THE ROLE OF LEGAL PRECEDENTS IN THE DIFFUSION OF NEW EMPLOYMENT DOCTRINES, 1978-99

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This paper uses social network theory and hazard analysis to evaluate the role of legal precedents in the diffusion of three important exceptions to the employment-at-will rule in American employment law over the period from 1978-99. It attempts to determine which legal precedents were most important in the diffusion process and whether economic or political variables influenced courts' adoption decisions. The results are surprising and quite striking. It appears that precedents by other courts within the same federal circuit district were the most influential in the diffusion process, even though the precedents were on matters of state law rather than federal law and the decisions were usually made by state courts rather than federal courts. Moreover, one of the exceptions – the "implied contract" exception – appeared to influence the adoption of the others, even though the others did not appear to influence the adoption of the implied contract exception. Finally, economic and political variables did not appear to be important in the diffusion process, even though the new employment laws may have had important economic consequences.

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INTRODUCTION

Wrongful-discharge laws have recently been the subject of vigorous debate. Most of the debate has focused on the economic consequences of three recent exceptions to the employment-at-will rule. In an early study, Dertouzos and Karoly [1992] found that states' adoption of wrongful discharge laws led to as much as a three percent reduction in aggregate employment. In a subsequent study, however, Miles [2000] found that wrongful discharge laws had no statistically significant effects on employment. Most recently, Autor et al. [2004] have sought to reconcile the two studies. They find that the employment effects of wrongful discharge laws lie somewhere in between those found by Dertouzos and Karoly [1992] and Miles [2000].

In contrast to these previous studies, this paper focuses on the diffusion of the new employment laws across the states. It attempts to determine which precedents were most important in the diffusion process and whether economic or political variables influenced courts' adoption decisions. The results are surprising and quite striking. It appears that precedents by other courts within the same federal circuit district were the most influential in the diffusion process, even though the precedents were on matters of state law rather than federal law and the decisions were usually made by state courts rather than federal courts. Moreover, one of the exceptions – the "implied contract" exception – appeared to influence the adoption of the others, even though the others did not appear to influence the adoption of the implied contract exception. Finally, economic and political variables did not appear to be important in the diffusion process, even though the new employment laws may have had important economic consequences.

OVERVIEW

Exceptions to Employment-At-Will

The employment-at-will rule was described in a classic nineteenth century case as allowing employers to "discharge or retain employees at-will for good cause or for no cause or even for bad cause without thereby being guilty of an unlawful act per se."[1] The court went on to note that it was a right which employees "may exercise in the same way, to the same extent, for the same cause or want of cause as the employer…."[2] Although employment-at-will became the generally accepted default rule for employment contracts in all states by the early twentieth century, it emerged from the case law only in the late nineteenth century [Morriss 1994]. By the middle of the twentieth century, however, few cases that challenged the rule were even taken to court [Morriss 1994]. Ironically, the history of American employment law since the middle of the twentieth century has been dominated by the emergence and diffusion of various exceptions to the rule and a proliferation of wrongful discharge cases.

The employment-at-will rule was first modified by a California court in *Petermann v. International Brotherhood of Teamsters*[3] in 1959. Soon after that, Lawrence Blades [1967] published an influential article criticizing the rule; several other commentators subsequently also criticized the rule [Morriss 1994]. Between the late 1970's and the 1990's the rule was successively modified throughout most of the states

[1] *Payen v. Western & Atl. R.R.*, 81 Tenn. 507, 518 (1884), overruled on other grounds, *Hutton v. Watters*, 179 S.W. 134 (Tenn. 1915).

[2] *Id.*

[3] *Petermann v. International Brotherhood of Teamster*, 344 P.2d 27 (Cal. Ct. App. 1959).

by court decisions that adopted one or more of three basic exceptions to the employment-at-will rule.[4] For convenience, these have been described in the literature as the implied contract exception, the public policy exception, and the good faith exception [e.g. Morris 1994; Miles 2000; Autor et al. 2004]. Each of the exceptions is rooted in a fundamental legal doctrine that justifies a departure from the employment-at-will rule.

Under the implied contract doctrine, courts infer that the parties have implicitly contracted around the employment-at-will rule, usually through the assurances implicit in the employer's procedures and practices. These assurances may be oral, but they are more commonly included in a personnel manual or employees' handbook or other written information provided by the employer to the employee [Miles 2000; Autor et al. 2004]. Although many employers now include disclaimers of the implied contract doctrine in their personnel manuals and employees' handbooks, some courts have held that these are ineffective [Miles 2000]. Under the public policy doctrine, courts hold that an employee's discharge was wrongful if it violated well-established principles of public policy [Miles 2000; Autor et al. 2004]. The doctrine normally applies only when an employee is terminated for refusing to commit an illegal act, such as price-fixing or perjury, or for missing work to perform a legal duty, such as jury duty, or for exercising a legal right, such as filing a workman's compensation claim, or for disclosing the employer's wrongdoing. Under the good faith doctrine, courts hold that an employee's discharge was wrongful if it served to prevent the employee from realizing her contract rights -- for instance, because she was denied compensation she was due for commission

[4] Only three states (Florida, Georgia, and Rhode Island) have never adopted any of the exceptions; 10 states, on the other hand, have adopted all three [Autor et al. 2004].

sales, or because she was discharged just before her pension was about to vest [Miles 2000; Autor et al. 2004].

The Diffusion Process

This study attempts to assess how and why the three exceptions to the employment-at-will diffused across most of the American states. A number of previous studies in the social sciences and law have also examined the diffusion of new laws across the states. Some of these have focused on the diffusion of new state legislation [Fishback and Kantor 1983; Mooney 2001; Mahoney 2003], while others have examined the diffusion of new legal precedents [Canon and Baum 1981; Caldeira 1985; Sisk et al.1998], but only two have directly addressed the employment-at–will rule. In one study, Morriss [1994] examined the diffusion of the employment-at-will rule during the late nineteenth century, and in another Krueger [1991] examined the diffusion of unjust-dismissal legislation proposals across the states. No one has yet examined the diffusion of the exceptions to the employment-at-will rule across the states.[5]

In an early study Walker [1969] framed the research problem as a sociological phenomenon and drew insights from the sociological literature on the diffusion of innovations [for an overview, see Rogers 1995].[6] Many of the subsequent studies have

[5] Walsh [1997] used wrongful-discharge cases to study the role of legal citations in court opinions. He found evidence that legal citations in wrongful discharge cases reflected both meaningful inter-court influences and courts' legitimizations of their decisions. His study did not, however, attempt to explain the diffusion of the wrongful-discharge laws.

[6] Becker and Murphy [2000] have shown how this sociological approach can be used in conjunction with conventional economic analysis. See also Van den Bulte and Lilien [1999; 2001].

also adopted this approach [Canon and Baum 1981; Caldeira 1985; Mooney 2001; Boehmke and Witmer 2004]. Indeed, there is a natural sense in which new legislation and new legal precedents are merely innovations like any others, and legislatures' or courts' decisions to adopt them bear an analogy to the decisions that other actors make about whether to adopt new production techniques, professional practices, or modes of behavior. This study therefore also draws on that approach. From this perspective, the American legal system is a social network and the decisions of a court in any one state depend to some extent on the relative influence or persuasiveness of precedents by courts in other states. The relative influence of precedents by other courts depends on the relationship between the two courts in the social network. Decisions by courts within the same reference group (a subgroup that relate more closely to one another than to others outside the group) will be more persuasive than decisions by courts that are not within the reference group.[7]

Of course, the American legal system is somewhat more complicated than that, and so precedents operate on at least three levels. Cases must first of all "bubble up" to the courts before the courts can have a chance to hold on any new legal questions they raise. In the American legal system parties are responsible for asserting their private legal rights and so a precedent by a court in another state adopting an exception to the employment-at-will rule could encourage discharged employees to seek a remedy for

[7] This study does not attempt to account for the judicial reasoning behind courts' adoption decisions. Indeed, a study of that nature would require a much richer data set. Sisk et al. [1998], for instance, were able to exploit exhaustive data on three hundred federal district judges' decisions on the constitutionality of the federal criminal Sentencing Guidelines in the 1980s to draw inferences about the judges' reasoning. Such data sets are extremely rare.

wrongful discharge based on the same exception. They would normally then take their case to an attorney. At this second stage in the process, court precedents adopting an exception to employment-at-will in other states might encourage the discharged employee's attorney(s) to accept the case and use the exception as the basis for a wrongful discharge complaint. At that point, the question of whether the exception applies in the discharged employee's state would come before a court and the court would be required to make a decision one way or another.

