggest two alternatives.

The first, for the *Antitrust Target* variable, is based on recent merger activity. There was a significant wave of mergers among railroads in 1901, and many of these more recent consolidations were probably undertaken in order to restrain competition and form minor or major "communities of interest." These are clearly identified in the 1902 *Moody's Manual.*[23] The indicator variable *Antitrust Target* takes a value of one for NYSE-listed railroads that acquired or purchased a major stake in another railroad, and for those railroads in which another one obtained a controlling stake in 1901. Since the wave of acquisitions and cross-holdings among railroads in 1901 was substantial, this definition gives us sufficient power for our analysis: 19 out of the 75 railroads in the sample are identified as likely Antitrust Targets.[24] Recent mergers may also have been more salient in the eyes of the Roosevelt Administration.

The second, for the *Monopoly* variable, is based on a list of the major communities of interest among railroads, as provided by Moody (1904). Moody identifies a number of different railroad groups—for example, those controlled by the Vanderbilts, the Morgans, the alliance between the Goulds and Rockefellers, the Pennsylvania Railroad, etc.—and specifically identifies the railroads within each group. We therefore create an indicator variable equal to one for all railroads belonging to a "community of interest," excluding the dominant railroad within the group, whose role was often to facilitate anticompetitive behavior among the other affiliated roads. This variable differs from the one based on recent acquisitions, since it is limited to the major railroad groups, and includes some affiliations that were established prior to 1901.

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to one when he states that it was "Large" or "Major," or that it was "Moderate," but was founded on "patent rights." Those that were listed as "Moderate" but without patent rights, or "Fair," or where there was no element of monopoly listed, were coded as zero.

[23]These include, for example, the acquisition of the Southern Pacific by the Union Pacific, the acquisition of the Denver & Rio Grande by the Missouri Pacific, and the acquisition of the Burlington jointly by the Great Northern and Northern Pacific.

[24]Contemporaneous commentary emphasized the role of these acquisitions in bringing competitive railroads together, and highlighted their importance for the railroads' valuations. See, for example, Sage et al (1901).

4.3 Summary Data

Table 2 presents summary statistics. Column (1) reveals that 38% of the firms in the sample were likely targets for antitrust scrutiny by our *Antitrust Target* measure. While the measure of banker centrality does not lend itself to intuitive interpretation, its mean suggests that the average firm was connected to approximately two percent of our sample of NYSE-traded companies through board interlocks with commercial banks.[25] Railroads and other transportation enterprises made up 55% of the sample, while the highest concentration of industrials was in heavy and light manufacturing. Firms in our sample were large enterprises, with an average value of total assets of about $50.2 million. The average firm had a leverage ratio of 0.28 and held about 4% of its assets in cash. We calculate two measures of profitability: Return on Assets (ROA), defined as net income divided by total assets, and Return on Equity (ROE), defined as net income divided by the book value of common shareholders' equity and surplus. The mean ROA and ROE in the sample were 0.04 and 0.06, respectively

Column (2) of Table 2 reports the difference in various characteristics between firms that were and were not likely Antitrust Targets.[26] We find no differences in board size, the connectedness to bankers, or social connections to Roosevelt. These two groups of firms also showed no noticeable differences in their ages (measured by year of incorporation) or in their financial policies as indicated by their cash holdings and level of indebtedness. Likely Antitrust Target firms were larger (as measured by assets), less profitable, less likely to be in light manufacturing, and more likely to be in heavy manufacturing.

Column (3) of Table 2 presents the differences in these characteristics between firms that had "central" bankers on their board of directors (defined by being above the median eigenvector centrality of the sample) and firms that were not connected to such prominent bankers. We observe no differences in the likelihood of being a target of antitrust lawsuits among these two groups of firms. Firms with a stronger presence of "central" bankers on their boards were larger, more profitable, less likely to be in light manufacturing, and more likely to be in transportation.

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[25]This is an approximate interpretation because the calculation of eigenvector centrality weights interlocks by their importance in the network of firms. More precisely, the average firm is connected to 2.5 percent (or nearly 4 firms) of our sample through board interlocks with commercial banks.

[26]Except when analyzing differences in industry composition, these differences in means are estimated from a regression of each dependent variable on the *Antitrust Target* dummy and an indicator for railroads.

5   Results

An indication of the significance of the assassination of President McKinley for firms that could be subject to antitrust scrutiny is found in Figure 2, which shows average daily net stock returns from September 3 to September 21, 1901.[27] The blue solid line shows the average return for the likely Antitrust Target firms, while the red dashed line displays the mean return for firms with a low probability of being subject to antitrust litigation. As expected, average net returns were close to zero for all days prior to the attempt on McKinley's life.

President McKinley was shot on Friday, September 6, at around 4 PM, just as the stock market closed. Thus, we expect the market to respond to the news of an attempt on his life on the following day. Fortunately for our analysis, the NYSE was open for half-day on Saturdays in 1901. As indicated by the vertical line 'Shot' in the top panel of Figure 2, firms lost 6% of their market value on average on September 7. The decline in firm value was somewhat larger (by about 200 basis points) for high Antitrust Target firms. Despite some "conflicting rumors" on the President's condition, most of the news that circulated over the weekend suggested that he was recovering favorably and that doctors expected him to make a full recovery.[28] When the markets reopened on Monday, September 9 (indicated by the vertical line $Health^+$), firms' valuations largely recovered. It is worth noting that the increase in market values was also larger for firms that were more likely to be targets of antitrust litigation.

The pronounced reaction of stock prices for likely Antitrust Target firms to the news of the President's condition suggests that investors may have feared that a transition of power to Roosevelt would have negative consequences for these corporations. However, these changes in firm value could also simply reflect the realization that an anarchist was able to make an attempt on the President's life. The effects on September 7 could capture investors' view that larger firms, for example, were more exposed to rising unrest or political instability. However, the market's reaction when it became known that McKinley would die, point to the first interpretation.

Following a few days of mixed news on McKinley's health, it finally became clear that he was near

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[27]The stock market lacked liquidity at that time, and not every share transacted every day. Our sample contains an unbalanced panel of returns, where a firm is included only when we observe a transacted price in two consecutive days. The results are similar, albeit a bit more muted, when we impute a zero net return in days in which we do not observe a price.

[28]For example, the front page of the *New York Times* reported that "Mr. Roosevelt gets reassuring news" on September 8, and that "Physicians say they are certain he will get well. All symptoms favorable" on September 9.

death on Friday, September 13. The morning newspapers reported that he had had a "sinking spell" and that his death was feared.[29] As indicated by the vertical line *Health*⁻ in the top panel of Figure 2, the stock market reacted negatively to this news, with likely Antitrust Target firms losing roughly 6% of their value and non-Antitrust Target firms experiencing a smaller 4% decline. These magnitudes are remarkably similar to the decline in values experienced by these two groups of firms on the day in which the McKinley was shot. Because any effect related to social unrest should have been priced in by September 13, the larger decline in the valuations of firms that could be the target of antitrust litigation is suggestive of investors' perceptions of an unexpected change from McKinley to Roosevelt.

As we discussed earlier in the paper, there is much dispute among scholars on the true portrait of President McKinley. Revisionists argue that McKinley's views on the trust problem were much closer to Roosevelt's preferences and that his administration would have actually enforced antitrust statues more forcefully had he not been assassinated. If this was the case, however, we would not expect to find much of a difference of a transition in power on the value of potential targets of antitrust enforcement. Our results are therefore consistent with the view that McKinley was perceived by investors to be much less of a threat to the trusts' interests than Roosevelt.

McKinley passed away at 2:15 AM on Saturday, September 14. We cannot investigate the effect of his death because the NYSE was closed that day in mourning. The reassurances Roosevelt made when he was sworn in on the 14th appear to have been convincing; stock prices rebounded when the markets reopened on Monday, September 16, with the values of likely Antitrust Target firms increasing by about 190 basis points more than those of non-target firms.

The middle and the bottom panel of Figure 2 separately display the average returns for railroads and industrial firms. Although the pattern is similar for both types of firms, the magnitude of the effects on the days on which significant news on McKinley's health was disclosed are more pronounced for railroads.

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[29]The physician's bulletin issued at 3 AM stated that "the worst is feared. His death might occur any time from heart exhaustion," *New York Times*, September 13, 1901.

