Why Did The Clayton Act Pass?
An Analysis of the Interest Group Hypothesis[*]

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COMMENTS WELCOME

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Abstract

Conventional wisdom has it that the Clayton Act of 1914 was enacted as a replacement for the Sherman Antitrust Act of 1890: as markets found a way of circumventing the anti-trust act, the story goes, monopolies and trusts began to develop again at the beginning of the century, making it necessary to revise the law. A second hypothesis asserts that since the Clayton Act redistributed welfare among different groups in the economy, interest groups influenced politicians' vote on the passage of the Act. In this paper, we investigate whether these assertions can be empirically confirmed by estimating a political voting model of the passing of the Clayton Act. We also use stock market data to investigate which interest group was affected the most by this legislation during its gestation period.

I. Introduction

American economic history is full of political debates and struggles. The period of 1885 to 1914 was no different-- as industrial capitalism emerged, so did the number of political issues related to this economic development. In the economic sphere, the U.S. had already begun its structural transformation by the late 1880s-- railroad development had connected the most important cities; new industries such as mining and steel, which required massive amounts of capital, had emerged; and the banking and financial services sector was quickly adjusting to provide the funds necessary to finance this phenomenal development.

On the political side, this transformation raised serious concerns over the extent to which businesses were able to dominate interstate commercial trade and prices. The trusts of the 1870s and early 1880s were viewed with strong populist disapproval. Gentlemen's agreements, or informal collusions, were allegedly rampant during this period, not just in the railroad industry but in other industries as well. In 1890, Congress enacted the Sherman Antitrust Act, thus formally commencing the era of anti-trust business regulation.

Populist concerns over monopolies and trusts lasted well into the early 1900s. The failed merger attempt of Northern Securities and the subsequent panic of 1902-03, the 1907-08 financial crisis, and the ostensibly illegal financial dealings of many busted conglomerates such as Standard Oil, American Tobacco, and the New York, New Haven and Hartford Railroad were enough to keep the trusts issue alive on the political agenda. Again, regulation was seen as

the answer, and the Clayton Act (as well as the Federal Trade Commission Act) was enacted in 1914.

There is a consensus in the political and economic history literature that the Clayton Act was passed as a response to the public outcry of this period. Its predecessor, the Sherman Anti-Trust Act of 1890, was perceived by many as ineffective since the greatest merger activity during this period occurred between 1895 and 1904, after the Act was in place. (Table 1 presents the number of consolidations from 1895 to 1904.) The financial crises of 1902 and 1907-08 were blamed on the attempts by businessmen and financiers to create monopolies--the Northern Securities scandal and Panic of 1902-03, and the revelations brought out by Louis D. Brandeis of J.P. Morgan's financial dealings (through the so-called "Money Trust") that ostensibly contributed to the Panic of 1907-08, served to solidify these populist beliefs.[1] Stopping monopolies before they could even be conceived, therefore, was seen as having the additional benefit of preventing such financial crises from occurring.

This perspective implies that congressmen enacted the Clayton Act purely as an altruistic response to these populist concerns. It ignores, however, the influence of other variables which may have played a fundamental role in determining the outcome of the vote. This alternative explanation is important to consider because, like many other laws passed by Congress, the imposition of the Clayton Act redistributed wealth among economic groups or agents in the country. Public choice theory predicts that when welfare redistribution is at stake,

[1] For a brief history of these events see DeLong (1991).

particular constituents or interest groups may try to influence the outcome of the vote.[2] This alternative explanation, while explored by some researchers in the context of the Clayton Act, has received surprisingly limited empirical attention.[3]

In this paper, we investigate which hypothesis(ses) can be empirically verified by looking at both the Senate and House vote on the Clayton Act. Before analyzing the votes, however, we empirically identify constituent groups that were more likely to be affected by the imposition of this legislation.

We also analyze the voting pattern of Senators first by looking at the distribution of votes by state, and second by estimating a voting equation using Theil's (1969) multinomial logit methodology. Finally, we perform an econometric analysis of the House vote to confirm the empirical results from the Senate vote.

The empirical findings are overall very supportive of the constituent/interest group hypothesis. The regression results clearly show that both Senators and Representatives did respond to their constituent interest when casting their votes. There is also, however, some support for the conventional, perhaps more ideological, perspective.

The rest of this paper is organized as follows: the following section II summarizes the main issues included in the Clayton Act and discusses the voting pattern of the Senate, broken down by state. Section III discusses the multinomial logit methodology and the data underlying

[2] The work of Stigler (1971) and Peltzman (1976) are perhaps the more important early contributions.

[3] This public choice perspective has been advanced by Benson and et. al. (1987) and Shughart and Tollison (1985). However, Ekelund, McDonald, and Tollison (1995) is the only empirical application of which we are aware. Their paper analyses the Senate vote using the standard probit technique. We expand their work by first empirically analyzing how companies with dominant market shares were affected by the imposition of

this study. Section IV briefly discusses the empirical results. Section V presents some concluding remarks.