The social structure of the legal system could be important at all three stages in the process. First of all, a discharged employee may be more likely to feel she has grounds for a lawsuit against her employer if she hears about a successful wrongful discharge case from another jurisdiction, and she may be more likely to hear about such a case if it is from a neighboring state or a state within the same region of the country than if it is from some distant and dissimilar state. Secondly, any attorney to whom she initially takes her grievances may be more inclined to take the case in reliance on a precedent if he feels it will be a persuasive one that will allow his client's complaint to survive summary judgment. An attorney might feel that a precedent from a court within the same federal circuit district or the same geographical region will be more persuasive than others. Finally, the court that hears the case may actually be more persuaded by some precedents than others; courts may be more strongly influenced by precedents within the same federal circuit district or the same geographical region of the country or by courts in states that belong to some other reference group, whatever that might be.

One of the difficulties in using social network theory to study the diffusion of legal precedents is in identifying the relevant reference groups. What criteria determine

whether another court's precedent will be persuasive? Previous studies of legal citations in courts' opinions suggest that the persuasiveness of a precedent may depend on criteria such as membership in the same legal reporting district, geographical proximity, and regional culture [Canon and Baum 1981; Caldeira 1985]. Other studies suggest that the federal circuits are an important reference group for federal judges and that federal judges frequently attend the meetings of the state bar associations within their circuit districts [Carp 1972; Stidham and Carp 1988]. This suggests that the federal circuit districts may also define an important reference group for attorneys and state judges.

This study therefore identified four reference groups and tested and compared the influence of precedents by other courts within these groups in the diffusion of the new employment doctrines. The four reference groups were 1) neighboring states, 2) states within the same federal circuit district, 3) states within the same West reporting region, and 4) states within the same census region. The objective in the first place was to determine whether precedents within any of these reference groups were at all persuasive on their own, and in the second place to distinguish whether precedents in any one of the reference groups were generally any more influential than precedents in the others.[8]

Of course, each of the three exceptions to the employment-at-will rule is legally distinct from the others. Nonetheless, the adoption of one of the exceptions by the courts within a state may have influenced their decision whether to adopt one of the other exceptions. For instance, a court's decision to adopt the implied contract exception may have subsequently influenced that court or another court within that state to have adopted

[8] Some studies [Walker 1969; Caldeira 1985] have suggested that certain states' courts (e.g. California's, New York's) may be influential nationally. Since precedents by courts in these states would affect all other

the public policy exception. Alternatively, a court's decision to adopt the good faith exception may have subsequently influenced it or another court within that state to have adopted the implied contract exception. Therefore, this study also attempts to determine whether prior adoptions of other exceptions influenced the diffusion of each of the employment doctrines.

Economic and political factors may also have been important. Indeed, the prior studies on the economic effects of the wrongful discharge laws suggest that courts may have been influenced by labor market conditions as well as the legal precedents [Dertouzos and Karoly 1992; Miles 2000; Autor et al. 2004]. And there is always the possibility that the courts are influenced by larger political and ideological trends and so this study also attempts to account for political factors [Morriss 1994]. Finally, the likelihood of wrongful discharge cases bubbling up to the courts probably depended in part on the sheer size of the labor markets and the absolute number of employment terminations. This study therefore also attempts to account for this scale effect.

THE DATA

The Employment Doctrines

The dates on which each of the exceptions to the employment-at-will rule were adopted as the law in any state were obtained from the study by Autor et al. (2002).[9] These dates were used to create the following binary variables for each of the

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states' courts equally, these influences would not affect the results of this study.

[9] As Morris [1995] explains, it is difficult, if not impossible, to date the timing of changes in the common

employment doctrines:

IMPLIEDCONTRACT is equal to zero in each state in each year in which the implied contract exception had not been adopted and one in each state in each year in which the implied contract exception had been adopted;

PUBLICPOLICY is equal to zero in each state in each year in which the public policy exception had not been adopted and one in each state in each year in which the public policy exception had been adopted; and

GOODFAITH is equal to zero in each state in each year in which the good faith exception had not been adopted and one in each state in each year in which the good faith exception had been adopted.

Since the Autor et al. (2002) study spanned the years from 1978-99 and included Alaska and Hawaii as well as all contiguous states, the sample includes 1100 observations on each of the variables. Summary statistics on the three employment doctrine variables are presented in Table 1. Since the implied contract and public policy exceptions were much more widely adopted over the sample period than the good faith exception, the means of IMPLIEDCONTRACT and PUBLICPOLICY are significantly greater than the mean of GOODFAITH. Since these are binary variables, the standard deviations provide little information.

The "Social Network" or "Contagion" Variables

A state court's decisions (or a federal court's decisions on questions of state law) have no binding authority over other states' courts, but they may well have significant

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law precisely. In this study, therefore, we use annual data.

persuasive authority. They may also encourage litigants in other states to invoke new legal doctrines. IMPLIEDCONTRACT, PUBLICPOLICY, and GOODFAITH were therefore used to construct a number of "social network" or "contagion"[10] variables. These provide a way of evaluating the precedential effects of prior adoptions of the doctrines by courts in other states. Contagion variables were constructed to isolate and compare the effects of precedents by courts in 1) neighboring states, 2) the same federal circuit district, 3) the same West reporting region, and 4) the same census region.[11] Two variations of the contagion variables were constructed: one based on the proportion of states within the reference group that had adopted the employment doctrine by each year (which we refer to for convenience as proportional contagion variables), and the other based on the absolute number of states in the reference group that had adopted the employment doctrines by each year (which we refer to for convenience as numerical contagion variables). For precedents in neighboring states, this implied the following variables:

IMPLIEDNEIGH is equal to the proportion of neighboring (contiguous) states that had

[10] When the decisions taken by actors within a social network are subject to social influences the interdependence can cause a diffusion effect which is similar to the spread of a disease – hence the use of the term "contagion" variables.

[11] The census regions were chosen to determine whether regional cultural similarities may have factored in the relative influence of legal precedents. To that end, two of the states, Delaware and Maryland, were reclassified as "Middle Atlantic" states instead of "South Atlantic" states. The former grouping includes New Jersey, New York, and Pennsylvania. The latter includes primarily southern coastal states, such as Florida, Georgia, and South Carolina. It was thought that Delaware and Maryland have more cultural similarities with the Mid-Atlantic states than with the southern states.

adopted the implied contract doctrine in each year;[12]

NUMIMPLIEDNEIGH is equal to the number of neighboring (contiguous) states that had adopted the implied contract doctrine in each year;

PUBLICNEIGH is equal to the proportion of neighboring (contiguous) states that had adopted the public policy doctrine in each year;

NUMPUBLICNEIGH is equal to the number of neighboring (contiguous) states that had adopted the public policy doctrine in each year;

GOODNEIGH is equal to the proportion of neighboring (contiguous) states that had adopted the good faith doctrine in each year;

NUMGOODNEIGH is equal to the number of neighboring (contiguous) states that had adopted the good faith doctrine in each year.

Similar variables were defined for precedents within the same federal circuit districts, the same West reporting regions,[13] and the same census regions.[14] These were named IMPLIEDCIR, NUMIMPLIEDCIR, PUBLICCIR, NUMPUBLICCIR, GOODCIR, and NUMGOODCIR, for the federal circuit effects, IMPLIEDWEST, NUMIMPLIEDWEST, PUBLICWEST, NUMPUBLICWEST, GOODWEST, and NUMGOODWEST for the West reporting region effects, and IMPLIEDCEN, NUMIMPLIEDCEN, PUBLICCEN, NUMPUBLICCEN, GOODCEN, and NUMGOODCEN for the census region effects.

Summary statistics for each of the contagion variables are presented in Tables 2

[12] Alaska and Hawaii are assumed to have no neighbors; therefore IMPLIEDNEIGH, PUBLICNEIGH, and GOODNEIGH are equal to zero for those states in each year.

[13] The West reporting regions are described in Cohen and Olson [1996].

[14] The U.S. Census Bureau describes these at http://www.census.gov/geo/www/us_regdiv.pdf.

and 3. The means of the contagion variables for the implied contract and public policy doctrines are significantly greater than those for the good faith doctrine because the former were so much more widely adopted than the latter. With the exception of the contagion variables defined for the good faith doctrine, the values ranged from zero to one. In Table 2 a zero means that none of the states in the reference group had adopted the doctrine; a one means that all of the states in the reference group had adopted the doctrine. Since these are not binary variables the standard deviations are a little more meaningful. It is interesting to note that the standard deviations for the good faith contagion variables are proportionately larger (relative to their means) than those for the implied contract and public policy contagion variables.