5.1 Results: Stock Market Reaction to McKinley's Shooting

To perform a more rigorous analysis of the variation of the effects of the assassinations across firms, we estimate the following specifications:

$$
\begin{aligned}
R_{it} &= \alpha + \beta \text{AntitrustTarget}_i + \gamma_1 \text{Sept7}_t + \gamma_2 \text{Sept9}_t + \gamma_3 \text{Sept13}_t \\
&+ \lambda_1(\text{Antitrust}_i \times \text{Sept7}_t) + \lambda_2(\text{Antitrust}_i \times \text{Sept9}_t) + \lambda_3(\text{Antitrust}_i \times \text{Sept13}_t) \\
&+ \delta X_i + \epsilon_{it},
\end{aligned}
\tag{1}
$$

where R_{it} is firm i's net return on day t; AntitrustTarget_i (or, for brevity, Antitrust_i) is an indicator for firms that were more likely to be targets of antitrust litigation; Sept7_t, Sept9_t and Sept13_t are indicators for those respective dates, on which substantial information on the President's health was released to the market; and X_i includes controls for firm characteristics, such as firm size, age, and leverage. Of special interest are the estimates of λ_1 to λ_3, which capture the differential effect of very negative or positive news on McKinley's condition for those firms that were likely targets of antitrust litigation, relative to those firms that were low Antitrust Targets. In all specifications, standard errors are clustered at the firm level to correct for serial correlation.

In regressions where we investigate the effects of ties to McKinley or Roosevelt, we replace our *Antitrust Target* variable with indicators for such ties. In order to understand the effect of such ties conditional on a firms status as a likely antitrust target, we estimate specifications that include both variables (and their interactions with Sept7_t, Sept9_t and Sept13_t, the indicators for the three relevant dates for the President's condition).

We begin with the analysis of the effect of political ties. These regressions analyze whether firms managed or owned by major donors to the McKinley campaign, or by individuals with close ties to Theodore Roosevelt, performed differently on the days when news regarding McKinley's health was released.

Table 3 presents the results of these regressions. There is some evidence that firms strongly affiliated with J. P. Morgan performed differentially worse on September 7 and better on September 9. However, there is generally no evidence that firms affiliated with Standard Oil or the Rockefellers were differentially affected on those days, or on the 13, or that firms with personal connections to Roosevelt did differentially better.

Table 4 presents the results of the same specifications, in which the interactions of interest are for the *Banker Centrality* measure, which captures the strength of the firms' ties to prominent financial institutions. Contradicting any notion that McKinley favored the firms affiliated with such institutions, or that Roosevelt was perceived to be hostile to them, the firms with higher levels of this index performed differentially better on days when bad news about McKinley was released, and worse on days when good news about him was released. This is consistent with the notion that such firms were perceived to have had an advantage in influencing Roosevelt, or that their more robust financial relationships would help them weather any economic instability or uncertainty that would come with the transition to a new President.

The effect of firms more vulnerable to antitrust prosecutions is analyzed in Table 5, which utilizes the *Antitrust Target* variable, and Table 6, which utilizes the *Monopoly* variable. The results of the two variables are generally consistent. On days when news regarding the President's health was released, firms designated as *Antitrust Targets* experienced differential changes in their returns of around 2.5% in absolute value, and those designated as *Monopolies* (our alternative definition of likely targets of antitrust investigations or prosecutions) saw differential changes in their returns ranging from 1.5% to 3% in absolute value. This is clear evidence that a substantial portion of the fluctuations in firms' values around the assassination was driven by investors' expectations that Roosevelt would be a more aggressive enforcer of antitrust regulations.

Finally, Tables 7-10 study the combined impact of the *antitrust Target* variable along with the variables for connections to McKinley or Roosevelt, and the extent of ties to financiers. The results in these tables indicate that whatever statistical support there was for the importance of ties to McKinley or Roosevelt in the regressions above—which mainly consisted of evidence that firms affiliated with J. P. Morgan did worse when McKinley was shot—disappears when one controls for firms' status as *Antitrust Targets*. Evidently, the J. P. Morgan firms that performed worse around the time of the shooting were themselves likely antitrust targets. It is worth noting, however, that the positive differential effects of the degree of 'centrality' of the firm's bankers is robust to controlling for firms' status as *Antitrust Targets*. Most importantly, the effect of firms' status as likely antitrust targets on their returns is robust to the inclusion of all of these variables.

5.2   Results: Litigation against Northern Securities

Our analysis of McKinley's assassination suggests that investors may have feared that the replacement of McKinley by Roosevelt would result in more aggressive enforcement of antitrust statutes. To provide further evidence, we study the stock market reaction around another event that surprised the market with new infor-

mation on Roosevelt's stand on antitrust cases: the announcement on February 19, 1902, that the Attorney General was going to file a bill of equity against Northern Securities Company.[30] This was the first clear evidence that Roosevelt intended to enforce antitrust statutes against railroad mergers and potentially other mergers as well.

A common problem with this type of analysis is that anticipated events are not reflected in changes in stock prices. However, the filing of the suit, and the contents of the suit, were surprises to the market. Roosevelt and Attorney General Knox had kept their preparations for the suit a closely guarded secret.[31] More importantly, the exact timing of the filing of the bill in equity came as a shock. The Supreme Court was considering a case filed by the Attorney General of Minnesota against the railway combination, and it was supposed to announce its decision on Monday, February 24, 1902.[32] Reports suggest that the market expected the Supreme Court to throw Minnesota's suit out of court, and no one was prepared for the announcement of a federal suit just before the Supreme Court's decision. The *Washington Post*, for example, stated that the "announcement from Washington was therefore a rude shock to all of this optimistic sentiment that has been carefully nurtured in the financial district" (February 21, 1902). Because the announcement of the federal lawsuit was disclosed after the stock market closed on February 19, the full effect of the announcement was not felt until the following day.[33] Thus, we study the differential effect of the announcement of the federal case against Northern Securities on the market values of firms that were likely to be antitrust targets, relative to those corporations less likely to be affected by antitrust regulation, on February 20.

Because the announcement of the federal case against Northern Securities affected all firms on the same date, and no other relevant information was revealed on the days following the filing, we use cumulative returns to analyze the full effect on the market value of firms. To provide an illustration, Figure 4 displays

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[30]On this date, Attorney-General Knox released the following statement: "Some time ago the president requested an opinion as to the legality of this merger, and I have recently given him one to the effect that, in my judgment, it violates the provisions of the Sherman Act of 1890, whereupon he directed that suitable action should be taken to have the question judicially determined" (quoted in Meyer, 1906: 258). The actual suit was filed on March 10, 1902.

[31]Attorney General Knox initially believed that nothing could be done to prevent the merger because of the many loopholes of the Sherman Act. Roosevelt convinced him that it was not the government's job to point out these loopholes, but that the courts should decide whether the regulation was applicable to this case.

[32]Northern Securities was incorporated as a holding company under the laws of New Jersey on November 31, 1901, to combine the interests of the Great Northern Railway Company, the Northern Pacific Railroad, and other smaller railroad interests. On January 7, 1902, the Attorney General of Minnesota, on behalf of his state and with the support of several other western states, moved for leave to file a bill of complaint against the company before the U.S. Supreme Court (Meyer, 1906).

[33]Stock prices do not seem to have been affected in any way on February 19. In fact, the market was described as "dull" on that day, because of the "customary hegira of many capitalists and operators to Southern resorts" (*Chicago Daily Tribune*, February 20, 1902).

average cumulative returns for the firms in our sample from February 11 to March 1, 1902.[34] The blue solid line shows the average cumulative return for the Antitrust Target firms, while the red dashed line displays the average cumulative return for firms with a low probability of the being subject of antitrust litigation. The top panel of Figure 4 shows that average cumulative returns were close to zero for all firms in the sample prior to the filing of the suit—if anything, Antitrust Target firms performed slightly better, perhaps in anticipation of the dismissal of Minnesota's bill. This evidence further corroborates that actions by the federal government were unanticipated by investors. On February 20 (indicated in the figure by the vertical line *Dissolve!*), the stock market declined on average by about 2%. Although the decline was a bit larger for Antitrust Target firms, the difference relative to other firms was small.

Analyzing the effect of the filing for all firms in the sample obscures important differences across groups. Indeed, a large surprise of the Northern Securities litigation was that Roosevelt was attempting to apply the Sherman Act to railroads. Thus, the middle panel of Figure 4 displays the evolution of cumulative returns for railroads, and the bottom panel shows similar evidence for industrial firms. The filing of the suit had a much larger effect on railroads. The decline in returns on February 20 was about 132 basis points larger for Antitrust Target railroads, relative to those less likely to be targets of antitrust attacks. Moreover, Figure 4 shows that this initial difference persisted over time. On March 1, 1902, the difference in cumulative returns for the two groups of railroads was about 500 basis points. Interestingly, the filing of the suit does not appear to have had much of a discernible effect on industrial firms on February 20, and those firms that were potential targets of antitrust suits experienced, if anything, a larger increase in their market valuations in the days following the filing.