II. Interest Groups and The Clayton Act

According to Senator Walsh of Montana, the purpose of the Clayton Act was "to preserve competition where it exists, to restore it where it is destroyed, and to permit it to spring up in new fields."[4] To accomplish this, the Clayton Act prohibited four specific types of monopolistic practice: (a) price discrimination, (b) exclusive-dealing contracts, (c) the acquisition of competing companies (through stock purchases), and (d) interlocking directorates among companies within the same industry. The act, however, allowed for exemptions--section 6, for example, partially exempted agricultural organizations, thereby enabling them to form cooperative associations without fear of violating the law.

Clearly, the issue of control -- price controls, control over commercial trade, and control over managerial practices -- was in the spirit of this legislation. The interlocking directorate restriction, for example, was aimed at curbing the managerial control of bankers and financiers like J.P. Morgan who held multiple seats in many different boards across many different (and sometimes competing) industries. It is not surprising that this restriction was included given, first, the revelations brought out during the Armstrong investigation of the

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the Act; second, by incorporating Theil's (1969) multinomial technique on the Senate vote; and third, by including the House vote in the analysis .

[4] Neal (1970), p. xxx

insurance industry, and second, the "Money Trust" hearings of 1912, orchestrated by Arséne Pujo and Samuel Untermyer. [5]

The Act, however, partially exempted labor and agricultural organizations from the domain of trusts violations. That neither type of organization or cooperative was perceived as being part of the trusts problem, and that it was therefore justifiable to exempt them from the Act strikes us as being naïve at best. Benson, Greenhut, and Holocombe (1987) argue that economic interests were very likely at play with the agricultural sector of the economy winning at the expense of the manufacturing and industrial sectors. In addition, Ekelund, McDonald, and Tollison (1995) sustain that this legislation affected companies of different size disproportionately, and thus its enactment may have resulted in a net redistribution of wealth from smaller companies to larger ones.

Both public choice analyses of this legislation, thus, identify three major interest groups at play: agriculture, large manufacturing companies with dominant market shares, and small manufacturing companies with limited market share. It is relatively straightfoward to see how and why agricultural interests were affected by this legislation -- its section 6, as already indicated, was very favorable to agricultural groups. It is also obvious to argue that large manufacturing companies with dominant market shares, and even smaller companies with limited market shares, were adversely affected by the enactment of this legislation. For companies with dominant market shares the stakes are clearly very high because the law made it much harder

[5] For a comprehensive background on these issues see Roe (1995) and DeLong (1991).

for these companies to survive. For example, interlocking directorates -- banned by this legislation -- were very common among large firms during this period.[6] To the extent that banker directors helped firms in their financing and growth (as shown by De Long (1991) and Ramirez (1995)), the banning of interlocking of directorates could have also adversely affected smaller companies with high growth prospects.

It is much harder, however, to try to pin down exactly the extent to which this legislation affected large companies with dominant market share relative to its effect on smaller, less dominant ones. On one hand, Ekelund, McDonald, and Tollison (1995) argue that the this legislation benefited large, dominant companies over smaller ones, because it was easier for a larger company to circumvent the Act's tying agreement restrictions as well as company acquisition limitations. On the other hand, it is possible to argue that the Act adversely affected larger companies relatively more since they faced a higher probability of being sued for violation of the Act restrictions. Clearly, the acquisition of a competitor by a large company with a significant market share would be more likely to raise government bureaucrats' eyebrows, and perhaps even increase public outcry, than if a smaller company had done it. From this standpoint, smaller companies benefited relatively more from this legislation. Stigler (1985, p. 4) argues a similar point: "The Clayton Act (1914) displayed a concern with predatory competition which probably reflects [small business] opposition to big business."

These conflicting explanations, therefore, make it difficult to unambigously determine

[6] For a detailed explanation of how this practice of interlocking directorates evolved, and how it might have

(from a theoretical standpoint) the relative effect of this Act on these two groups (large versus small business). Although Ekelund, McDonald, and Tollison (1995) make a valiant attempt to identify this relative effect empirically, both because of possibly conflicting theoretical explanations as well as data limitations, their results show mixed support for their hypothesis.

III. Interest Groups and Stock Market Evidence

We adopt a different approach in the analysis of the impact of this legislation on (small versus large) business groups. Rather than re-analyzing how this legislation could have affected (positively or negatively) these two groups, we try to identify, using stock market data, which of the two was actually affected the most. To do this, we compare two constructed market value weekly indices -- one composed of large companies with dominant market share in their industries, and another one that includes a control group of small firms.[7] Clearly, a detailed event study of this legislation is not possible, since by the time it was enacted, its effects were fully anticipated. Moreover, it may not even be that useful to find out exactly the first day the bill was introduced in the House or the Senate, since different versions of this bill were being drafted and revised by different Senators and Congressmen.

Instead, we compare the relative variances of these two indices during the gestation period of this legislation. Large swings in the market value of one of this two groups would suggest that legislation uncertainty did affect investors' perceptions of the impact of anti-trust

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helped companies with their growth and financing see Carosso (1970), De Long (1991) and Ramirez (1995).

legislation. If, for example, the volatility of the large companies index is higher than the volatility of the small companies index this would suggest, in the absence of other news that would affect these two indices disproportionately, that the impending legislation made large companies more nervous than smaller ones. Can this be empirically confirmed?