It is often the case that a state belongs to two or more of the reference groups for another state. For instance, Oregon is a neighbor of California, as well as a member of the same federal circuit district, and the same West reporting region, and even the same census region. A precedent in Oregon, therefore, could influence courts in California through Oregon's membership in any or all of these reference groups. It is not surprising, therefore, that the contagion variables defined for each of the employment doctrines generally exhibit a high degree of correlation. Indeed, the correlation coefficients for the implied contract contagion variables are all over 0.7. The correlation coefficients for the public policy contagion variables are a little smaller. The correlation coefficients for the good faith contagion variables are the smallest: they range from 0.4388 to almost 0.7. One would naturally expect that these large correlations should make it difficult to distinguish between the effects of precedents within the various reference groups. This made some of the results particularly striking.

Economic Variables

Most of the research on the employment doctrines has focused on their economic effects. Since these doctrines should all, in theory at least, increase the costs to employers from wrongfully discharging employees, they might also inhibit employers from hiring workers in the first place. Thus, Dertouzos and Karoly (1992), Miles [2000], and Autor et al. (2002) have studied and debated the labor market responses to the diffusion of the new employment laws. Of course, if a court anticipated that a new legal holding adopting one of the employment doctrines might have adverse consequences for labor markets that might influence the court's decision. For instance, a court might have been less likely to adopt an exception to the employment-at-will rule if the state unemployment rate was already high. Or it might have been more likely to adopt an exception if the proportion of the state's labor force that was unionized was high (under the reasonable assumption that the exception would have less impact on the unionized sector of the labor market). To test whether courts may have been responsive to labor market conditions in their states in deciding whether to adopt one of the new doctrines, therefore, some economic variables were added to the data set.

UNEMRATE is the state's average annual unemployment rate expressed as a percentage of the total labor force.[15]

UNIONMEM is the percentage of the state's nonagricultural labor force that belonged to a union in each year as calculated by Hirsch et al. [2001].[16]

[15] UNEMRATE is from the Bureau of Labor Statistics website: www.bls.gov/lau/home.htm.

[16] See Hirsch et al. [2001] for a more precise description of how UNIONMEM was constructed from the

The likelihood that a case might come up requiring a court to make a decision about whether to adopt one of the new employment doctrines probably depended in large part on the size of the labor market. Other things equal, the likelihood that a plaintiff might have asserted a cause of action based on one of the new employment doctrines should have depended on the number of contentious employment terminations, and the number of contentious employment terminations should have depended on the total number of people employed. Thus, the absolute size of the labor market could have influenced the likelihood of adoption. The data set thus included LABORFORCE. LABORFORCE is the absolute size of the state's labor force in each year.[17]

Political Variable

A state's political culture may have influenced its courts' propensity to adopt one of the new employment doctrines directly, through the selection of state court judges, or indirectly, through the social context in which the judges made their decisions. To capture the effect of the state's political culture, REDSTATE was added to the data set. REDSTATE is a binary variable indicating whether the state voted for the Republican or Democratic candidate in the most recent presidential election.[18] A value of one indicates that the state voted for the Republican and a zero indicates it voted for the Democrat.

EMPIRICAL METHOD

Current Population Survey and the Directory of National Unions and Employer Associations.

[17] LABORFORCE was also taken from the Bureau of Labor Statistics website: www.bls.gov/lau/home.htm.

[18] REDSTATE was constructed from maps made available by the Geospatial and Statistical Data Center at the University of Virginia Library website: http://fisher.lib.virginia.edu/collections/stats/elections/maps/.

This paper uses hazard methods to investigate which legal precedents and other variables influenced the diffusion of the three exceptions to the employment-at-will rule across the states. There are two basic approaches to hazard analysis: one assumes that the data are generated in continuous time and the other assumes they are generated at discrete intervals. This paper uses both, employing the Cox regression model for the former and the logistic regression model for the latter. The Cox regression model assumes that the likelihood a new employment doctrine is adopted in any state in any year – the "hazard" rate -- can be expressed as the product of some baseline hazard rate and a function of the explanatory variables. The explanatory variables thus affect the likelihood of adoption only by shifting the baseline hazard rate. [Kiefer 1988]. The advantage of this method is that the coefficients of the explanatory variables can be estimated without estimating the baseline hazard rate. It is in this respect a semi-parametric method, and it usually provides estimates that are more robust than fully parametric methods [Kiefer 1988].

Although social scientific data are usually generated continuously, they are usually recorded at discrete intervals (e.g. monthly or annually). Discrete-time hazard methods estimate the hazard rate using some binary dependent variable estimation procedure. The complementary log-log specification provides estimates that are the discrete time analog of the Cox model [Allison 1982; Jenkins 1995], but the logistic model is the one most commonly employed. In most applications the logistic model provides estimates that are very similar to the complementary log-log model [Jenkins 1995], but it does offer some distinct advantages. One is that it always constrains the probably of an event (here the probability that a state court adopts an employment doctrine) to lie between zero and one [Allison 1982]. Another general advantage of

discrete-time methods is that they permit the coefficients of the explanatory variables to be estimated without imposing any restrictions on the baseline hazard rate, even the restriction that it is merely constant [Kennedy 2003]. If binary variables for each time interval are included in the regressions then each time interval can contribute to the intercept of the model separately. This is tantamount to allowing the baseline hazard rate to vary across each interval.

The basic strategy was to try to identify robust empirical results. Thus, many regressions were run to determine whether the results were robust to the way in which the contagion variables were defined (as a proportion or an absolute number), whether continuous- or discrete-time methods were employed, and which explanatory variables were included in the model. Not all of the results are presented in this paper, but none of the results that have been omitted contradict any of the conclusions.[19]

RESULTS

The Implied Contract Exception

Table 4 reports results from Cox regressions in which IMPLIEDCONTRACT was

[19] One result that we do not report that may be of some interest is that there did not appear to be any "southern effect" in the diffusion of the exceptions to the employment-at-will rule. Autor et al. [2004] noted that there was a negative correlation between the southern region and the adoption of the wrongful-discharge doctrines, and so a binary variable for the southern states was included in some of the estimations. It turns out that any southern effect disappears when contagion variables are included in the regressions. Aside from this, we report the results that are most representative of our central findings instead of exhaustively reporting every regression that we ran.

the dependent variable and the proportional contagion variables (e.g. IMPLIEDNEIGH, IMPLIEDCIR, etc.) were used as explanatory variables.[20] Some of the regressions also included as explanatory variables PUBLICPOLICY, GOODFAITH, REDSTATE, LABORFORCE, UNEMRATE, UNIONMEM, and PUBLICCIR. Some of the results are quite striking and surprisingly robust.

Column 1 reports the results of a Cox regression in which all of the proportional implied contract contagion variables were included in the estimations as well as PUBLICPOLICY, GOODFAITH, REDSTATE, LABORFORCE, UNEMRATE, and UNIONMEM. What is most striking about these results is that IMPLIEDCIR is the only contagion variable that is positive and statistically significant. Indeed, in light of the high degree of correlation between these contagion variables (see Table 2) it is remarkable that any of them should be statistically significant. That one of them should dominate the others is most remarkable of all.[21] Indeed, this reflects the single most striking and robust result of the entire study: decisions to adopt a new employment doctrine, particularly the implied contract doctrine, by other courts within the same federal circuit district appeared to dominate decisions to adopt the new employment doctrine by other courts in neighboring states, the same West reporting region, or the same census region. There did appear to be a social network effect in the diffusion of the exceptions to the employment-at-will rule and it was one that appeared to operate most strongly through the federal circuit districts.

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[20] All of the Cox regressions in this study were done using the exact partial likelihood method to break ties in the survival times. The proportional hazard assumptions appeared to be satisfied in all estimations.

[21] In this context, when we say that IMPLIEDCIR "dominates" we mean that it is the only contagion variable that is both positive and statistically significant.

In so far as the implied contract exception was concerned, this result was independent of which explanatory variables were included in the regressions, the way the contagion variables were defined, and whether continuous- or discrete-time estimation methods were used. The remainder of the columns in Table 4 present results from Cox regressions in which some of the explanatory variables shown in column 1 were dropped from the estimations (and in one case, shown in column 2, another explanatory variable, PUBLICCIR, was added). IMPLIEDCIR is positive and statistically significant in every case. Indeed, it was positive and statistically significant regardless of which of these variables were included in the estimations. Moreover, it clearly dominated IMPLIEDNEIGH, IMPLIEDWEST, and IMPLIEDCEN both collectively and individually. Table 7 presents results from Cox regressions in which the implied contract exception was the dependent variable and the numerical implied contract contagion variables were used in the estimations. The results are essentially the same. The dominance of the federal circuit districts in the social network effects clearly does not depend on whether the effects are measured with proportional or numerical variables. Table 10 presents results from logistic regressions.[22] As these indicate, the dominance of the federal circuit districts does not depend on whether continuous- or discrete-time estimation methods are used either.