To provide a more formal analysis of the effect of the Northern Securities litigation on the market value of firms, next we employ an event study methodology. For each firm in the sample, we calculate cumulative daily returns from February 20 to March 1, 1902, and relate them to our measure of the threat of being subjected to antitrust suits. Our empirical strategy consists of estimating:

$$\text{CR}_i = \alpha + \beta \text{AntitrustTarget}_i + \delta X_i + \epsilon_i$$

where CR_i is firm i's cumulative net return from February 20 to March 1; AntitrustTarget_i is an indicator for

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[34]To be able to add returns for a particular security on days in which the security did not trade, we assume that prices did not change when we observe no trading (that is, we assume a return of zero in the absence of trading).

firms that were more likely to be targets of antitrust litigation; and X_i includes controls for firm characteristics (firm size, age, and leverage).

Table 11 presents the results.[35] We begin by analyzing the effect of being a likely antitrust target on the entire sample of firms.[36] *Antitrust Target* firms had lower returns by about 225 basis points over this period when controlling for firm characteristics (column [2]). As suggested by Figure 4, these findings obscure important differences across firms. Column (3) shows that being an Antitrust Target reduced cumulative returns by about 4.5 percent for railroads. This difference in returns is similar and statistically significant when we control for firm characteristics (column [4]). It is important to note that these coefficients likely underestimate the overall effect of the lawsuit for railroads, because none of the railroads involved in the Northern Securities combination had common shares that traded on the NYSE. Finally, we find no effects of *Antitrust Target* on the cumulative returns of industrial firms over this period (columns [5] and [6]).

A common objection to event studies is that the documented effects could potentially be driven by other news that was disclosed on the same date. Given the important nature of the bill of equity, we do not think that this criticism applies to our case. Indeed, descriptions of the stock market performance on February 20 claimed that the government's action "obscured all other considerations" (*Chicago Daily Tribune*, February 21, 1902).

Why did the filing of the suit against Northern Securities have a large effect on railroads but not on industrial firms? Our view is that investors were surprised to learn that the Sherman Act could be applied to railroads, rather than to mergers overall.

6   Placebo Test: Coal Strike

One concern that might be raised about our results is that our *Antitrust Target* variable may be correlated with other firm characteristics unrelated to antitrust enforcement, and that those other firm characteristics may be responsible for the fluctuations in firm values we observe around the assassination.

One firm characteristic that could plausibly be responsible for our results centers on labor relations. Roosevelt was known to be more supportive of the interests of organized labor than his predecessor. If firms

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[35]Since we do not observe prices for many firms in our sample during this event, our analysis here is limited to 52 railroads and 38 industrials. The number of industrials is further reduced to 31 due to a lack of accounting data.

[36]Results are robust to cumulating returns from February 19, to allow for a possible anticipation of the filing of the suit. We also find similar effects when we add returns over shorter horizons.

more vulnerable to strikes or to stricter labor regulations were also more likely to be among our *Antitrust Targets*, then our estimated results could be attributed to the perceived change in labor relations policy that the transition to Roosevelt created.

To address this possibility, we use an event study methodology to analyze the market's reaction to Roosevelt's intervention to attempt to resolve an ongoing coal strike among miners in Pennsylvania's anthracite coal fields. Previous presidents had generally intervened on behalf of employers, if they intervened at all, in response to major labor relations disputes. As the strike dragged on, mine operators called for Roosevelt to end the strike by deploying federal troops to ensure the safety of those miners who desired to work and their families. Somewhat ironically, the operators argued that the president was granted the authority to do so under the Sherman Act of 1890, as they viewed the union as a unlawful cartel. Roosevelt disagreed; only in response to concerns that the coal strike, which began in May 1902, might substantially raise coal prices for households over the winter did Roosevelt decided to intervene, but he did so in a relatively neutral way. On October 1, 1902, Roosevelt announced that he would meet with representatives of government, management, and labor at the White House in order to facilitate a resolution to the dispute. This marked a substantial change from historical precedent.

If our *Antitrust Target* variable is correlated with sensitivity to labor relations, then *Antitrust Target* firms should perform differentially worse in response to the announcement of the conference. Table 12 presents the results of regressions that follow a similar specification to those of Equation 2, using cumulative returns during an eight day window around the October 1 announcement. The results indicate very clearly that the *Antitrust Target* firms did not perform differentially worse.

7   Conclusion

We study the assassination of President William McKinley in September 1901 to estimate the value of political connections among large American corporations in the early twentieth century, and to assess the significance of the accession of Theodore Roosevelt to the Presidency. The news of McKinley's shooting provoked a significant fall in stock prices, suggesting that Roosevelt was expected to pursue a different agenda from his predecessor. However, we find little evidence that firms with close ties to McKinley, such as those affiliated with major campaign donors, suffered differentially in response to his shooting. Although McKinley is commonly portrayed as a puppet of the plutocrats, the firms commonly portrayed as his puppet-masters

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were not expected to perform worse following his replacement with a more reform-minded politician. Even in the Gilded Age, personal or financial connections to the President did not matter very much.

However, we also find that firms that were likely targets of antitrust prosecutions saw a decline in their share prices of an additional 2.5% in response to McKinley's shooting. These results suggest that regulatory forbearance was an important mechanism by which firms benefited from McKinley's Presidency. But these benefits were enjoyed by all firms that could be judged to be in violation of antitrust laws, not just some politically favored group.

Overall, our results suggest that Roosevelt's accession to the Presidency marked an important change in the regulation of American businesses. His agenda likely helped restrain the power of the "trusts" in the economy, relative to what they would have been under McKinley. At the same time, Roosevelt's policies were perceived by economic elites as a much more palatable alternative to the radical populism then prevailing within the Democratic Party, and many of the same large donors who had backed McKinley in 1896 and 1900 would help fund Roosevelt's campaign in 1904. Roosevelt eventually developed a stance toward the large industrial combinations that differentiated the "good trusts" that created efficiencies from the "bad trusts" that merely cartelized markets.

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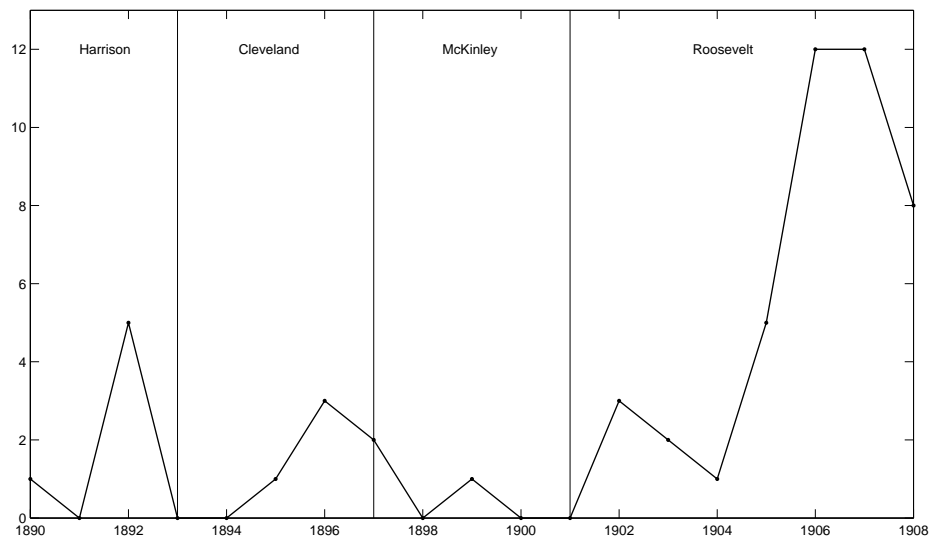
Figure 1: Annual Number of Federal Antitrust Cases Under Different Presidents, 1890-1908
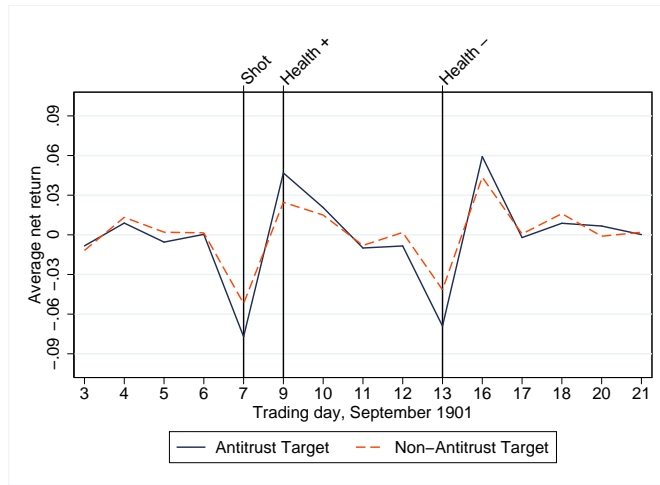
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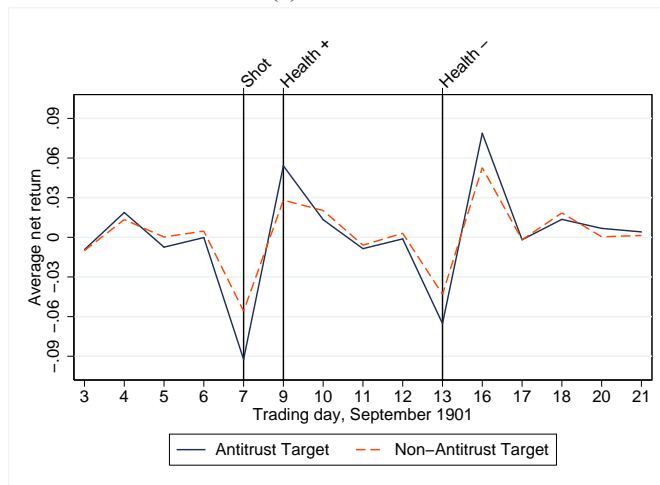
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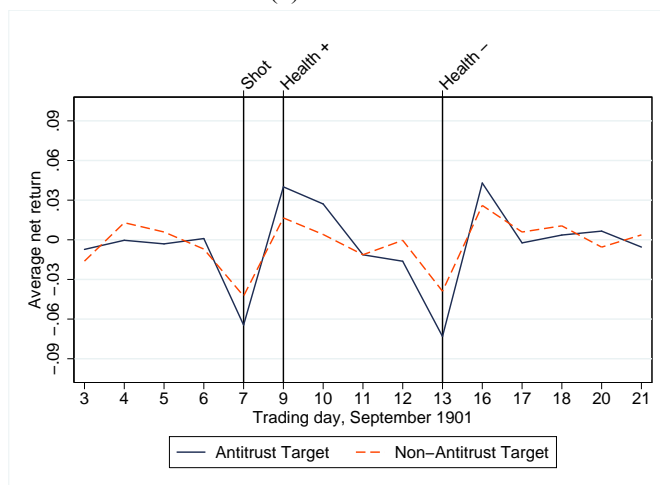
(c) Industrials