Chart 1 displays both indices from March 1912 to January 1914 on a weekly basis. The choice of the starting and ending dates is somewhat arbitrary -- clearly it must be long enough to cover a comprehensive gestation period, but not so long that would include the effects of other shocks like the aftermath of the dissolution of Standard Oil and American Tobacco in 1911, and, on the other end, the initial effects of the military conflicts in Europe in 1914. The beginning of the gestation period is also somewhat arbitrary -- we chose the 1912 elections because anti-trust legislation uncertainty arguably increased after the Democrats won the elections. (As the voting analysis shows below, Democrats heavily favored the passage of anti-trust legislation.) By January of 1914 congressional debates regarding the Clayton bill were well underway, and thus, by then, we argue, its enactment was fully anticipated (including its more important restrictions).

A glance at the Chart clearly indicates that the volatility of the large companies index is unambigously higher than the volatility of the control group of smaller firms.[8] Two or three weeks after the 1912 elections, the large companies index drops precipitously relative to the control sample index. Subsequent swings are also reflected more on the large company market

[7] For a detailed description of the companies included in these two indices see Data Appendix.

value index. Thus, it is evident that the variability of the large company market value index is substantially greater the variability of the control group market value index.

An important question, however, is whether the swings in the large company market value index can be atributed to political (or legislation) uncertainty. To address this issue we consult the financial press reports on what Wall Street was commenting on during this period. The following quote, taken from the "Financial Situation in America" section of the February 17, 1913 New York Times, is self-explanatory:

> "The decline which stocks have suffered have carried the general level of quotations to the lowest level of the year, and to the lowest point touched since the Autumn of 1911. Many say that stocks are cheap, but few are buying. Wherein lies the explanation of this apparent contradiction? Quite possibly, as many believe, it is to be found chiefly in the restriction which unsettled politics, using the term broadly, has put upon the investment market and upon ordinary financial operations. 'Yes, stocks seem cheap,' remarked the other day a member of one of the great international houses, 'but are equities ever cheap at a time of political attack on the established order of things? Certainly the established order is under attack to-day, and with the incoming new Administration the attack is likely to increase in violence'."

[8] An F-test two-sample for variances easily rejects the null hypothesis of equal variances at the 1% level.

A couple of weeks later, on March 3rd, the upswing in the value of stocks was partly attributed to Wall Street relief stemming from the final report of the Money Trust investigation.

> "In part at least the improvement which occurred in the stock market last week after new low levels had been reached early in the week was due to the feeling in some quarters that pessimism had been carried to extreme... The report of the [Pujo] [C]ommittee which undertook to disclose the money trust discovered no such octopus of the money world as the promoters of this investigation had promised to reveal."

These two quotes are by no means exhaustive. Political and legislative uncertainty was clearly being reflected on financial markets during this period. What is interesting, however, is the fact that the index of companies with low market share dominance did not react in the same fashion. Although there are some swings in that index, it is actually relatively stable in comparison to the index of companies with high market share dominance. It is therefore possible to argue that large industrial companies with substantial market shares were evidently more concerned about the outcome of this legislation than relatively smaller companies with little market dominance. In the following section we analyze how the industrial sector, as a whole, tried to influence the outcome of this legislation.

IV. Interest Groups and the Clayton Vote

A. Senate Vote Analysis

To illustrate the hypothesis that the outcome of the Senate vote may have been influenced by either constituent interests and/or pressure groups, it is useful to look at pattern of the vote. First, it is important to point out that the Clayton Act was passed on the Senate floor by a vote of 46 to 16. However, looking only at the "yea" and "nay" votes is misleading because of the numerous senators who were absent or who simply abstained from voting (34 in total). We consider abstaining a genuine choice because many senators did in fact opt for it. Hence, it is important to consider it as part of the voting strategy. By abstaining, a senator increases the probability that a "winning" bill passes (by not opposing it), or that a "losing" bill is rejected (by not favoring it). Consequently, our econometric analysis includes the "non-voting" choice that many senators did select (intentionally or otherwise) during the passage of this bill.

Table 2 presents a breakdown of the vote by state, including those that chose not to vote. The table is constructed using the different voting outcome categories for two senators. Because each senator essentially had three choices, and there are two senators per state, then there are six different possible combinations in which states can be classified. The table arranges them in a quasi "nay to yea" spectrum, with the extremes being both senators either voting "nay" or both voting "yea." The purpose of this designation and arrangement is to see whether any discernible patterns emerge from the votes.

The first noticeable observation is that there are only two states for which both senators voted “nay”. By contrast, there are 16 states for which both senators voted "yea." However,

when one takes into account the other categories in the table, a more interesting pattern emerges: Southern states tend to be located more toward the "yea" side of the spectrum, whereas New England states tend to be located more toward the "nay" side of it. While this pattern is not perfect, it is unlikely that it would emerge out of pure coincidence. Because Southern states tended to have more agricultural organizations, it is possible, although not conclusive, that this voting pattern for the South would reflect constituent interest and/or pressure group influence. By the same token, New England states were much more industrialized, with strong representation from the manufacturing sector of the economy. Again, this supports the constituent interest hypothesis.