It is interesting to note that neither PUBLICPOLICY nor GOODFAITH were statistically significant in any of the estimations. In fact, the coefficient of GOODFAITH was actually negative in some cases. This indicates that a prior decision by a state court

[22] In addition to the variables shown, binary variables for each year were also included in the regressions. This allowed estimation without assuming a constant baseline hazard rate.

to adopt the public policy exception or the good faith exception did not increase the likelihood that the state's courts would subsequently adopt the implied contract exception. This is consistent with the view that the implied contract exception was the broadest of the three exceptions. Column 2 reports results from a Cox regression in which PUBLICCIR was included as an explanatory variable. PUBLICCIR captures the effects of decisions by other courts within the same federal circuit district to adopt the public policy exception as state law. Its coefficient is negative; thus decisions by other courts within the same federal circuit district to adopt the public policy exception had no influence on the diffusion of the implied contract exception either.[23]

It is also interesting to note that none of LABORFORCE, UNEMRATE, or UNIONMEM had a positive and statistically significant effect in any of the estimations. Indeed, this was true when they were tested both individually and collectively. The results in Table 4 indicate that none of them are statistically significant individually. Likelihood ratio tests also reject the hypotheses that all three or any two of them were statistically significant. While the implied contract doctrine may have had consequences for labor markets, therefore, labor market conditions and the size of the labor market did not have a statistically significant effect on the diffusion of the implied contract doctrine across the states.

Finally, it is interesting to note that REDSTATE is positive and statistically significant in all of the estimations. Given the way that REDSTATE was defined, this suggests that state courts were more likely to adopt the implied contract exception if the

[23] This is generally true for all the public policy contagion variables as well as the good faith contagion variables. Table 4 only presents results for PUBLICCIR because this is the one that was most likely to

state had voted for the Republican candidate in the previous presidential election. While one might have expected a state's political orientation to influence the evolution of its employment laws, it is difficult to understand why a Republican orientation, and presumably a more conservative, pro-market political leaning, should have increased the likelihood that state employment law would have deviated from the employment-at-will rule. Indeed, this may have been coincidental. Many state courts adopted the implied contract exception during the early to middle 1980's. This was, of course, right in the middle of the Reagan presidency, and it coincided with Reagan's second term electoral sweep. All of the estimations were therefore done without REDSTATE, and all of the other results were robust regardless of whether REDSTATE was included.

The Public Policy Exception

Table 5 reports results from Cox regressions in which PUBLICPOLICY was the dependent variable and the proportional contagion variables (e.g. PUBLICNEIGH, PUBLICCIR, etc.) were used as explanatory variables. Some of the regressions also included as explanatory variables IMPLIEDCONTRACT, GOODFAITH, REDSTATE, LABORFORCE, UNEMRATE, UNIONMEM, and IMPLIEDCIR. Some of these results are also quite striking, although perhaps not quite as robust.[24]

Column 1 reports the results from a Cox regression in which all of the public policy proportional contagion variables were included as explanatory variables as well as IMPLIEDCONTRACT, GOODFAITH, REDSTATE, LABORFORCE, UNEMRATE,

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show a positive and statistically significant effect.

[24] Once again, the proportional hazard assumptions appeared to be satisfied in all estimations.

and UNIONMEM. The only contagion variable which is positive and (weakly) statistically significant is PUBLICCIR. Thus, to the extent that a social network effect was at play in the diffusion of the public policy exception, it again appeared to operate through the federal circuit districts. The dominance of PUBLICCIR was not, however, robust. Indeed, column 2 reports the results from a Cox regression in which IMPLIEDCIR was added as an explanatory variable.[25] When IMPLIEDCIR was added neither PUBLICCIR nor any of the other public policy contagion variables were statistically significant. Although IMPLIEDCIR was not statistically significant either, its coefficient was positive and closer to being statistically significant than PUBLICCIR's.

Columns 3 through 12 report the results of Cox regressions in which each of the public policy contagion variables was included first independently and then with IMPLIEDCIR. All of the other explanatory variables in column l were also included. None of PUBLICNEIGH, PUBLICCIR, PUBLICWEST, or PUBLICCEN were positive and statistically significant on their own. When IMPLIEDCIR was added as an explanatory variable against each of the public policy contagion variables independently it was in each case both positive and statistically significant (although in two cases only

[25] As the previous results suggest, IMPLIEDCONTRACT seems to depend on IMPLIEDCIR. Thus, the coefficients of both IMPLIEDCONTRACT and IMPLIEDCIR may have been biased downwards because of the positive correlation between them. It is possible that the statistical significance of IMPLIEDCIR in some of the regressions may simply reflect this correlation. That seems unlikely, however, because IMPLIEDCIR appears to dominate IMPLIEDCONTRACT. Thus, it appears to have an independent effect. Of course, IMPLIEDCONTRACT may also have an important and independent effect even though it appears to be dominated.

at the 90% level of confidence). This result was quite robust to the way in which the contagion variables were defined and whether continuous or discrete-time methods were employed in the estimations.

Table 8 reports the results from similar Cox regressions in which numerical contagion variables were used instead of proportional ones. As these indicate, the coefficient of NUMIMPLIEDCIR was positive and statistically significant at the 95% level in all estimations except the one in which NUMPUBLICCIR was also included. In fact, in these estimations the coefficient of NUMPUBLICCIR was positive and statistically significant at the 95% level of confidence when it was included along with all of the other public policy contagion variables and when it was included along with only NUMIMPLIEDCIR. Table 11 reports the results from logistic regressions in which the proportional contagion variables were used as explanatory variables.[26] In these regressions, the coefficient of PUBLICCIR was positive and statistically significant when included along with all the other public policy contagion variables, but insignificant when included with IMPLIEDCIR. The coefficient of IMPLIEDCIR was positive and statistically significant in all of the estimations except the one in which all of the public policy contagion variables were also included (and even it that case it was very close to being significant at the 90% level of confidence).

It is interesting that the coefficients of both IMPLIEDCONTRACT and GOODFAITH were positive and statistically significant in some of the regressions with PUBLICPOLICY as the dependent variable. This was true, to varying degrees, regardless of whether the proportional or numerical contagion variables were used, and

[26] Binary variables for each year were also included.

whether continuous- or discrete-time methods were employed for the estimations. None of REDSTATE, LABORFORCE, UNEMRATE, or UNIONMEM were statistically significant either individually or collectively in any of the regressions.

It is more difficult to generalize about the results for PUBLICPOLICY, but they seem to suggest that the federal circuit districts were also important in the diffusion of the public policy exception. In this case, however, precedents by other courts in the same federal circuit district that adopted the implied contract exception appeared to be more important than precedents that adopted the public policy exception. This is again consistent with the view that the implied contract doctrine was the broadest of the three exceptions. The results also suggest that prior adoptions of either the implied contract exception or the good faith exception by courts in the same jurisdiction may have increased the likelihood that the public policy exception would be adopted. Finally, the results suggest that labor market conditions played little or no role in the diffusion of the public policy doctrine.

The Good Faith Exception

Table 6 reports results from Cox regressions in which GOODFAITH was the dependent variable and the proportional contagion variables (e.g. GOODNEIGH, GOODCIR, etc.) were used as explanatory variables. Some of the regressions also included as explanatory variables IMPLIEDCONTRACT, PUBLICPOLICY, REDSTATE, LABORFORCE, UNEMRATE, UNIONMEM, and IMPLIEDCIR. The results are generally quite consistent with those reported above for the Cox regressions in

which PUBLICPOLICY was the dependent variable.[27]

Column 1 reports the results from a Cox regression in which all of the good faith contagion variables as well as IMPLIEDCONTRACT, PUBLICPOLICY, REDSTATE, LABORFORCE, UNEMRATE, and UNIONMEM were included as explanatory variables. Only PUBLICPOLICY is statistically significant and only then at the 90% level of confidence. Column 2 reports the results of a Cox regression in which IMPLIEDCIR was added as an explanatory variable.[28] It is almost significant at the 90% level of confidence. The remainder of the results in columns 3 through 12 indicate that GOODCIR is the only good faith contagion variable that is statistically significant when the others are excluded and only then at the 90% level of confidence. When IMPLIEDCIR is included along with any one of the good faith contagion variables it is generally borderline significant at the 90% level of confidence. It is interesting to note that in this case IMPLIEDCIR does not dominate GOODCIR.