Figure 2: Average net returns surrounding the assassination of President McKinley.
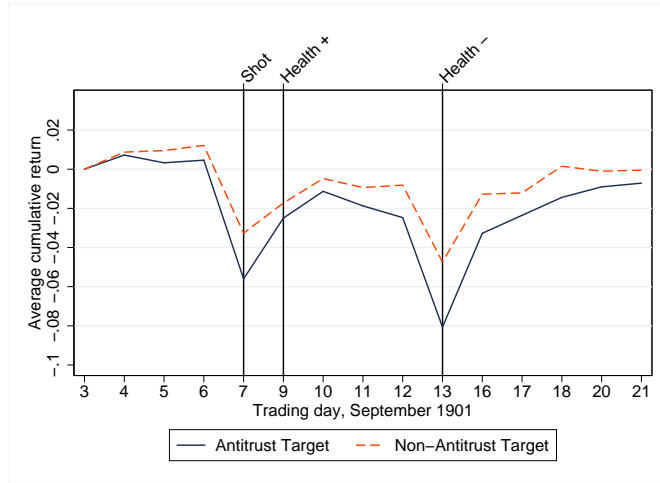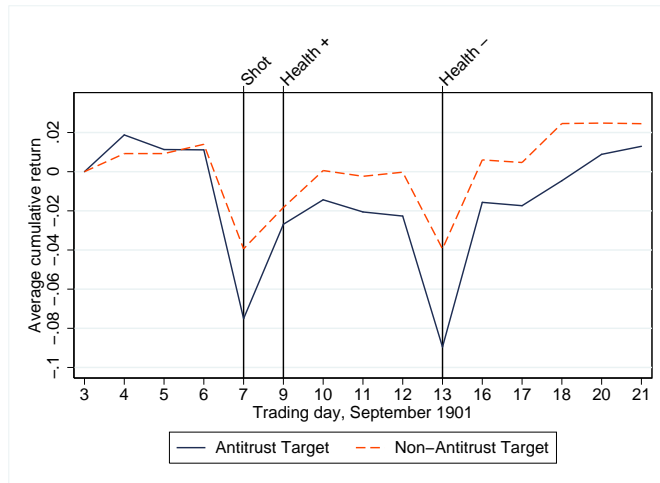
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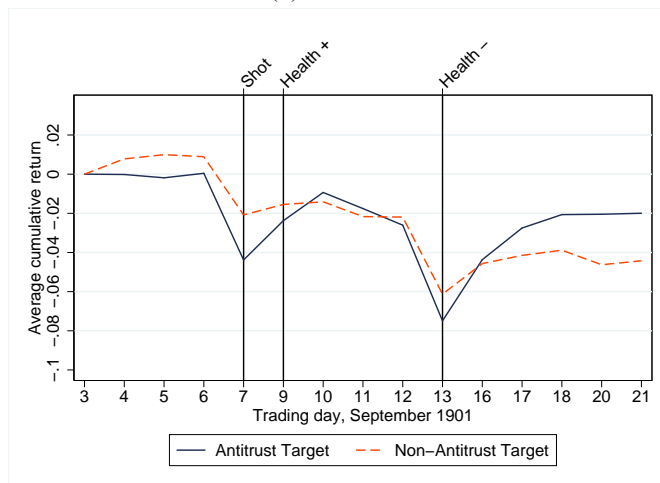
(b) Railroads

(c) Industrials

Figure 3: Average cumulative returns surrounding the assassination of President McKinley.
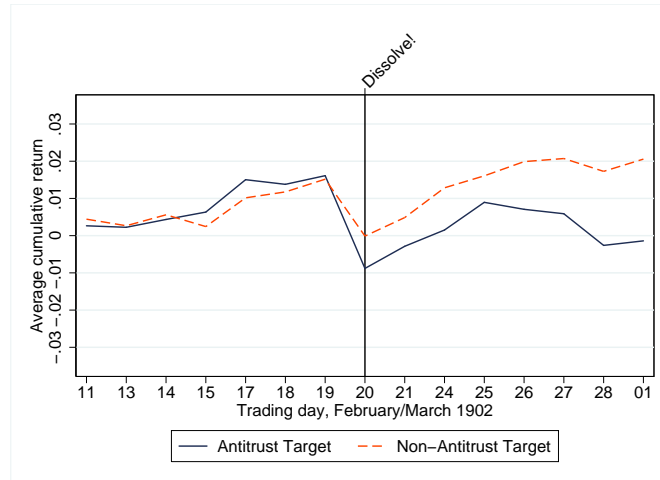
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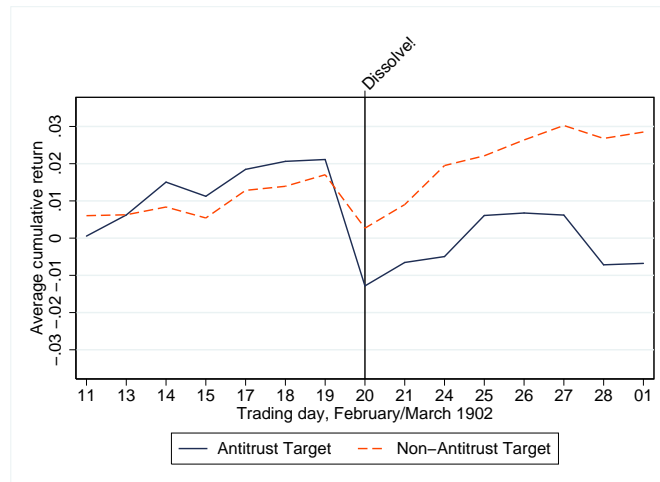
(b) Railroads
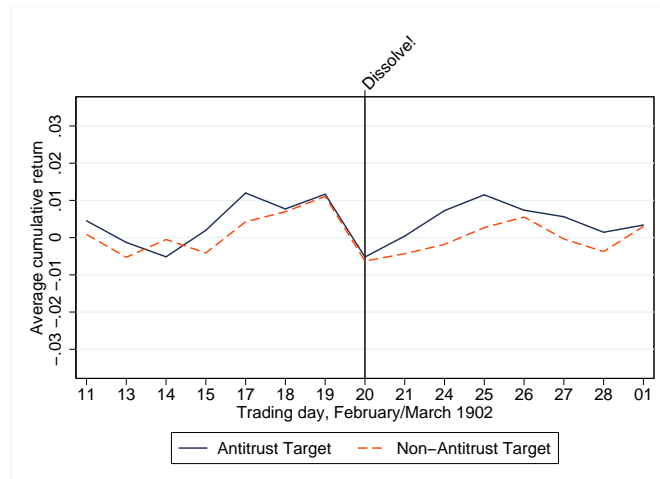
(c) Industrials

Figure 4: Average cumulative returns surrounding the United States Department of Justice's announcement of its plans to file suit against the Northern Securities Company on behalf of President Roosevelt.