It may be tempting to conclude that constituent interests and/or pressure groups influenced the outcome of the vote based on this pattern of votes alone. However, this would be premature. To be able to obtain more conclusive results, one must do a careful econometric analysis of the actual vote. The standard way of analyzing voting patterns relies on the use of probit/logit regressions. Typically, a senator and/or congressman is assumed to choose between two alternatives-- either "yea" or "nay." This voting outcome is then used as the dependent variable in probit/logit analyses with economic and/or constituent interest variables, as well as variables that capture ideology as the regressors.[9]

[9] See for example Peltzman (1984), Kalt and Zupan (1984), and Goldin and Libecap (1994). We are aware of the ongoing debate in the literature related to the “economic” versus “political” approaches of modeling voting behavior. In this paper we adopt the economic approach in order to test the constituent interest hypothesis. For a clear exposition of the “political” or “ideological” approach see Poole and Rosenthal (1996). Lopez (1997) provides an excellent chronological survey of the empirical congressional voting literature.

We adopt a similar procedure in this paper, but with the difference that our dependent variable can take on three responses. It is therefore appropriate to use Theil's (1969) multinomial logit procedure that allows the dependent variable to have an arbitrary number of categories and/or responses.[10]

Because of data availability problems, there are only a few variables we can use to control for each senator's ideological position. Thus, although a senator's political affiliation is available (and we use it), more comprehensive ideology variables such as those constructed nowadays by watchdog organizations (like Americans for Democratic Action (ADA), or Americans for Constitutional Action (ACA)) are not. As a crude remedy, we use, besides political affiliation, a constructed dummy variable that takes the value of 1 if the politician was first elected to his Senate seat in or after 1910, and 0 otherwise. We call this the Trustbuster Senator dummy to capture the ideology of these senators, the assumption being that senators who were elected during this period must have run on the trusts issue platform in order to attract (ideological) votes during this election period, as the 1909-1913 period was very much characterized by the degree of public awareness of the trusts problem. (Standard Oil and American Tobacco were dissolved in 1911; the Money Trust investigation was completed in 1912; Louis D. Brandeis' criticisms of the monopolistic practices of Charles Mellen's New Haven Railroad were heralded with cheers after the road declared bankruptcy in 1913, etc.)

Clearly, other independent variables must be included in the multinomial logit analyses to

[10] This technique has been used by other researchers in other applications. For example, Schmidt and

test the constituent interest/pressure groups hypothesis. These are: (a) the state's manufacturing sector profits relative to the state's wealth; and (b) the 1908-1910 average business failure rate in the state.[11]

The intention behind including the state's manufacturing sector profits relative to the state's wealth is to capture constituent groups that are most likely to be (either adversely or favorably) affected by the passage of this bill. The higher the value of this variable, the more "important" is the manufacturing sector in the state. Therefore, one would expect that interest groups from states where the manufacturing sector is relatively more important would have a greater influence on a senator's choice for "nay." Conversely, the lower the value of this variable, the more likely the state's economy depends more on agriculture, and thus, the higher the chances that their senators would vote in favor of the Act.

As an example of a very industrialized state, consider Pennsylvania, which housed many of the most important assets of large companies such as U.S. Steel and Standard Oil, among others. It would not be far-fetched to think that this relatively industrial state would have had constituent groups lobbying its senators to vote against the Clayton bill. (In fact, for this state, one senator voted "Nay" and the other did not vote.)

The second variable, the average failure rate, intends to capture whether the senator's vote choice reflects the (correct or incorrect) perception of the public that monopolistic

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Strauss (1975) use it to identify variables that could help to explain a worker's choice of occupation.

practices were somehow responsible for, or at the very least increased the likelihood of, the financial crises of the period, and that therefore, the "right" thing to do was to try to stop these monopolies before they precipitated other panics. If constituents believed that this was the case, then senators whose states were hit relatively hard during the financial panic of 1908 should have been more inclined to favor the bill, if only to please their constituent's beliefs. It is not clear, however, that this variable represents purely constituent interests. After all, if a senator personally believed that attempts to monopolize an industry increase the chance of having financial panics, then it is possible to argue that the average failure rate variable may pick up his belief, rather than his constituents.

The last two variables included in the empirical analysis are the age of the senator and whether he was representing one of the Southern states. The age variable is included to control for his re-election interests. It is possible to argue that younger senators stand to lose more from not being re-elected than older senators who are thinking about retirement anyway. Thus, if voting against his constituents' wishes increases the probability of not being re-elected, one would expect that an older senator would be more likely to risk it than a younger one.

The last variable, a Southern state dummy, is included as a way to pick up other effects beyond those already captured by the constituent interests variables. Its inclusion serves to test the stability of the profits-relative-to-wealth variable. In particular, if the significance of the economic interest variable is driven by Southern states, including a dummy variable for the

[11] In the data appendix, we explain carefully the definition and data sources for each of these variables.

South should reduce it substantially. In the next section we discuss in more detail the empirical findings.

B. Senate Vote Empirical Results

Tables 3, 4 and 5 present the estimated multinomial logit regressions. Table 3 includes all of the independent variables considered in the study. In Tables 4 and 5 some of the independent variables are eliminated in order to test the stability (magnitude of coefficients as well as statistical significance) of the remaining variables.