Table 9 reports the results from Cox regressions in which the numerical good faith contagion variables were used instead of the proportional ones, and Table 12 reports the results from logistic regressions.[29] PUBLICPOLICY is marginally significant in some of the regressions. NUMGOODCIR was the only good faith contagion variable

[27] The proportional hazard assumptions appeared to be satisfied in all estimations, with one exception: they did not appear to hold for LABORFORCE. Since the good faith exception was not widely adopted, and since LABORFORCE did not appear to be statistically significant in any of the estimations, this was not considered problematic.

[28] Of course, IMPLIEDCONTRACT may depend on IMPLIEDCIR and so the aforementioned caveat applies here as well.

[29] Binary variables for each year were also included.

that had any significance, even when the others were excluded. In the Cox regressions, NUMGOODCIR was, however, dominated by NUMIMPLIEDCIR; it was not dominated in the logistic regressions. NUMIMPLIEDCIR proved to be borderline statistically significant at the 90% level of confidence in all of the regressions.

Overall, the results for GOODFAITH are very similar to those for PUBLICPOLICY. They continue to suggest that social network effects operated most strongly through the federal circuit districts and that precedents adopting the implied contract exception were quite persuasive, especially if the court happened to be in the same federal circuit district. Prior decisions in the same jurisdiction to adopt the implied contract exception and especially the public policy exception may also have had some influence. Labor market conditions did not appear to be important.

CONCLUSION

This paper uses social network theory and hazard analysis to evaluate the role of legal precedents in the diffusion of the exceptions to the employment-at-will rule in American employment law over the period from 1978-99. It also evaluates the role of economic and political factors. Three robust results stand out 1) precedents by courts within the same federal circuit district tended to be the most influential, 2) precedents by other courts within the same federal circuit district adopting the implied contract exception seemed to influence the adoption of the other exceptions to employment-a-will, but precedents by other courts within the same federal circuit district adopting the other exceptions did not appear to influence the adoption of the implied contract exception, and 3) labor market conditions had no statistically significant effects on the diffusion of any

of the exceptions.

The federal circuit effect was surprising – all the more so because it arose in the diffusion of new state laws rather than the diffusion of a new precedent on a question of federal law and from the decisions of state courts rather than federal courts. It may suggest that the federal circuit districts play an important role in initiating new lawsuits, or it may suggest that precedents by other courts within the same federal circuit district are particularly persuasive. Regardless, it implies that the administrative structure of the federal courts may have an important influence on the evolution of state law. Further research will be necessary to determine whether this effect was unique to the diffusion of the exceptions to the employment-at-will rule or whether it is a more pervasive phenomenon in the diffusion of new laws.

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TABLE 1

SUMMARY STATISTICS FOR EMPLOYMENT DOCTRINES

Means and Standard Deviations

Variable	Mean	Std. Dev.	Min	Max
IMPLIEDCONTRACT	.6364	.4813	0	1
PUBLICPOLICY	.6536	.4760	0	1
GOODFAITH	.1436	.3509	0	1

Correlation Coefficients

	IMPLIEDCONTRACT	PUBLICPOLICY	GOODFAITH
IMPLIEDC'T	1.0000		
PUBLICP'Y	.4784	1.0000	
GOODFAITH	.1372	.2219	1.0000

TABLE 2

SUMMARY STATISTICS FOR PROPORTIONAL CONTAGION VARIABLES

Means and Standard Deviations

Variable	Mean	Std. Dev.	Min	Max
IMPLIEDNEIGH	.6138	.3606	0	1
IMPLIEDCIR	.6388	.3787	0	1
IMPLIEDWEST	.6364	.3493	0	1
IMPLIEDCEN	.6332	.3375	0	1

Correlation Coefficients

	IMPLIEDNEIGH	IMPLIEDCIR	IMPLIEDWEST	IMPLIEDCEN
IMPLIEDNEIGH	1.0000			
IMPLIEDCIR	.7146	1.0000		
IMPLIEDWEST	.7413	.8272	1.0000	
IMPLIEDCEN	.7395	.7611	.7986	1.0000

Means and Standard Deviations

Variable	Mean	Std. Dev.	Min	Max
PUBLICNEIGH	.6408	.6408	0	1
PUBLICCIR	.6538	.6538	0	1
PUBLICWEST	.6536	.3182	0	1
PUBLICCEN	.6535	.3091	0	1

Correlation Coefficients

	PUBLICNEIGH	PUBLICCIR	PUBLICWEST	PUBLICCEN
PUBLICNEIGH	1.0000			
PUBLICCIR	.7177	1.0000		
PUBLICWEST	.6759	.7077	1.0000	
PUBLICCEN	.6810	.7126	.7289	1.0000

Means and Standard Deviations

Variable	Mean	Std. Dev.	Min	Max
GOODNEIGH	.1462	.2229	0	1
GOODCIR	.1436	.2328	0	.75
GOODWEST	.1436	.1669	0	.5
GOODCEN	.1436	.2041	0	.7143

Correlation Coefficients

	GOODNEIGH	GOODCIR	GOODWEST	GOODCEN
GOODNEIGH	1.0000			
GOODCIR	.5694	1.0000		
GOODWEST	.4388	.6641	1.0000	
GOODCEN	.6188	.6951	.6930	1.0000

TABLE 3

SUMMARY STATISTICS FOR NUMERICAL CONTAGION VARIABLES

Means and Standard Deviations

Variable	Mean	Std. Dev.	Min	Max
NUMIMPLIEDNEIGH	2.7818	1.9724	0	1
NUMIMPLIEDCIR	3.061	2.5326	0	1
NUMIMPLIEDWEST	5.5327	4.6935	0	1
NUMIMPLIEDCEN	3.0864	1.9901	0	1

Correlation Coefficients

	NUM'NEIGH	NUM'CIR	NUM'WEST	NUM'CEN
NUM'NEIGH	1.0000			
NUMIMPLIEDCIR	.4987	1.0000		
NUMIMPLIEDWEST	.4602	.8341	1.0000	
NUMIMPLIEDCEN	.6928	.7229	.7449	1.0000

Means and Standard Deviations

Variable	Mean	Std. Dev.	Min	Max
NUMPUBLICNEIGH	2.8609	1.9669	0	8
NUMPUBLICCIR	3.0409	2.4983	0	8
NUMPUBLICWEST	5.4955	4.302	0	14
NUMPUBLICCEN	3.1881	1.8824	0	7

Correlation Coefficients

	NUM'NEIGH	NUM'CIR	NUM'WEST	NUM'CEN
NUM'NEIGH	1.0000			
NUMPUBLICCIR	.4513	1.0000		
NUMPUBLICWEST	.3502	.7632	1.0000	
NUMPUBLICCEN	.5836	.6588	.6840	1.0000

Means and Standard Deviations

Variable	Mean	Std. Dev.	Min	Max
NUMGOODNEIGH	.5791	.8436	0	4
NUMGOODCIR	.8491	1.6536	0	6
NUMGOODWEST	1.6273	2.2768	0	7
NUMGOODCEN	.7809	1.2224	0	5

Correlation Coefficients

	NUM'NEIGH	NUM'CIR	NUM'WEST	NUM'CEN
NUM'NEIGH	1.0000			
NUMGOODCIR	.4743	1.0000		
NUMGOODWEST	.5350	7285	1.0000	
NUMGOODCEN	.7002	.5567	.7402	1.0000

TABLE 4

COX REGRESSIONS

Dependant variable: IMPLIEDCONTRACT

Independent Variables	(1)	(2)	(3)	(4)	(5)	(6)
IMPLIEDNEIGH	-.6577 (-.75)	-.5318 (-.60)	.6001 (.86)	-.4707 (-.61)	--	--
IMPLIEDCIR	2.1723 (2.51)*	2.4894 (2.81)*	--	2.2470 (3.00)*	2.0518 (3.03)*	--
IMPLIEDWEST	1.4336 (1.28)	1.3119 (1.19)	--	--	--	1.7066 (2.23)*
IMPLIEDCEN	-1.3748 (1.27)	-1.4850 (-1.37)	--	--	--	--
PUBLICPOLICY	.2273 (.53)	.3782 (.87)	.3869 (.94)	.2774 (.67)	.2497 (.61)	.3886 (.96)
GOODFAITH	-.7371 (-1.10)	-.9023 (-1.33)	-.3880 (-.61)	-.5693 (-.87)	-.5279 (-.82)	-.5965 (-.92)
REDSTATE	1.7036 (2.11)*	1.7922 (2.19)*	1.7166 (2.16)*	1.7365 (2.15)*	1.6584 (2.08)*	1.6735 (2.11)*
LABORFORCE	8.89e-08 (.88)	5.57e-08 (.54)	4.36e-09 (.05)	1.14e-07 (1.12)	1.10e-07 (1.09)	2.07e-09 (.02)
UNEMPRATE	.0791 (.78)	.0880 (.89)	-.0143 (-.17)	.0098 (.11)	-.0012 (-.01)	.0527 (.60)
UNIONMEM	.0330 (.98)	.0498 (1.39)	.0441 (1.50)	.0284 (.99)	.0306 (1.01)	.0284 (.95)
PUBLICCIR	--	-1.1717 (-1.66)	--	--	--	--

*Statistically significant at the 95% level of confidence.