Table 1: Presidential Assassination Attempts and the Stock Market: Price Response to News of Shootings

President	Date and Time of Shooting	Date of Trading on News of Shooting	Mean Percent Change, NYSE	Outcome for President
Lincoln	Friday April 14, 1865, 10:25 PM	Monday April 17 (NYSE closed April 15)	-0.7%	Death, Next day, 7:22 AM
Garfield	Saturday July 2, 1882, 9:30 AM	Same day	-3.3%	Death, 79 days later
McKinley	Friday Sept. 6, 1901, 4:07 PM	Following day	-6.2%	Death, 8 days later
Roosevelt	Wed. Feb. 15, 1933, 9:35 PM	Following day	-2.1%	Survived; Was unhurt
Kennedy	Friday Nov. 22, 1963, 1:30 PM	Same day (Trading halted 2:07 PM)	-2.8%	Death, Same day, 2:00 PM
Ford	Monday Sept. 22, 1975, 6:25 PM	Following day	-0.48%	Survived; Was unhurt
Reagan	Mon. March 30, 1981, 2:27 PM	Same day	-0.2%	Survived

Note: Franklin D. Roosevelt was President-Elect at the time of the shooting attempt on his life. For shootings prior to Roosevelt, the percent change in share prices computed as an equal-weighted index from closing NYSE prices reported in the *New York Times*. For the subsequent shootings, the percent change in share prices is calculated from closing NYSE prices as reported in CRSP. The number of securities for which prices were observed on the day prior to the shooting, and also on the day when trading reflected the news of the shooting, was 16 for the Lincoln assassination, 63 for Garfield, 79 for McKinley, 311 for Roosevelt, 1,144 for Kennedy, 1,468 for Ford and 1,520 for Reagan. All times are reported as EST.

Table 2: Summary Statistics

	Mean [Std. Dev.]	Difference: Antitrust Target Firms	Difference: Connection to Banks	Difference: Connection to Roosevelt
	(1)	(2)	(3)	(4)
Indicator for Antitrust Target	0.3841	–	0.0113	0.1407
	[0.4880]		(0.0813)	(0.1253)
Banker Centrality	0.0208	0.0004	–	0.0119
	[0.0257]	(0.0042)		(0.0075)
Connection to Roosevelt	0.1258	0.0702	0.0818	–
	[0.3328]	(0.0637)	(0.0562)	
Board Size	11.7616	0.4002	0.1777	1.5373
	[3.6308]	(0.6718)	(0.6423)	(0.9418)
Log(Firm Age)	2.2665	0.0440	0.0274	-0.5193**
	[1.1409]	(0.1804)	(0.1750)	(0.2538)
Log(Assets)	17.7321	0.5570***	0.5117***	0.6091*
	[1.0591]	(0.1715)	(0.1775)	(0.3141)
Cash/Assets	0.0386	-0.0129	-0.0098	-0.0036
	[0.0925]	(0.0125)	(0.0211)	(0.0125)
Book Leverage Ratio	0.2821	0.0196	0.0035	0.0185
	[0.2143]	(0.0273)	(0.0268)	(0.0434)
ROA	0.0373	-0.0168**	0.0127*	0.0280
	[0.0400]	(0.0068)	(0.0068)	(0.0272)
ROE	0.0584	-0.0197**	0.0201**	0.0038
	[0.0525]	(0.0086)	(0.0092)	(0.0159)
Industry: SIC 1 (Mining)	0.0728	0.1057**	-0.0012	-0.0231
	[0.2608]	(0.0492)	(0.0428)	(0.0565)
SIC 2 (Light mfg)	0.1722	-0.1116*	-0.1416**	0.0439
	[0.3788]	(0.0588)	(0.0630)	(0.0997)
SIC 3 (Heavy mfg)	0.1854	0.1748**	-0.0640	0.1491
	[0.3899]	(0.0690)	(0.0646)	(0.1122)
SIC 4 (Transportation)	0.5497	-0.1366	0.1974**	-0.1471
	[0.4992]	(0.0834)	(0.0806)	(0.1220)
SIC 5 (Distribution)	0.0132	-0.0215	0.0241	-0.0152
	[0.1147]	(0.0151)	(0.0169)	(0.0107)
SIC 6 (Real Estate)	0.0066	-0.0108	-0.0147	-0.0076
	[0.0814]	(0.0108)	(0.0147)	(0.0076)

Notes: Column (1) reports means for 1901 with standard deviations in brackets. Columns (2) through (4) report differences in means estimated from regressions with a dummy for railroads and present robust standard errors in parentheses. (The dummy variable identifying railroads is excluded from the regressions for the industry classifications.)

Table 3: McKinley Assassination Event Analysis using Net Returns, Social Connections

	JP Morgan		Standard Oil		Roosevelt	
	(1)	(2)	(3)	(4)	(5)	(6)
Sept. 7	-0.0713***	-0.0737***	-0.0716***	-0.0736***	-0.0730***	-0.0754***
	(0.0048)	(0.0050)	(0.0048)	(0.0050)	(0.0052)	(0.0054)
Sept. 9	0.0248***	0.0261***	0.0243***	0.0259***	0.0246***	0.0263***
	(0.0031)	(0.0032)	(0.0032)	(0.0033)	(0.0033)	(0.0034)
Sept. 13	-0.0618***	-0.0606***	-0.0608***	-0.0591***	-0.0604***	-0.0586***
	(0.0053)	(0.0048)	(0.0052)	(0.0045)	(0.0055)	(0.0048)
JP Morgan Firm	0.0006	0.0019				
	(0.0016)	(0.0022)				
JPM Firm x Sept. 7	-0.0193***	-0.0172***				
	(0.0058)	(0.0059)				
JPM Firm x Sept. 9	0.0193***	0.0184***				
	(0.0040)	(0.0042)				
JPM Firm x Sept. 13	-0.0035	-0.0046				
	(0.0117)	(0.0114)				
Standard Oil Firm			-0.0038	-0.0017		
			(0.0026)	(0.0023)		
SO Firm x Sept. 7			-0.0082	-0.0122		
			(0.0129)	(0.0135)		
SO Firm x Sept. 9			0.0118*	0.0106		
			(0.0065)	(0.0072)		
SO Firm x Sept. 13			-0.0098	-0.0159		
			(0.0171)	(0.0186)		
Roosevelt					-0.0031*	-0.0020
					(0.0019)	(0.0016)
Roosevelt x Sept. 7					0.0036	0.0036
					(0.0099)	(0.0105)
Roosevelt x Sept. 9					0.0058	0.0041
					(0.0067)	(0.0073)
Roosevelt x Sept. 13					-0.0095	-0.0144
					(0.0130)	(0.0135)
Log(Assets)		-0.0010*		-0.0008		-0.0007
		(0.0006)		(0.0005)		(0.0005)
Log(Age)		-0.0002		-0.0003		-0.0005
		(0.0005)		(0.0005)		(0.0005)
Leverage		0.0036		0.0032		0.0050
		(0.0036)		(0.0036)		(0.0035)
Constant	0.0058***	0.0226**	0.0064***	0.0194**	0.0066***	0.0196**
	(0.0012)	(0.0101)	(0.0011)	(0.0092)	(0.0012)	(0.0097)
Observations	973	907	973	907	973	907
R-squared	0.4301	0.4539	0.4309	0.4550	0.4302	0.4543
Net Return:						
Mean	0.0009	0.0011	0.0009	0.0011	0.0009	0.0011
Std. Dev.	0.0385	0.0381	0.0385	0.0381	0.0385	0.0381

Notes: Standard errors adjusted for clustering by firm in parentheses.
*** $p<0.01$, ** $p<0.05$, * $p<0.1$.