Since there are three possible responses for each senator, and the multinomial logit procedure estimates a probability model of an outcome (or response) relative to any other one, we present three possible different model combinations: 1. probability of voting "yea" relative to voting "nay"; 2. probability of not voting relative to voting "nay"; and 3. probability of voting "yea" relative to not voting. [12]

In each of the tables, we present two different sets of results: "Actual Senate Vote" and "Intentional Senate Vote." The intentional vote imputes a "yea" or "nay" vote to a non-voting choice if we were able to determine the senator's preference from the Congressional Record pages. As the tables indicate, there are no significant differences between these two sets of results.

[12] By the rule of logarithms, $Ln(P_i/P_j) = -Ln(P_j/P_i)$ for $i,j = \{0,1,2\}$. Thus, although there are a total of six ways

The results in Table 3 indicate that the constituent interest variable, manufacturing profit relative to wealth, is by far the most precisely estimated-- its coefficient is negative and statistically significant at the 5% level in the first two models (where the probabilities of voting "yea" or not voting are estimated relative to the probability of voting "nay"). Thus, a senator is very likely to move towards the "nay" side of the spectrum the higher this variable is. This result is very robust -- in Tables 4 and 5 the estimated coefficient is still negative and very precisely estimated.

The other significant variables (but only at the 10% level) in this table are the average failure rate and the trustbuster senator dummy, again in the first two models. A positive coefficient in the average failure rate variable implies that senators were more likely to not oppose the bill (either by voting in its favor or abstaining) the harder their states were financially hit. Although the estimated coefficient is positive in all equations, it is imprecisely estimated, and thus not significant in many of the equations. Table 3 also indicates that senators elected in or after 1910 were much more likely to vote in favor of the bill than either abstaining or voting against. Thus, although a crude measure of ideology, it does carry some explanatory power, even after controlling for the age of the senator.

The empirical results in all the tables offer some evidence that political affiliation mattered when senators were casting their votes. The model is able to detect a statistically

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in which one can choose two from a set of three, only three of them are truly different.

significant difference is when comparing the "yea" outcome relative to abstention. This suggests, therefore, that there were strong party differences between those who voted in favor and those who abstained. However, this is hardly surprising -- Democrats were indeed much more likely to vote in favor of the bill, most of those who abstained were Republican.

The age of the senator gains some statistical significance in Table 5, which eliminates the Trustbuster senator dummy from Table 4. This is not surprising as one would expect that a senator who was elected to his seat in or after 1910 is more likely to be young.

C. House Vote

The House passed the Clayton Bill on June 5, 1913 by a vote of 277 to 54 with 102 not voting. Thus, just as already observed in the Senate vote, a large proportion of Congressmen opted for the not voting option. In this case, however, data limitations are even more severe, as there is no constituent groups information at a disaggregated enough level. We therefore must rely, once again, on data at the state level to complete the analysis. At the very least this is useful as a way to confirm the main results of the Senate vote.

Table 6 presents the results for the House vote. The dependent variable is the proportion of Congressmen in a given state who voted in favor of the bill. As independent variables we include the proportion of Congressmen who were Democrats in the state (as a way to control for ideology), as well as the ratio of manufacturing profits divided by the state's

wealth (the most significant constituent interest variable in the Senate vote analysis). The intuition for the inclusion of these two variables is quite similar to the one used in the Senate vote analysis. We therefore, discuss the empirical results directly.

The weighted least squares regression reveals a pattern quite consistent with that observed for the Senate vote.[13] First, as reflected in the multinomial logits, this bill was heavily favored by Democrats -- a one point increase in the proportion of Democrats in a given state is associated with about a quarter of a point increase in the proportion of Congressmen voting in favor of the act. Second, the manufacturing profits relative to the state's wealth variable is also negative and statistically significant. Thus, it certainly seems that constituent groups had strong influence on the outcome of the House vote as well.

V. Concluding Remarks

The trusts issue, which remained politically alive during the Progressive Era, culminated with the passage of the Clayton Act and the Federal Trade Commission Act in 1914. The conventional wisdom has it that politicians enacted this Act as a response to the perceived ineffectiveness of the Sherman Antitrust Act of 1890. This perception of ineffectiveness was the result of several economic events during this period -- the greatest merger movement in American history which took place soon after the Sherman Act was enacted, the allegations that

[13] Because the residuals of a standard OLS regression are correlated with the size of the state, heteroskedasticity is certainly a problem. Weighted least squares corrects this econometric problem. The weight used is the total number of Congressmen in the state. For more on this see, Judge, et. al. (1985).

powerful investment bankers and financiers were orchestrating financial dealings among the largest railroad and industrial companies with the intention of creating monopolies, and the recurrent financial crises which were ostensibly caused by these bankers.

The results of this analysis challenges this conventional wisdom. Stock market evidence indicates that indeed investors were very concerned about the impending legislation. After the 1912 presidential elections, the stock price index of companies with substantial market share declined to unprecedented levels and did not recuperate until after the military conflicts in Europe began in 1914. Thus, political and legislative uncertainty did have real costs for corporations. It is therefore unsuprising that they would attempt to influence policymakers during this period.

A simple display of the voting pattern of the Senate reveals that senators from Southern states tended to favor the passage of the Act, while senators from New England states, tended to be against it. Using Theil's (1969) multinomial logit analysis, we are able to detect economic interest variables that explain, with higher precision, the senators' voting choice. Constituent interests and pressure groups certainly did influence the Senate vote, even after controlling for ideology variables. We confirm this result by incorporating the House vote in the analysis. Here, too, the evidence indicates that Congressmen were influenced by constituent interests, even after controlling for their political affiliation.