**Statistically significant at the 90% level of confidence.

TABLE 4 (continued)

COX REGRESSIONS

Dependant variable: IMPLIEDCONTRACT

Independent Variables	(7)	(8)	(9)	(10)	(11)	(12)
IMPLIEDNEIGH	--	--	--	-.2959 (-.39)	--	--
IMPLIEDCIR	1.7686 (2.16)*	--	2.4612 (3.12)*	2.0591 (2.99)*	1.5512 (2.07)*	2.1277 (2.99)*
IMPLIEDWEST	.5752 (.61)	--	--	--	.7655 (.88)	--
IMPLIEDCEN	--	.4476 (.54)	-1.0395 (-1.07)	--	--	-.4768 (-.55)
PUBLICPOLICY	.2612 (.63)	.4664 (1.17)	.1798 (.43)	--	--	--
GOODFAITH	-.5563 (-.86)	-.4163 (-.66)	-.5816 (-.89)	--	--	--
REDSTATE	1.6211 (2.03)*	1.7816 (2.26)*	1.6866 (2.12)*	1.6226 (2.05)*	1.5396 (1.96)*	1.5555 (1.99)*
LABORFORCE	9.93e-08 (.97)	6.64e-09 (.07)	1.07e-07 (1.05)	--	--	--
UNEMPRATE	.0160 (.17)	-.0133 (-.16)	.0187 (.21))	--	--	--
UNIONMEM	.0265 (.86)	.0385 (1.26)	.0425 (1.31)	--	--	--
PUBLICCIR	--	--	--	--	--	--

*Statistically significant at the 95% level of confidence.

**Statistically significant at the 90% level of confidence.

TABLE 5

COX REGRESSIONS

Dependant variable: PUBLICPOLICY

Independent Variables	(1)	(2)	(3)	(4)	(5)	(6)
PUBLICNEIGH	-.2637 (-.38)	-.1602 (-.23)	-.0970 (-.16)	-.1142 (-.19)	--	--
PUBLICCIR	1.4755 (1.73)**	1.3280 (1.49)	--	--	.6868 (1.05)	.4875 (.70)
PUBLICWEST	.1045 (.09)	-.2690 (-.22)	--	--	--	--
PUBLICCEN	-2.2778 (-2.02)	-1.9162 (-1.67)	--	--	--	--
IMPLIEDC'T	.7610 (1.71)**	.5706 (1.22)	.7727 (1.84)**	.5328 (1.19)	.7260 (1.75)**	.5066 (1.14)
GOODFAITH	.9925 (1.53)	1.0062 (1.57)	1.0547 (1.74)**	.9700 (1.60)	1.0224 (1.73)**	.9694 (1.64)**
REDSTATE	.5897 (1.02)	.5635 (.97)	.3562 (.65)	.3989 (.72)	.3576 (.64)	.3910 (.70)
LABORFORCE	2.26e-08 (.27)	3.68e-08 (.43)	8.78e-09 (.11)	3.04e-08 (1.12)	1.51e-08 (.18)	3.18e-08 (.38)
UNEMPRATE	-.0356 (.30)	-.0728 (-.60)	-.0899 (-.81)	-.1110 (-.98)	-.0922 (-.83)	-.1147 (-1.01)
UNIONMEM	.0343 (1.08)	.0243 (.75)	.0340 (1.16)	.0210 (.69)	.0200 (.66)	.0117 (.37)
IMPLIEDCIR	--	1.1917 (1.56)	--	1.4294 (2.01)*	--	1.3602 (1.88)**

*Statistically significant at the 95% level of confidence.

**Statistically significant at the 90% level of confidence.

TABLE 5 (continued)

COX REGRESSIONS

Dependant variable: PUBLICPOLICY

Independent Variables	(7)	(8)	(9)	(10)	(11)	(12)
PUBLICNEIGH	--	--	--	--	--	
PUBLICCIR	--	--	--	--	--	
PUBLICWEST	.0533 (.06)	-.4435 (-.43)	--	--	--	--
PUBLICCEN	--	--	-1.4812 (-1.52)	-1.2048 (-1.27)	--	--
IMPLIEDC'T	.7546 (1.79)**	.5588 (1.23)	.7805 (1.87)**	.5403 (1.21)	.5192 (1.18)	
GOODFAITH	1.0712 (1.78)**	1.0443 (1.74)**	1.1511 (1.95)**	1.0574 (1.79)**	.9967 (1.70)**	
REDSTATE	.3486 (.64)	.3954 (.71)	.5144 (.91)	.5025 (.89)	.3884 (.70)	
LABORFORCE	7.69e-09 (.09)	2.98e-08 (.36)	1.06e-08 (.13)	2.99e-08 (.36)	2.86e-08 (.35)	
UNEMPRATE	-.0865 (-.76)	-.1189 (-1.04)	-.0422 (-.37)	-.0692 (-.60)	-.1096 (-.97)	
UNIONMEM	.0323 (1.09)	.0223 (.74)	.0487 (1.59)	.0334 (1.05)	.0196 (.66)	
IMPLIEDCIR	--	1.4893 (2.05)*	--	1.3375 (1.85)**	1.4265 (2.01)*	

*Statistically significant at the 95% level of confidence.

**Statistically significant at the 90% level of confidence.

TABLE 6

COX REGRESSIONS

Dependant variable: GOODFAITH

Independent Variables	(1)	(2)	(3)	(4)	(5)	(6)
GOODNEIGH	.9579 (.62)	1.1518 (.70)	1.8819 (1.58)	2.0201 (1.65)**	--	--
GOODCIR	1.8944 (1.06)	1.8837 (1.02)	--	--	2.5476 (1.90)**	2.5107 (1.83)**
GOODWEST	.6667 (.25)	.3226 (.12)	--	--	--	--
GOODCEN	-.1340 (-.06)	-.2438 (-.10)	--	--	--	--
IMPLIEDC'T	-.4432 (-.58)	-.6141 (-.81)	-.2398 (-.33)	-.4811 (-.65)	-.3993 (-.54)	-.5722 (-.77)
PUBLICPOLICY	1.3680 (1.76)**	1.1823 (1.52)	1.4198 (1.82)**	1.2538 (1.62)	1.2939 (1.70)**	1.0753 (1.41)
REDSTATE	.3733 (.44)	.2928 (.33)	.2184 (.27)	.1218 (.15)	.3917 (.46)	.3009 (.34)
LABORFORCE	-2.94e-08 (-.18)	5.81e-08 (.35)	-5.21e-08 (-.32)	4.49e-08 (.27)	-4.59e-08 (-.29)	4.33e-08 (.27)
UNEMPRATE	-.0905 (-.47)	-.0924 (-.46)	-.0976 (-.52)	-.1180 (-.60)	-.0794 (-.42)	-0780 (-.40)
UNIONMEM	-.0396 (-.77)	-.0574 (-1.04)	-.0209 (-.42)	-.0417 (-.77)	-.0393 (-.81)	-0595 (-1.14)
IMPLIEDCIR	--	2.5296 (1.64)	--	2.6047 (1.72)**	--	2.5040 (1.62)

*Statistically significant at the 95% level of confidence.

**Statistically significant at the 90% level of confidence.

TABLE 6 (continued)

COX REGRESSIONS

Dependant variable: GOODFAITH

Independent Variables	(7)	(8)	(9)	(10)	(11)	(12)
GOODNEIGH	--	--	--	--	--	
GOODCIR	--	--	--	--	--	
GOODWEST	2.2571 (1.12)	1.8621 (.95)	--	--	--	
GOODCEN	--	--	1.9389 (1.33)	1.7817 (1.21)	--	
IMPLIEDC'T	-.3160 (-.41)	-.4610 (-.61)	-.3190 (-.42)	-.4870 (-.65)	-..3594 (-.50)	
PUBLICPOLICY	1.2031 (1.58)	1.0456 (1.37)	1.2567 (1.66)**	1.0413 (1.36)	1.0375 (1.37)	
REDSTATE	.1420 (.18)	.0115 (.01)	.2423 (.30)	.1422 (.17)	.0722 (.09)	
LABORFORCE	-8.92e-08 (-.53)	-2.52e-09 (-.01)	-5.10e-08 (-.30)	3.85e-08 (.23)	-3.20e-08 (-.18)	
UNEMPRATE	-.1009 (-.54)	-.1130 (-.59	-.1050 (-.58)	-.1146 (-.61)	-.1125 (-.60)	
UNIONMEM	-.0270 (-.77)	-.0446 (-.85)	-.0220 (-.47)	-.0410 (-.81)	-.0326 (-.63)	
IMPLIEDCIR	--	2.4374 (1.59)	--	2.4467 (1.61)	2.4880 (1.67)**	

*Statistically significant at the 95% level of confidence.