Table 4: McKinley Assassination Event Analysis using Net Returns, Banker Centrality

	All firms		Railroads		Industrials	
	(1)	(2)	(3)	(4)	(5)	(6)
Banker centrality	-0.0566*	-0.0227	-0.0692*	-0.0526	-0.0957	0.0542
	(0.0338)	(0.0344)	(0.0367)	(0.0364)	(0.1124)	(0.1234)
Sept. 7	-0.0765***	-0.0808***	-0.0954***	-0.0955***	-0.0566***	-0.0579***
	(0.0071)	(0.0075)	(0.0096)	(0.0096)	(0.0094)	(0.0127)
Sept. 9	0.0280***	0.0307***	0.0330***	0.0330***	0.0199***	0.0251***
	(0.0042)	(0.0044)	(0.0055)	(0.0055)	(0.0069)	(0.0085)
Sept. 13	-0.0725***	-0.0690***	-0.0785***	-0.0784***	-0.0654***	-0.0510***
	(0.0078)	(0.0066)	(0.0079)	(0.0078)	(0.0147)	(0.0123)
Centrality x Sept. 7	0.2458	0.3204*	0.6019***	0.6057***	-0.2662	-0.5291
	(0.1793)	(0.1853)	(0.1951)	(0.1946)	(0.4155)	(0.5687)
Centrality x Sept. 9	-0.1352	-0.1943**	-0.2420**	-0.2431**	0.3388	0.1702
	(0.0882)	(0.0898)	(0.0969)	(0.0967)	(0.2929)	(0.4911)
Centrality x Sept. 13	0.4269***	0.3467***	0.5456***	0.5460***	0.1067	-0.7772
	(0.1527)	(0.1302)	(0.1322)	(0.1338)	(0.6030)	(0.7075)
Log(Assets)		-0.0010*		-0.0017**		0.0006
		(0.0006)		(0.0008)		(0.0010)
Log(Age)		-0.0003		-0.0001		0.0004
		(0.0005)		(0.0006)		(0.0008)
Leverage		0.0042		0.0032		0.0072
		(0.0035)		(0.0038)		(0.0097)
Constant	0.0064***	0.0243**	0.0128***	0.0429***	0.0057***	-0.0076
	(0.0012)	(0.0101)	(0.0017)	(0.0153)	(0.0016)	(0.0167)
Observations	939	884	581	581	358	303
R-squared	0.4378	0.4535	0.5004	0.5026	0.3646	0.3893
Net Return:						
Mean	0.0009	0.0013	0.0031	0.0031	-0.0027	-0.0022
Std. Dev.	0.0382	0.0378	0.0374	0.0374	0.0394	0.0384

Notes: Standard errors adjusted for clustering by firm in parentheses.
*** $p<0.01$, ** $p<0.05$, * $p<0.1$.

Table 5: McKinley Assassination Event Analysis using Net Returns, Antitrust Targets

	All firms		Railroads		Industrials	
	(1)	(2)	(3)	(4)	(5)	(6)
Antitrust target	0.0002	-0.0004	0.0001	0.0006	0.0010	-0.0009
	(0.0016)	(0.0016)	(0.0022)	(0.0020)	(0.0025)	(0.0022)
Sept. 7	-0.0610***	-0.0635***	-0.0667***	-0.0668***	-0.0476***	-0.0529***
	(0.0060)	(0.0064)	(0.0071)	(0.0071)	(0.0110)	(0.0146)
Sept. 9	0.0161***	0.0172***	0.0178***	0.0178***	0.0121**	0.0152**
	(0.0036)	(0.0038)	(0.0044)	(0.0044)	(0.0058)	(0.0073)
Sept. 13	-0.0502***	-0.0505***	-0.0537***	-0.0535***	-0.0439***	-0.0439***
	(0.0051)	(0.0054)	(0.0068)	(0.0069)	(0.0070)	(0.0083)
Antitrust x Sept. 7	-0.0246***	-0.0239***	-0.0358***	-0.0357***	-0.0231*	-0.0192
	(0.0085)	(0.0089)	(0.0105)	(0.0106)	(0.0131)	(0.0165)
Antitrust x Sept. 9	0.0231***	0.0232***	0.0257***	0.0258***	0.0228**	0.0219**
	(0.0053)	(0.0055)	(0.0063)	(0.0063)	(0.0086)	(0.0098)
Antitrust x Sept. 13	-0.0272***	-0.0248***	-0.0221**	-0.0223**	-0.0352*	-0.0308*
	(0.0101)	(0.0088)	(0.0099)	(0.0099)	(0.0179)	(0.0158)
Log(Assets)		-0.0007		-0.0013*		0.0004
		(0.0005)		(0.0007)		(0.0008)
Log(Age)		-0.0005		-0.0004		0.0002
		(0.0005)		(0.0006)		(0.0008)
Leverage		0.0025		0.0015		0.0070
		(0.0037)		(0.0041)		(0.0106)
Constant	0.0059***	0.0194**	0.0105***	0.0339**	0.0046***	-0.0020
	(0.0012)	(0.0097)	(0.0014)	(0.0142)	(0.0014)	(0.0145)
Observations	973	907	590	590	383	317
R-squared	0.4505	0.4734	0.5102	0.5116	0.3799	0.4180
Net Return:						
Mean	0.0009	0.0011	0.0029	0.0029	-0.0021	-0.0021
Std. Dev.	0.0385	0.0381	0.0379	0.0379	0.0393	0.0381

Notes: Standard errors adjusted for clustering by firm in parentheses.
*** $p<0.01$, ** $p<0.05$, * $p<0.1$.

Table 6: McKinley Assassination Event Analysis using Net Returns, Community of Interest and Barriers to Entry

	All firms		Railroads		Industrials	
	(1)	(2)	(3)	(4)	(5)	(6)
Monopoly	0.0028*	0.0025	0.0023	0.0022	0.0033	0.0030
	(0.0016)	(0.0016)	(0.0020)	(0.0020)	(0.0022)	(0.0023)
Sept. 7	-0.0534***	-0.0563***	-0.0613***	-0.0613***	-0.0409***	-0.0441***
	(0.0064)	(0.0073)	(0.0087)	(0.0087)	(0.0084)	(0.0129)
Sept. 9	0.0155***	0.0165***	0.0173***	0.0173***	0.0124**	0.0138*
	(0.0037)	(0.0042)	(0.0050)	(0.0050)	(0.0054)	(0.0073)
Sept. 13	-0.0459***	-0.0461***	-0.0490***	-0.0485***	-0.0418***	-0.0410***
	(0.0060)	(0.0068)	(0.0086)	(0.0086)	(0.0083)	(0.0111)
Monopoly x Sept. 7	-0.0305***	-0.0276***	-0.0317***	-0.0316***	-0.0229**	-0.0196
	(0.0086)	(0.0093)	(0.0112)	(0.0113)	(0.0105)	(0.0144)
Monopoly x Sept. 9	0.0169***	0.0160***	0.0156**	0.0156**	0.0188**	0.0174*
	(0.0055)	(0.0058)	(0.0071)	(0.0071)	(0.0084)	(0.0099)
Monopoly x Sept. 13	-0.0193**	-0.0190**	-0.0201*	-0.0206*	-0.0133	-0.0140
	(0.0082)	(0.0088)	(0.0106)	(0.0106)	(0.0144)	(0.0162)
Log(Assets)		-0.0011*		-0.0015*		0.0005
		(0.0006)		(0.0008)		(0.0007)
Log(Age)		-0.0001		-0.0003		0.0012
		(0.0005)		(0.0006)		(0.0008)
Leverage		0.0025		0.0028		0.0005
		(0.0037)		(0.0042)		(0.0086)
Constant	0.0027*	0.0220**	0.0091***	0.0369**	0.0008	-0.0089
	(0.0014)	(0.0099)	(0.0013)	(0.0147)	(0.0017)	(0.0126)
Observations	879	832	590	590	289	242
R-squared	0.4511	0.4593	0.5010	0.5028	0.3443	0.3576
Net Return:						
Mean	0.0008	0.0011	0.0029	0.0029	-0.0035	-0.0032
Std. Dev.	0.0369	0.0373	0.0379	0.0379	0.0344	0.0353

Notes: Standard errors adjusted for clustering by firm in parentheses.
*** $p<0.01$, ** $p<0.05$, * $p<0.1$.