While these findings are consistent with the public choice interpretation of the passage of

the Clayton Act, they do not completely rule out the possibility that general populist anti-monopoly pressure, very much present during this period, may have also contributed to the passage of the Act.

Data Appendix

I. Stock Market Indices

A. Companies with high market share

This index is the average of the market value of the equity of the following nine companies: Amalgamated Copper, American Can, American Car and Foundry, American Linseed, American Woolen, Distillers Securities, International Paper, Railway Steel Spring, and United States Cast Iron Pipe Company. This sample was obtained at random from Lamouroux's (1994) comprehensive list of companies with substantial market share at the turn of the 20th century. None of the companies included in our sample underwent an antitrust lawsuit, or merger activity during the period. The market value of the (common stock) equity is defined as the closing stock price times the number of common shares outstanding for the week.

B. Companies with low market share (Control Sample)

This index is the average of the market value of the equity of the following companies: American Glue, American Screw, Babson & Wilcox, Crocker Wheeler, Celluloid Corp, Mergenthaler Linotype, Otis Elevator, Quicksilver, and Singer Corp. This sample was obtained at random from the financial pages of the New York Times. Stock price data was not reported for American Glue, nor for Crocker Wheeler for part of the sample period. Excluding them from the index (for the period in which data was reported) did not affect the variance in any

significant way.

II. Senate and House Vote Data

The data we employ in this study come from several sources. From the 1914 Congressional Records we obtained both the Senate and the House vote on the Clayton Act. For the senators, we codified the vote as: 0 = "nay"; 1 = absent/abstain; 2 = "yea."

"Manuf. Profits/Wealth" is defined as value added in manufacturing minus manufacturing wages in 1909, divided by the state's wealth in 1910. All of these variables are taken from the 1912 and 1913 Statistical Abstract of the United States.

"Ave. Failure Rate 1908-10" is defined as the commercial failure rate in 1908 plus the commercial failure rate in 1910 divided by 2. These failure rates are also taken from the Statistical Abstract of the United States as well as from Dun's Review.

"Trustbuster Senator" is a dummy variable that takes the value of 1 if a senator was first elected to his seat in or after 1910, and 0 otherwise.

"Age" is defined as 1914 minus the year the senator was born.

"Political Party" is a dummy variable that takes the value of 1 if a senator is a Democrat, and 0 otherwise.

"Southern State" is a dummy variable that takes the value of 1 if the senator is from one of the following states: Alabama, Arkansas, Florida, Georgia, Kentucky, Louisiana, Mississippi, North Carolina, South Carolina, Tennessee, Texas, and Virginia. It is equal to 0 otherwise.

Table 1
1895-1915 Number of Consolidations

Year	*Number of Consolidations*
1895	28
1896	9
1897	60
1898	252
1899	857
1900	267
1901	225
1902	196
1903	50
1904	30
1905	56
1906	8
1907	36
1908	22
1909	10
1910	41
1911	39
1912	37
1913	11
1914	19
1915	22

Source: Nelson (1959), Appendix B, Table B-2, pp. 141-143.

Market Value Indices: Companies with Dominant Market Share vs. Control Sample - March 1912 to J