**Statistically significant at the 90% level of confidence.

TABLE 7

COX REGRESSIONS

Dependant variable: IMPLIEDCONTRACT

Independent Variables	(1)	(2)	(3)	(4)	(5)	(6)
NUMIM'NEIGH	.1024 (.66)	.0338 (.021)	.1794 (1.44)	.0245 (.18)	--	--
NUMIM'CIR	.3607 (2.45)*	.6106 (3.07)*	--	.3089 (2.98)*	.3158 (3.27)*	.3006 (2.20)*
NUMIM'WEST	.0688 (.66)	.1274 (1.21)	--	--	--	.0138 (.16)*
NUMIM'CEN	-.3393 (-1.25)	-.4894 (-1.72)	--	--	--	--
PUBLICPOLICY	.2188 (.50)	.2930 (.67)	.3652 (.089)	.3477 (.84)	.3558 (.87)	.3660 (.88)
GOODFAITH	-.6703 (-.95)	-.6750 (-.97)	-.3538 (-.55)	-.7555 (-1.10)	-.7733 (-1.13)	-.7853 (-1.14)
REDSTATE	1.6022 (1.98)*	1.7293 (2.07)*	1.6967 (2.14)*	1.6544 (2.05)*	1.6749 (2.09)*	1.6663 (2.07)*
LABORFORCE	1.23e-07 (1.22)	1.01e-07 (.54)	1.09e-09 (.01)	1.25e-07 (1.23)	1.27e-07 (1.25)	1.27e-07 (1.26)
UNEMPRATE	.0130 (.13)	.0655 (.66)	-.0227 (-.27)	-.0031 (-.03)	.0002 (.00)	.0045 (.05)
UNIONMEM	.0330 (1.03)	.0433 (1.29)	.0438 (1.46)	.0273 (.91)	.0267 (.89)	.0254 (.82)
NUMPUB'CIR	--	-.3857 (-1.96)	--	--	--	--

*Statistically significant at the 95% level of confidence.

**Statistically significant at the 90% level of confidence.

TABLE 7 (continued)

COX REGRESSIONS

Dependant variable: IMPLIEDCONTRACT

Independent Variables	(7)	(8)	(9)	(10)	(11)	(12)
NUMIM'NEIGH	--	--	--	.0679 (.52)	--	--
NUMIM'CIR	--	--	.3936 (2.92)*	.2551 (2.85)*	.2709 (2.02)*	.3512 (2.83)*
NUMIM'WEST	.1493 (2.50)	--	--	--	.0008 (.01)	--
NUMIM'CEN	--	.2523 (1.71)	-.1766 (-.83)	--	--	-.1722 (-.86)
PUBLICPOLICY	.5118 (1.26)	.5093 (1.26)	.2746 (.65)	--	--	--
GOODFAITH	-.6768 (-1.01)	-.5717 (-.88)	-.7283 (-1.07)	--	--	--
REDSTATE	1.6597 (2.08)*	1.7075 (2.16)*	1.7001 (2.11)*	1.5246 (1.94)**	1.5770 (2.02)*	1.5678 (2.01)*
LABORFORCE	6.75e-08 (.72)	4.07e-08 (.43)	1.28e-07 (1.26)	--	--	--
UNEMPRATE	.0481 (.55)	-.0082 (-.10)	.0031 (.04)	--	--	--
UNIONMEM	.0219 (.72)	.0309 (1.02)	.0321 (1.05)	--	--	--
NUMPUB'CIR	--	--	--	--	--	--

*Statistically significant at the 95% level of confidence.

**Statistically significant at the 90% level of confidence.

TABLE 8

COX REGRESSIONS

Dependant variable: PUBLICPOLICY

Independent Variables	(1)	(2)	(3)	(4)	(5)	(6)
NUMPUB'NEIGH	.1486 (1.13)	.1370 (1.05)	.1269 (1.03)	.0857 (.70)	--	--
NUMPUB'CIR	.3150 (2.20)**	.1798 (1.06)	--	--	.2461 (1.96)*	.1071 (.69)
NUMPUB'WEST	-.0801 (-.83)	-.1053 (-1.07)	--	--	--	--
NUMPUB'CEN	-.0943 (-.49)	-.0388 (-.20)	--	--	--	--
IMPLIEDC'T	.4988 (1.06)**	.3700 (.76)	.6726 (1.58)	.3545 (.76)	.5182 (1.16)	.3792 (.82)
GOODFAITH	.9252 (1.29)	1.003 (1.40)	1.1264 (1.93)**	.8528 (1.39)	.6985 (1.08)	.6934 (1.08)**
REDSTATE	.3689 (.66)	.3739 (.67)	.3293 (.60)	.3514 (.64)	.3536 (.64)	.3692 (.67)
LABORFORCE	1.16e-08 (.11)	34.29e-08 (.41)	-3.21e-08 (-.25)	7.20e-08 (.75)	7.20e-08 (.83)	1.02e-07 (1.13)
UNEMPRATE	-.1346 (-1.15)	-.1426 (-1.20)	-.0832 (-.74)	-.1279 (-1.07)	-.1389 (-1.16)	-.1475 (-1.21)
UNIONMEM	.0176 (.59)	.0130 (.43)	.0318 (1.10)	.0180 (.61)	.0158 (.55)	.0143 (.49)
NUMIM'CIR	--	.2092 (1.43)	--	.25211 (2.16)*	--	.2039 (1.44)

*Statistically significant at the 95% level of confidence.

**Statistically significant at the 90% level of confidence.

TABLE 8 (continued)

COX REGRESSIONS

Dependant variable: PUBLICPOLICY

Independent Variables	(7)	(8)	(9)	(10)	(11)	(12)
NUMPUB'NEIGH	--	--	.1269 (1.03)	--	--	
NUMPUB'CIR	--	--	--	--	--	
NUMPUB'WEST	.0098 (.13)	-.0581 (-.72)	--	--	--	
NUMPUB'CEN	--	--	.0099 (.06)	-.0380 (-.24)	--	
IMPLIEDC'T	.7428 (1.72)**	.4631 (1.00)	.7571 (1.83)*	.4113 (.90)	.4089 (.90)	
GOODFAITH	1.0464 (1.65)**	.9444 (1.45)	1.0814 (1.83)**	.7729 (1.24)	.7918 (1.29)	
REDSTATE	.3466 (.63)	.3971 (.72)	.3456 (.63)	.3884 (.78)	.3756 (.68)	
LABORFORCE	1.26e-08 (.14)	7.39e-08 (.79)	8.47e-09 (.10)	9.07e-08 (1.01)	9.23e-08 (1.03)	
UNEMPRATE	-.0881 (-.79)	-.1318 (-1.13)	-.0886 (-.80)	-.1309 (-1.10)	-.1334 (-1.12	
UNIONMEM	.0322 (1.19)	.0192 (.66)	.0323 (1.11)	.0196 (.67)	.0186 (.64	
NUMIM'CIR	--	.2906 (2.39)*	--	.2647 (2.29)*	.2614 (2.28)*	

*Statistically significant at the 95% level of confidence.

**Statistically significant at the 90% level of confidence.

TABLE 9

COX REGRESSIONS

Dependant variable: GOODFAITH

Independent Variables	(1)	(2)	(3)	(4)	(5)	(6)
NUMG'DNEIGH	.3930 (.90)	.4107 (.91)	.6544 (2.04)*	.5185 (1.52)	--	--
NUMG'DCIR	.3523 (1.38)	.1341 (.46)	--	--	.4162 (2.17)*	.1603 (.69)
NUMG'DWEST	-.0676 (-.24)	-.1639 (-.53)	--	--	--	--
NUMG'DCEN	.1717 (.39)	.2827 (.59)	--	--	--	--
IMPLIEDC'T	-.5847 (-.72)	-.8212 (-1.01)	-.3885 (-.50)	-.8477 (-1.04)	-.4471 (-.58)	-.6231 (-.83)
PUBLICPOLICY	1.2765 (1.63)	1.0718 (1.32)	1.3209 (1.74)**	1.0953 (1.36)	1.2191 (1.55)	1.0178 (1.25)
REDSTATE	.3773 (.44)	.2441 (.28)	.0673 (.08)	.1740 (.21)	.4405 (.51)	.3155 (.37)
LABORFORCE	1.84e-08 (.11)	1.07e-07 (.69)	-4.16e-08 (-.26)	9.80e-08 (.63)	-2.18e-08 (-.13)	6.39e-08 (.40)
UNEMPRATE	-.1117 (-.56)	-.0943 (-.46)	-.1015 (-.53)	-.0872 (-.43)	-.0947 (-.50)	-0715 (-.36)
UNIONMEM	-.0399 (-.79)	-.0484 (-.91)	-.0148 (-.30)	-.0461 (-.88)	-.0501 (-1.02)	-0607 (-1.18)
NUMIM'CIR	--	.3777 (1.76)**	--	.3955 (2.21)*	--	.3621 (1.67)**

*Statistically significant at the 95% level of confidence.