Table 7: McKinley Assassination Event Analysis using Net Returns, JP Morgan Firms

	All firms		Railroads		Industrials	
	(1)	(2)	(3)	(4)	(5)	(6)
Antitrust target	-0.0001	-0.0009	-0.0003	0.0000	0.0009	-0.0010
	(0.0017)	(0.0016)	(0.0023)	(0.0021)	(0.0026)	(0.0023)
JP Morgan Firm	-0.0052	-0.0061	-0.0110***	-0.0128***	0.0037	0.0043
	(0.0036)	(0.0042)	(0.0018)	(0.0024)	(0.0032)	(0.0032)
Antitrust x JPM Firm	0.0073*	0.0104**	0.0127***	0.0158***	-0.0009	-0.0017
	(0.0039)	(0.0047)	(0.0018)	(0.0024)	(0.0037)	(0.0072)
Sept. 7	-0.0606***	-0.0631***	-0.0665***	-0.0665***	-0.0475***	-0.0528***
	(0.0061)	(0.0065)	(0.0072)	(0.0072)	(0.0111)	(0.0148)
Sept. 9	0.0160***	0.0170***	0.0176***	0.0176***	0.0122**	0.0153**
	(0.0036)	(0.0038)	(0.0045)	(0.0045)	(0.0059)	(0.0074)
Sept. 13	-0.0503***	-0.0505***	-0.0539***	-0.0537***	-0.0437***	-0.0436***
	(0.0051)	(0.0054)	(0.0069)	(0.0069)	(0.0074)	(0.0087)
Antitrust x Sept. 7	-0.0239***	-0.0233**	-0.0360***	-0.0359***	-0.0224	-0.0185
	(0.0087)	(0.0090)	(0.0109)	(0.0109)	(0.0134)	(0.0168)
Antitrust x Sept. 9	0.0228***	0.0231***	0.0258***	0.0259***	0.0224**	0.0216**
	(0.0056)	(0.0058)	(0.0069)	(0.0069)	(0.0090)	(0.0102)
Antitrust x Sept. 13	-0.0277***	-0.0254***	-0.0232**	-0.0234**	-0.0350*	-0.0305*
	(0.0105)	(0.0091)	(0.0106)	(0.0106)	(0.0182)	(0.0160)
JPM Firm x Sept. 7	-0.0116*	-0.0097	-0.0005	-0.0006	-0.0131*	-0.0115
	(0.0065)	(0.0066)	(0.0084)	(0.0084)	(0.0074)	(0.0081)
JPM Firm x Sept. 9	0.0039	0.0026	0.0006	0.0006	0.0051	0.0030
	(0.0050)	(0.0051)	(0.0061)	(0.0061)	(0.0068)	(0.0072)
JPM Firm x Sept. 13	0.0062	0.0048	0.0093	0.0093	-0.0047	-0.0073
	(0.0101)	(0.0094)	(0.0115)	(0.0115)	(0.0122)	(0.0122)
Log(Assets)		-0.0011*		-0.0015*		0.0002
		(0.0006)		(0.0008)		(0.0013)
Log(Age)		-0.0004		-0.0006		0.0003
		(0.0005)		(0.0007)		(0.0010)
Leverage		0.0022		0.0015		0.0067
		(0.0039)		(0.0043)		(0.0111)
Constant	0.0060***	0.0257**	0.0107***	0.0382**	0.0045***	0.0008
	(0.0012)	(0.0110)	(0.0014)	(0.0157)	(0.0014)	(0.0216)
Observations	973	907	590	590	383	317
R-squared	0.4513	0.4745	0.5114	0.5132	0.3804	0.4185
Net Return:						
Mean	0.0009	0.0011	0.0029	0.0029	-0.0021	-0.0021
Std. Dev.	0.0385	0.0381	0.0379	0.0379	0.0393	0.0381

Notes: Standard errors adjusted for clustering by firm in parentheses.
*** $p<0.01$, ** $p<0.05$, * $p<0.1$.

Table 8: McKinley Assassination Event Analysis using Net Returns, Standard Oil Firms

	All firms		Railroads		Industrials	
	(1)	(2)	(3)	(4)	(5)	(6)
Antitrust target	0.0003	-0.0008	-0.0005	-0.0000	0.0021	-0.0006
	(0.0017)	(0.0016)	(0.0022)	(0.0020)	(0.0026)	(0.0023)
Standard Oil Firm	-0.0041*	-0.0031	-0.0024	-0.0020	-0.0064***	-0.0049
	(0.0021)	(0.0020)	(0.0025)	(0.0020)	(0.0024)	(0.0031)
Antitrust x SO Firm	0.0005	0.0030	0.0099***	0.0094***	-0.0014	0.0005
	(0.0037)	(0.0045)	(0.0016)	(0.0021)	(0.0037)	(0.0044)
Sept. 7	-0.0606***	-0.0625***	-0.0649***	-0.0649***	-0.0476***	-0.0521***
	(0.0062)	(0.0066)	(0.0072)	(0.0072)	(0.0114)	(0.0154)
Sept. 9	0.0152***	0.0161***	0.0163***	0.0163***	0.0116**	0.0147**
	(0.0036)	(0.0039)	(0.0047)	(0.0047)	(0.0055)	(0.0070)
Sept. 13	-0.0493***	-0.0487***	-0.0517***	-0.0514***	-0.0441***	-0.0427***
	(0.0051)	(0.0054)	(0.0067)	(0.0067)	(0.0074)	(0.0089)
Antitrust x Sept. 7	-0.0244***	-0.0238***	-0.0361***	-0.0361***	-0.0235*	-0.0194
	(0.0085)	(0.0088)	(0.0103)	(0.0103)	(0.0131)	(0.0165)
Antitrust x Sept. 9	0.0227***	0.0232***	0.0261***	0.0262***	0.0221**	0.0216**
	(0.0053)	(0.0054)	(0.0062)	(0.0062)	(0.0093)	(0.0100)
Antitrust x Sept. 13	-0.0270***	-0.0248***	-0.0232**	-0.0234**	-0.0354*	-0.0290*
	(0.0102)	(0.0086)	(0.0095)	(0.0096)	(0.0191)	(0.0156)
SO Firm x Sept. 7	-0.0053	-0.0115	-0.0246	-0.0246	0.0015	-0.0053
	(0.0137)	(0.0135)	(0.0166)	(0.0168)	(0.0126)	(0.0127)
SO Firm x Sept. 9	0.0095	0.0103	0.0147**	0.0147**	0.0057	0.0051
	(0.0073)	(0.0080)	(0.0068)	(0.0068)	(0.0129)	(0.0156)
SO Firm x Sept. 13	-0.0077	-0.0156	-0.0157	-0.0159	0.0021	-0.0160
	(0.0162)	(0.0167)	(0.0214)	(0.0214)	(0.0252)	(0.0270)
Log(Assets)		-0.0006		-0.0011		0.0006
		(0.0005)		(0.0007)		(0.0009)
Log(Age)		-0.0005		-0.0004		0.0005
		(0.0005)		(0.0007)		(0.0008)
Leverage		0.0012		-0.0002		0.0077
		(0.0040)		(0.0044)		(0.0117)
Constant	0.0064***	0.0175*	0.0107***	0.0327**	0.0051***	-0.0072
	(0.0012)	(0.0097)	(0.0015)	(0.0143)	(0.0013)	(0.0150)
Observations	973	907	590	590	383	317
R-squared	0.4524	0.4762	0.5150	0.5162	0.3838	0.4221
Net Return:						
Mean	0.0009	0.0011	0.0029	0.0029	-0.0021	-0.0021
Std. Dev.	0.0385	0.0381	0.0379	0.0379	0.0393	0.0381

Notes: Standard errors adjusted for clustering by firm in parentheses.
*** p<0.01, ** p<0.05, * p<0.1.

Table 9: McKinley Assassination Event Analysis using Net Returns, Connections to Roosevelt

	All firms		Railroads		Industrials	
	(1)	(2)	(3)	(4)	(5)	(6)
Antitrust target	0.0007	-0.0005	-0.0002	0.0002	0.0028	-0.0001
	(0.0018)	(0.0017)	(0.0024)	(0.0021)	(0.0029)	(0.0027)
Roosevelt	-0.0021	-0.0020	-0.0021	-0.0030	-0.0011	-0.0022
	(0.0020)	(0.0020)	(0.0030)	(0.0031)	(0.0025)	(0.0024)
Antitrust x Roosevelt	-0.0022	-0.0002	0.0025	0.0042	-0.0059	-0.0032
	(0.0027)	(0.0030)	(0.0027)	(0.0032)	(0.0038)	(0.0042)
Sept. 7	-0.0617***	-0.0640***	-0.0666***	-0.0666***	-0.0483***	-0.0534***
	(0.0066)	(0.0071)	(0.0077)	(0.0078)	(0.0120)	(0.0167)
Sept. 9	0.0158***	0.0169***	0.0179***	0.0179***	0.0108*	0.0139
	(0.0038)	(0.0041)	(0.0047)	(0.0047)	(0.0063)	(0.0082)
Sept. 13	-0.0495***	-0.0489***	-0.0530***	-0.0528***	-0.0428***	-0.0393***
	(0.0052)	(0.0055)	(0.0069)	(0.0070)	(0.0074)	(0.0085)
Antitrust x Sept. 7	-0.0249***	-0.0240***	-0.0359***	-0.0358***	-0.0236*	-0.0194
	(0.0085)	(0.0089)	(0.0106)	(0.0106)	(0.0130)	(0.0168)
Antitrust x Sept. 9	0.0229***	0.0231***	0.0258***	0.0259***	0.0218**	0.0215**
	(0.0053)	(0.0054)	(0.0064)	(0.0064)	(0.0085)	(0.0098)
Antitrust x Sept. 13	-0.0267**	-0.0241***	-0.0216**	-0.0217**	-0.0349*	-0.0303*
	(0.0103)	(0.0087)	(0.0099)	(0.0100)	(0.0186)	(0.0154)
Roosevelt x Sept. 7	0.0047	0.0031	-0.0004	-0.0005	0.0038	0.0019
	(0.0089)	(0.0091)	(0.0121)	(0.0122)	(0.0094)	(0.0109)
Roosevelt x Sept. 9	0.0022	0.0020	-0.0015	-0.0015	0.0082	0.0071
	(0.0055)	(0.0059)	(0.0060)	(0.0060)	(0.0092)	(0.0108)
Roosevelt x Sept. 13	-0.0059	-0.0121	-0.0098	-0.0097	-0.0050	-0.0181
	(0.0128)	(0.0127)	(0.0129)	(0.0132)	(0.0207)	(0.0202)
Log(Assets)		-0.0006		-0.0014*		0.0009
		(0.0006)		(0.0008)		(0.0009)
Log(Age)		-0.0006		-0.0004		-0.0006
		(0.0005)		(0.0006)		(0.0011)
Leverage		0.0037		0.0012		0.0112
		(0.0036)		(0.0041)		(0.0086)
Constant	0.0065***	0.0184*	0.0107***	0.0373**	0.0048***	-0.0097
	(0.0013)	(0.0106)	(0.0016)	(0.0161)	(0.0016)	(0.0147)
Observations	973	907	590	590	383	317
R-squared	0.4519	0.4750	0.5110	0.5125	0.3838	0.4236
Net Return:						
Mean	0.0009	0.0011	0.0029	0.0029	-0.0021	-0.0021
Std. Dev.	0.0385	0.0381	0.0379	0.0379	0.0393	0.0381