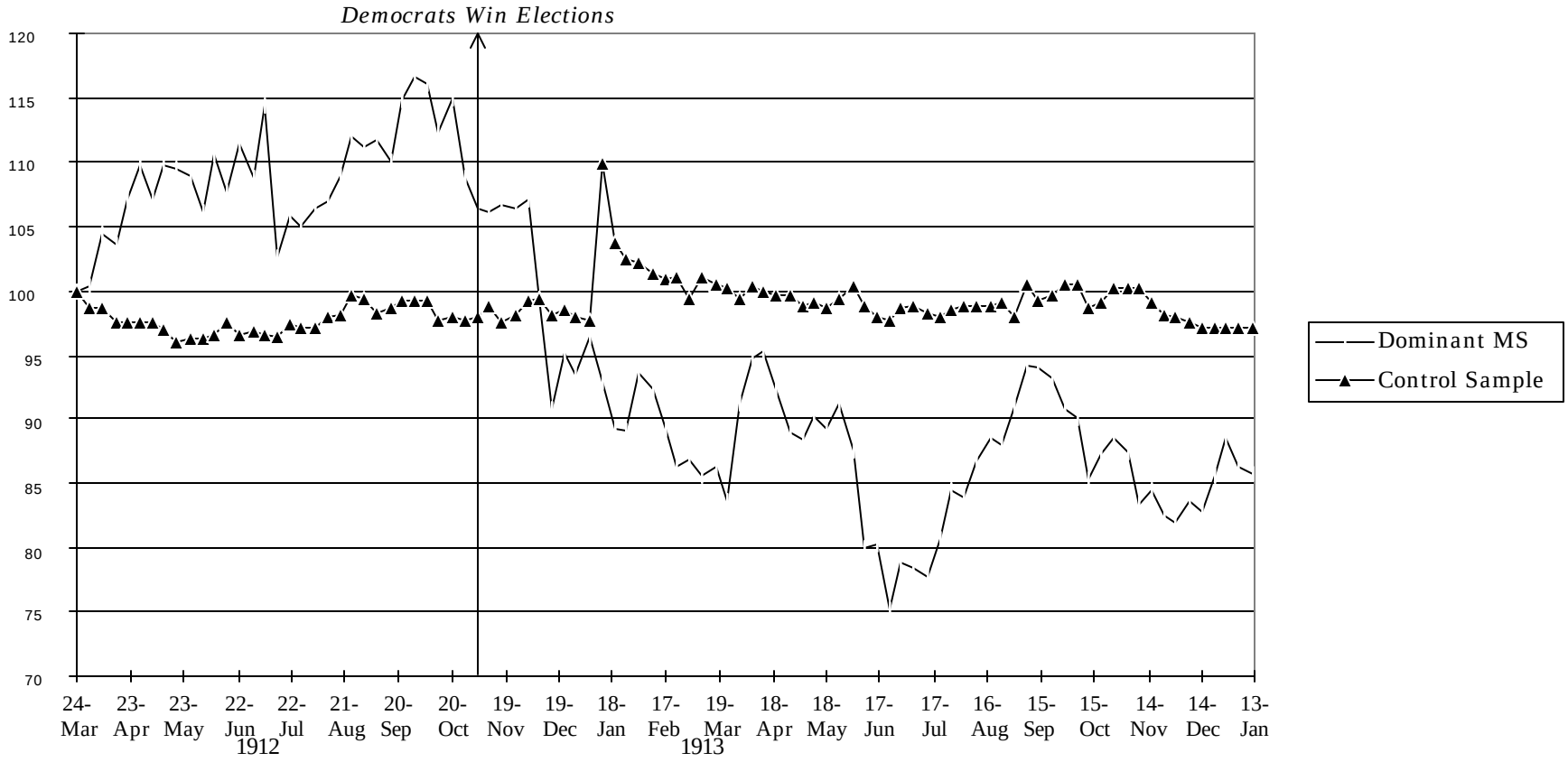

Table 2
Senate Vote: Breakdown By State

Both No	***One No; One Absent***	***Both Absent***	***One No; One Yes***	***One Yes; One Absent***	***Both Yes***
Michigan **Rhode Island**	**Connecticut** Delaware New Mexico North Dakota Pennsylvania Utah **Vermont** Wyoming	*Arkansas* *Georgia* **Maine** **Massachusetts** Oklahoma *South Carolina* South Dakota Wisconsin	Idaho Minnesota **New Hampshire** Ohio	Arizona California Colorado Illinois Kansas *Kentucky* *Mississippi* Missouri New York West Virginia	*Alabama* *Florida* Indiana Iowa *Louisiana* Maryland Montana Nebraska Nevada New Jersey *North Carolina* Oregon *Tennessee* *Texas* *Virginia* Washington

New England states. *Southern states*.

Table 3
Multinomial Logit Results
Senate Vote on the Clayton Act

Variable	$Ln(P_2/P_0)$	$Ln(P_1/P_0)$	$Ln(P_2/P_1)$	$Ln(P_2/P_0)$	$Ln(P_1/P_0)$	$Ln(P_2/P_1)$
	Actual Senate Vote			*Intentional Senate Vote*		
Constant	-1.92	-3.10	1.18	-1.16	-4.45	3.28
	3.31	*3.81*	*1.77*	*3.28*	*2.89*	*1.43*
Manuf Profits/Wealth	-0.05[a]	-0.04[a]	-0.01	-0.06[a]	-0.04[a]	-0.02
	0.02	*0.01*	*0.02*	*0.02*	*0.01*	*0.02*
Ave Failure Rate 1908-10	1.79[b]	1.53	0.26	0.70	0.96	-0.26
	1.08	*1.06*	*0.49*	*0.99*	*0.98*	*0.60*
Trustbuster Senator	1.50[b]	1.04[c]	0.46	1.65[a]	1.11[b]	0.54
	0.87	*0.70*	*0.45*	*0.74*	*0.66*	*0.56*
Age	0.00	0.04	-0.04	0.00	0.07[b]	-0.07[a]
	0.05	*0.05*	*0.03*	*0.04*	*0.04*	*0.02*
Political Party	10.54	9.41	1.13[a]	10.71	8.84	1.87[a]
	7.91	*8.17*	*0.46*	*16.83*	*16.83*	*0.59*
Southern State	6.23	5.63	0.60	6.06	5.99	0.07
	4.19	*4.01*	*0.55*	*8.99*	*9.00*	*0.63*
Number of Observations		96			96	
Log Likelihood Function		-71.45			-63.53	

Multinomial Logit results for the Clayton Act. The dependent variable is constructed as follows: "Vote in Favor" -- (2); "Did not vote" -- (1); "Vote against"-- (0). "Manuf Profit/Wealth" is the 1909 value of manufacturing profit divided by the state's wealth. "Ave Failure Rate 1908-10" is the average commercial failure rate for each state for 1908 and 1910. "Trustbuster Senator" is a dummy variable equal to 1 if the senator was first elected to his seat in or after 1910; it is equal to 0 otherwise. "Age" is the senator's age in 1914. "Political Party" is a dummy variable equal to 1 if the senator was a Democrat; it is equal to 0 otherwise. "Southern State" is a dummy variable equal to 1 if the senator was from one the Southern states; it is equal to 0 otherwise. For a more detailed definition and source of each variable see Data Appendix. Standard errors are included in italics under each estimated coefficient. Statistical significance is indicated with letters: a = 5%, two-tailed test; b = 10%, two-tailed test; c = 15%, two-tailed test.