**Statistically significant at the 90% level of confidence.

TABLE 9 (continued)

COX REGRESSIONS

Dependant variable: GOODFAITH

Independent Variables	(7)	(8)	(9)	(10)	(11)	(12)
NUMG'DNEIGH	--	--	--	--	--	
NUMG'DCIR	--	--	--	--	--	
NUMG'DWEST	.2326 (.1.59)	1016 (.66)	--	--	--	
NUMG'DCEN	--		.3855 (1.66)**	.2852 (1.16)	--	
IMPLIEDC'T	-.4064 (-.52)	-.6649 (-.86)	-.3571 (-.47)	-.7103 (-.91)	-.5612 (-.78)	
PUBLICPOLICY	1.1717 (1.51)	1.0053 (1.24)	1.2381 (1.63)	.9947 (1.23)	.9834 (1.23)	
REDSTATE	.1576 (.20)	.2102 (.25)	.1805 (.23)	.2158 (.26)	.1964 (.24)	
LABORFORCE	-4.11e-08 (-.24)	7.50e-08 (.47)	-3.44e-08 (-.20)	9.63e-08 (.62)	5.95e-08 (.38)	
UNEMPRATE	-.0986 (-.53)	-.0683 (-.34)	-.1159 (-.63)	-.0833 (-.42)	-.0623 (-.32)	
UNIONMEM	-.0258 (-.54)	-.0568 (-1.11)	-.0152 (-.32)	-.0532 (-.97)	-.0530 (-1.03)	
NUMIM'CIR	--	.4021 (2.11)*	--	.4100 (2.25)*	.4459 (2.50)*	

*Statistically significant at the 95% level of confidence.

**Statistically significant at the 90% level of confidence.

TABLE 10

LOGISTIC REGRESSIONS

Dependant variable: IMPLIEDCONTRACT

Independent Variables	(1)	(2)	(3)	(4)	(5)	(6)
IMPLIEDNEIGH	-.7147 (-.79)	-.5832 (-.63)	-.5173 (-.65)	--	--	--
IMPLIEDCIR	2.3146 (2.59)*	2.6385 (2.88)*	2.3833 (3.07)*	2.1655 (3.09)*	1.8746 (2.22)*	2.6104 (3.20)
IMPLIEDWEST	1.5021 (1.31)	1.3799 (1.22)	--	--	.5868 (.61)	--
IMPLIEDCEN	-1.4587 (-1.32)	-1.5704 (-1.41)	--	--	--	-1.1147 (-1.11)
PUBLICPOLICY	.2515 (.57)	.3969 (.89)	.3004 (.71)	.2688 (.64)	.2804 (.66)	.1974 (.46)
GOODFAITH	-.7889 (-1.15)	-.9576 (-1.37)	-.6101 (-.91)	-.5626 (-.85)	-.5908 (-.89)	-.6221 (-.93)
REDSTATE	1.7804 (2.17)*	1.8740 (2.25)*	1.8109 (2.20)*	1.7241 (2.12)*	1.6859 (2.07)*	1.7571 (2.17)*
LABORFORCE	9.50e-08 (.91)	6.12e-08 (.58)	1.22e-07 (1.17)	1.17e-07 (1.13)	1.06e-07 (1.01)	1.14e-07 (1.09)
UNEMPRATE	.0821 (.79)	.0930 (.91)	.0090 (.10)	-.0028 (-.03)	.0149 (.16)	.0185 (.20)
UNIONMEM	.0338 (.98)	.0517 (1.40)	.0289 (.93)	.0314 (1.01)	.0273 (.86)	.0439 (1.31)
PUBLICCIR	--	-1.2311 (-1.68)	--	--	--	--

*Statistically significant at the 95% level of confidence.

**Statistically significant at the 90% level of confidence.

TABLE 11

LOGISTIC REGRESSIONS

Dependant variable: PUBLICPOLICY

Independent Variables	(1)	(2)	(3)	(4)	(5)	(6)
PUBLICNEIGH	-.2943 (-.41)	-.1805 (-.25)	-.1230 (-.19)	--	--	--
PUBLICCIR.	1.5672 (1.79)**	1.4068 (1.54)	--	.5192 (.73)	--	--
PUBLICWEST	.1178 (.10)	-.2673 (-.21)	--	--	-.4574 (-.43)	--
PUBLICCEN	-2.3994 (-2.07)	-2.0272 (-1.72)	--	--	--	-1.2725 (-1.31)
IMPLIEDC'T	.7948 (1.75)**	.6000 (1.26)	.5610 (1.23)	.5332 (1.18)	.5761 (1.26)	.5687 (1.25)
GOODFAITH	1.0722 (1.59)	1.0811 (1.62)	1.0326 (1.64)	1.0336 (1.68)**	1.1120 (.71)	1.1301 (1.83)**
REDSTATE	.5990 (1.01)	.5720 (.96)	.4024 (.71)	.3941 (.69)	.3990 (.71)	.5082 (.88)
LABORFORCE	2.58e-08 (.30)	4.21e-08 (.47)	3.37e-08 (.39)	3.56e-08 (.41)	3.32e-08 (.39)	3.38e-08 (.39)
UNEMPRATE	-.0374 (-.31)	-.0755 (-.61)	-.1145 (-.98)	-.1188 (-1.02)	-.1230 (-1.05)	-.0709 (-.60)
UNIONMEM	.0361 (1.11)	.0256 (.77)	.0219 (.70)	.0120 (.37)	.0232 (.75)	.0349 (1.07)
IMPLIEDCIR	--	1.2429 (1.60)	1.4948 (2.06)*	1.4209 (1.93)*	1.5565 (2.10)*	1.4027 (1.90)**

*Statistically significant at the 95% level of confidence.

**Statistically significant at the 90% level of confidence.

TABLE 12

LOGISTIC REGRESSIONS

Dependant variable: GOODFAITH

Independent Variables	(1)	(2)	(3)	(4)	(5)	(6)
GOODNEIGH	.9928 (.63)	1.1973 (.71)	2.1011 (1.67)**	--	--	--
GOODCIR	1.9798 (1.08)	1.9770 (1.04)	--	2.6190 (1.86)**	--	--
GOODWEST	.6772 (.25)	.3084 (.11)	--	--	1.9340 (.96)	--
GOODCEN	-.1433 (-.06)	-.2499 (-.10)	--	--	--	1.8666 (1.24)
IMPLIEDC'T	-.4577 (-.59)	-.6385 (-.82)	-.5004 (-.67)	-.5962 (-.78)	-.4803 (-.63)	-.5082 (-.66)
PUBLICPOLICY	1.4150 (1.78)**	1.2335 (1.55)	1.3013 (1.65)**	1.1205 (1.43)	1.0813 (1.39)	1.0796 (1.38)
REDSTATE	.3865 (.44)	.3047 (.34)	.1296 (.15)	.3120 (.35)	.0142 (.02)	.1475 (.18)
LABORFORCE	-3.06e-08 (-.18)	6.01e-08 (.36)	4.68e-08 (.28)	4.48e-08 (.27)	-2.40e-09 (-.01)	4.06e-08 (.23)
UNEMPRATE	-.0934 (-.47)	-.0967 (-.47)	-.1230 (-.62)	-.0819 (-.41)	-.1172 (-.60)	-.1202 (-.62)
UNIONMEM	-.0412 (-.79)	-.0596 (-1.06)	-.0432 (-.79)	-.0619 (-1.16)	-.0460 (-.86)	-0423 (-.82)
IMPLIEDCIR	--	2.6103 (1.66)**	2.6872 (1.74)**	2.5819 (1.64)**	2.5046 (1.61)	2.5200 (1.63)

*Statistically significant at the 95% level of confidence.

**Statistically significant at the 90% level of confidence.