Notes: Standard errors adjusted for clustering by firm in parentheses.
*** $p<0.01$, ** $p<0.05$, * $p<0.1$.

Table 10: McKinley Assassination Event Analysis using Net Returns, Banker Centrality

	All firms		Railroads		Industrials	
	(1)	(2)	(3)	(4)	(5)	(6)
Antitrust target	-0.0002	-0.0014	-0.0014	-0.0009	0.0023	-0.0003
	(0.0020)	(0.0019)	(0.0029)	(0.0026)	(0.0029)	(0.0027)
Banker centrality	-0.0503	-0.0314	-0.0768*	-0.0604	0.0475	0.1692
	(0.0365)	(0.0387)	(0.0410)	(0.0429)	(0.1109)	(0.1082)
Antitrust x Centrality	-0.0264	0.0302	0.0100	0.0246	-0.1953*	-0.1427
	(0.0485)	(0.0444)	(0.0480)	(0.0534)	(0.1026)	(0.1917)
Sept. 7	-0.0632***	-0.0668***	-0.0789***	-0.0790***	-0.0471***	-0.0485**
	(0.0085)	(0.0095)	(0.0107)	(0.0108)	(0.0129)	(0.0197)
Sept. 9	0.0161***	0.0182***	0.0204***	0.0205***	0.0114*	0.0152
	(0.0046)	(0.0051)	(0.0063)	(0.0063)	(0.0067)	(0.0091)
Sept. 13	-0.0587***	-0.0571***	-0.0699***	-0.0697***	-0.0489***	-0.0402***
	(0.0071)	(0.0074)	(0.0106)	(0.0106)	(0.0091)	(0.0110)
Antitrust x Sept. 7	-0.0249***	-0.0241**	-0.0336***	-0.0336***	-0.0201	-0.0162
	(0.0087)	(0.0093)	(0.0103)	(0.0103)	(0.0128)	(0.0161)
Antitrust x Sept. 9	0.0243***	0.0235***	0.0258***	0.0258***	0.0229**	0.0216**
	(0.0053)	(0.0056)	(0.0065)	(0.0065)	(0.0097)	(0.0104)
Antitrust x Sept. 13	-0.0290***	-0.0241***	-0.0161	-0.0163	-0.0487**	-0.0309*
	(0.0099)	(0.0090)	(0.0101)	(0.0102)	(0.0232)	(0.0175)
Centrality x Sept. 7	0.1606	0.2001	0.4617**	0.4644**	-0.0892	-0.4616
	(0.1692)	(0.1817)	(0.1786)	(0.1788)	(0.4124)	(0.5342)
Centrality x Sept. 9	-0.0515	-0.0843	-0.1236	-0.1247	0.0533	-0.0349
	(0.0766)	(0.0829)	(0.0891)	(0.0886)	(0.2723)	(0.4120)
Centrality x Sept. 13	0.3536**	0.2673**	0.4712***	0.4713***	0.6541	-0.4788
	(0.1363)	(0.1221)	(0.1427)	(0.1438)	(0.7283)	(0.6312)
Log(Assets)		-0.0009		-0.0015*		0.0005
		(0.0006)		(0.0008)		(0.0012)
Log(Age)		-0.0004		-0.0003		0.0002
		(0.0006)		(0.0008)		(0.0009)
Leverage		0.0032		0.0015		0.0086
		(0.0038)		(0.0038)		(0.0113)
Constant	0.0067***	0.0239**	0.0134***	0.0395**	0.0045***	-0.0051
	(0.0014)	(0.0108)	(0.0022)	(0.0159)	(0.0017)	(0.0207)
Observations	939	884	581	581	358	303
R-squared	0.4623	0.4741	0.5240	0.5255	0.4004	0.4110
Net Return:						
Mean	0.0009	0.0013	0.0031	0.0031	-0.0027	-0.0022
Std. Dev.	0.0382	0.0378	0.0374	0.0374	0.0394	0.0384

Notes: Standard errors adjusted for clustering by firm in parentheses.
*** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

Table 11: Northern Securities Event Analysis using Cumulative Returns, Antitrust Targets

	All firms		Railroads		Industrials	
	(1)	(2)	(3)	(4)	(5)	(6)
Antitrust target	-0.0176*	-0.0225**	-0.0446***	-0.0453***	0.0140	0.0031
	(0.0097)	(0.0086)	(0.0107)	(0.0111)	(0.0152)	(0.0145)
Log(Assets)		-0.0138***		-0.0106*		-0.0080
		(0.0044)		(0.0062)		(0.0072)
Log(Age)		-0.0124***		-0.0185***		-0.0055
		(0.0047)		(0.0065)		(0.0070)
Leverage		0.0088		-0.0242		0.1009
		(0.0310)		(0.0273)		(0.0815)
Constant	0.0151	0.2813***	0.0195**	0.2711**	-0.0016	0.1464
	(0.0091)	(0.0799)	(0.0087)	(0.1040)	(0.0102)	(0.1344)
Observations	90	83	52	52	38	31
R-squared	0.0306	0.2316	0.1755	0.4191	0.0225	0.1139
Cumulative Return:						
Mean	0.0058	0.0060	0.0058	0.0058	0.0058	0.0064
Std. Dev.	0.0483	0.0460	0.0496	0.0496	0.0471	0.0401

Notes: Robust standard errors in parentheses. The dependent variable used is net returns cumulated from February 20th to March 1st, 1902.
*** $p<0.01$, ** $p<0.05$, * $p<0.1$.

Table 12: Coal Strike Event Analysis using Cumulative Returns, Industrials and Rail-roads

	All firms		Railroads		Industrials	
	(1)	(2)	(3)	(4)	(5)	(6)
Antitrust target	-0.0110	-0.0025	-0.0123	-0.0118	-0.0098	0.0100
	(0.0112)	(0.0083)	(0.0079)	(0.0081)	(0.0209)	(0.0154)
Log(Assets)		0.0032		0.0033		0.0034
		(0.0038)		(0.0050)		(0.0065)
Log(Age)		0.0018		0.0040		-0.0025
		(0.0029)		(0.0034)		(0.0062)
Leverage		-0.0025		-0.0019		-0.0100
		(0.0249)		(0.0264)		(0.0549)
Constant	-0.0222	-0.0885	-0.0421***	-0.1128	-0.0229	-0.0918
	(0.0136)	(0.0688)	(0.0059)	(0.0817)	(0.0183)	(0.1238)
Observations	99	91	53	53	46	38
R-squared	0.0395	0.0387	0.0309	0.0580	0.0055	0.0207
Cumulative Return:						
Mean	-0.0378	-0.0401	-0.0458	-0.0458	-0.0285	-0.0320
Std. Dev.	0.0513	0.0392	0.0323	0.0323	0.0660	0.0465

Notes: Robust standard errors in parentheses. The dependent variable used is net returns cumulated from October 1st to October 8th, 1902.
*** $p<0.01$, ** $p<0.05$, * $p<0.1$.