Table 4
Multinomial Logit Results
Senate Vote on the Clayton Act

Variable	$Ln(P_2/P_0)$	$Ln(P_1/P_0)$	$Ln(P_2/P_1)$	$Ln(P_2/P_0)$	$Ln(P_1/P_0)$	$Ln(P_2/P_1)$
	Actual Senate Vote			*Intentional Senate Vote*		
Constant	0.75	-0.53	1.27	0.03	-2.91	2.93[c]
	2.66	*2.37*	*1.65*	*2.51*	*2.28*	*1.89*
Manuf Profits/Wealth	-0.04[a]	-0.03[b]	-0.01	-0.05[a]	-0.04[a]	-0.01
	0.02	*0.015*	*0.02*	*0.02*	*0.02*	*0.02*
Trustbuster Senator	1.38[b]	1.00[c]	0.38	1.64[a]	1.12[b]	0.51
	0.75	*0.66*	*0.44*	*0.77*	*0.67*	*0.53*
Age	0.02	0.01	0.01	0.00	0.05[c]	-0.06[a]
	0.04	*0.04*	*0.03*	*0.04*	*0.03*	*0.03*
Political Party	10.67	9.26	1.41[a]	11.07	9.22	1.85[a]
	8.34	*8.36*	*0.45*	*16.01*	*16.05*	*0.45*
Number of Observations		96			96	
Log Likelihood Function		-73.50			-64.18	

Multinomial Logit results for the Clayton Act. The dependent variable is constructed as follows: "Vote in Favor" -- (2); "Did not vote" -- (1); "Vote against"-- (0). "Manuf Profit/Wealth" is the 1909 value of manufacturing profit divided by the state's wealth. "Trustbuster Senator" is a dummy variable equal to 1 if the senator was first elected to his seat in or after 1910; it is equal to 0 otherwise. "Age" is the senator's age in 1914. "Political Party" is a dummy variable equal to 1 if the senator was a Democrat; it is equal to 0 otherwise. For a more detailed definition and source of each variable see Data Appendix. Standard errors are included in italics under each estimated coefficient. Statistical significance is indicated with letters: a = 5%, two-tailed test; b = 10%, two-tailed test; c = 15%, two-tailed test.

Table 5
Multinomial Logit Results
Senate Vote on the Clayton Act

Variable	$Ln(P_2/P_0)$	$Ln(P_1/P_0)$	$Ln(P_2/P_1)$	$Ln(P_2/P_0)$	$Ln(P_1/P_0)$	$Ln(P_2/P_1)$
	Actual Senate Vote			*Intentional Senate Vote*		
Constant	2.11	0.31	1.80	1.83	-1.89	3.72[a]
	2.35	*2.15*	*29.13*	*1.63*	*1.37*	*1.76*
Manuf Profits/Wealth	-0.04[a]	-0.03[c]	-0.01	-0.04[a]	-0.03[a]	-0.01
	0.02	*0.02*	*0.03*	*0.02*	*0.01*	*0.02*
Age	-0.03	0.01	-0.04	-0.03	0.04[a]	-0.07[A]
	0.03	*0.03*	*0.04*	*0.03*	*0.02*	*0.03*
Political Party	10.77	9.37	1.41	10.70	8.88	1.82[a]
	9.59	*9.60*	*4.40*	*13.39*	*13.41*	*0.51*
Number of Observations		96			96	
Log Likelihood Function		-75.06			-66.26	

Multinomial Logit results for the Clayton Act. The dependent variable is constructed as follows: "Vote in Favor" -- (2); "Did not vote" -- (1); "Vote against"-- (0). "Manuf Profit/Wealth" is the 1909 value of manufacturing profit divided by the state's wealth. "Age" is the senator's age in 1914. "Political Party" is a dummy variable equal to 1 if the senator was a Democrat; it is equal to 0 otherwise. For a more detailed definition and source of each variable see Data Appendix. Standard errors are included in italics under each estimated coefficient. Statistical significance is indicated with letters: a = 5%, two-tailed test; b = 10%, two-tailed test; c = 15%, two-tailed test.

Table 6
House Vote on the Clayton Act

Variable	*Regression Results*
Constant	0.62[a]
	0.08
Manuf Profits/Wealth	-4.69[a]
	1.90
Democrats Prop	0.22[a]
	0.08
Number of Observations	48
Adjusted R-Squared	0.70

Weighted Least Squares results for the House vote on the Clayton Act. The dependent variable is the proportion of Congressman who voted in favor for a given state. "Manuf Profit/Wealth" is the 1909 value of manufacturing profit divided by the state's wealth. "Democrats Prop" is the proportion of Congressmen who were Democrats for a given state. For a more detailed definition and source of each variable see Data Appendix. All regressions are weighted by the total number of Congressmen in each state. Standard errors are included in italics under each estimated coefficient. Statistical significance is indicated with letters: a = 5%, two-tailed test; b = 10%, two-tailed test; c = 15%, two-tailed test.

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