

LAW, CHANGE, AND LITIGATION: A CRITICAL EXAMINATION OF AN EMPIRICAL RESEARCH TRADITION

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This article examines the theory and empirical methods of recent studies of law and litigation. It argues that the recent interest in longitudinal studies of trial court dockets proceeds from a deeply rooted functionalist theoretical tradition in empirical work on courts. Functionalist theory, through its sophisticated application in the work of James Willard Hurst, is described as the direct or indirect source of theory for longitudinal litigation studies. Though there are many reasons for suspecting that functionalist theory is inadequate, it has seldom been rejected through proper empirical testing of its hypotheses. The theory, often poorly conceptualized, is discussed here in detail. Hypotheses derived from a careful reading of Hurst and others are operationalized, employing data from the dockets of three West Virginia trial courts between 1870 and 1925, and a test of the hypothesis is constructed taking advantage of the historical variation in the economic development of three neighboring counties. Conclusions supported by the analysis of these data are largely prophylactic. Research can address the widespread problems of poor conceptualization and data analysis that have limited the value of much longitudinal trial court docket research. If court *function* is to continue to be the focus, theory, it is argued, must take account of the social organization of relations between litigants outside the courts, as well as the organization of the courts themselves. Data analysis must address the measurement of the power, litigation capacity, and perception of usefulness of litigation held by litigants. Illustrating the value of hypothesis testing as employed here, it is contended, these conclusions about appropriate future directions and methods for longitudinal court docket research are based on properly supported findings.

This essay presents a critical evaluation of one of the principal continuing theoretical traditions underlying work on law and social change, one based largely on the theories of Emile Durkheim and Max Weber. This tradition, whose roots extend back to the earliest studies of the sociology of law, has recently inspired important new empirical work on law and social change in the form of longitudinal studies of trial court litigation. While these studies represent a promising new method of examining the relationship between law and society, they also present challenging problems that often accompany the use of functional theory to describe the relationship between law and social change. In this essay I will critique this empirical research tradition and suggest an alterna-

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tive approach that is more attentive to the historical position of particular classes of social actors and the patterns of relationships they develop over time.

I will use the term “normative effects theory” to refer to the legacy of nineteenth-century theory about the function of law. Reduced to its simplest terms, normative effects theory holds that law responds directly to the needs of other institutions for order and conflict resolution. My examination of this theory in the first two parts of this article seeks a clearer understanding of the process by which law affects other institutions and of the part played by litigation in producing these effects.

As I develop my argument, I will draw on a study of the role of courts and law in the industrialization of three southern West Virginia communities between 1872 and 1925. In the third section I describe the design of my research.

In part four, I use the West Virginia data to reexamine normative effects theory, to evaluate its usefulness as a guide for further research, and, on the basis of the findings, to suggest the most promising directions for future study.

My results suggest that the process of dispute resolution in these West Virginia communities was resource dependent and that actors with sufficient capacity used litigation at their discretion, discretion that was guided by historically specific interests and the development of relationships between classes of litigants over time. I conclude that our theories about the function of law could be more usefully grounded in a better understanding of the historical position of classes of litigants and their relationships to one another than in the hypothesis of a generalized functional relationship between law and society.

I. NORMATIVE EFFECTS THEORY OF THE FUNCTION OF CIVIL LITIGATION

According to classic theory, law supports or aids the performance of other social institutions. The simpler version holds that law is a “double institutionalization” of existing norms of action (Bohannon, 1967: 45). Law therefore reflects the solidarity of the social community (Durkheim, 1947). Thus, the content of legal doctrine is a good guide to the way relationships in other institutions are structured (Lempert, 1972). When patterns of acceptable behavior break down, law is available to restore the breach. When those patterns change, law creates a new social solidarity consistent with an underlying division of labor. However, few would accept this description of the function of law without qualification. For example, there are obvious instances in which law is used to initiate change. There are, in addition, instances in which we would be hard put to find a consensus on an existing social prac-

tice but where, nevertheless, legal rules specify a pattern of behavior that will be enforced through state intervention.

There is a related, more complex version of this same theory, which holds that legal institutions stand apart from society as legitimate, rational dispute resolvers (Weber, 1967). When social relations have no autonomous mechanism for protecting expectations and maintaining stability, law plays a significant role in maintaining orderly behavior. This interpretation of Weber has become a widely accepted starting point for discussion of the functions of legal institutions (Trubek, 1972). Thus, it is commonly agreed that law reflects the needs of other institutions, even when law does not incorporate their norms for behavior. For instance, law aids the development and maintenance of the market by rationalizing and ordering competitive economic relationships (Weber, 1967; Hurst, 1964); it controls deviance arising from the strains of differentiation in the work and nonwork roles of individuals (Durkheim, 1947; Smelser, 1959); and it makes possible the institutionalization of roles and values necessary for the development and operation of complex societies (Bohannon, 1967; Mayhew, 1968).

Both the simpler “breakdown” and more complex “relationalizing/legitimizing” versions of normative effects theory share certain features. First, the theory equates law with rules or doctrine. Second, it treats law as systemic, determined by the needs of the community. Third, it portrays a world in which actors in “trouble” turn to law, which responds with a solution. Finally, it holds that a solution takes the form of intervention in which a rule imposes new behavior on the actors.¹ A recent assertion of this general view may be found in a study concluding that the emergence of worker’s compensation laws was a response to the breakdown of the existing system of compensation for industrial injuries based on tort law:

Social change may be revolutionary, but it normally comes about in a more-or-less orderly manner, out of the conscious and unconscious attempts of people to solve social problems through collective action In mature societies, law will be an important indicator of social change; it is institutional cause and institutional effect at the same time, and a part of the broader pattern of collective perceptions and behavior in the resolution of social problems (Friedman and Ladinsky, 1967: 50–51).

This theory has immediate implications for the study of trial courts. Litigation reflects the needs of other institutions for dispute settlement. One conclusion from both the “breakdown” and

¹ A fifth feature that is perhaps shared by normative effects theory inspired by Weber is the unidirectionality of the effect of turning to law for solutions. In other words, modern society is assumed to move progressively toward a greater need for legitimation and rationalization and toward more law.

“rationalizing/legitimizing” versions of the theory is that the amount of law (and independently the amount of litigation) will increase inexorably over time (see, for example, Diamond, 1971; compare Friedman, 1986). The reasoning underlying this hypothesis is that the increasing complexity of modern society combined with a decline in the frequency of mediating social ties between disputing persons creates an increasing need for intervention to settle disputes. While at a rhetorical level we frequently seem inclined to accept such a view of litigation trends, both common sense and recent scholarship show that litigation bears a much more complex relationship to social and economic development. Among others, Hurst’s (1964) study of the Wisconsin lumber industry and Macaulay’s (1966) study of the relationship between auto manufacturers and their franchisees show that legal institutions affect decisions by persons who may not be involved in litigation. Businesses spend much of their time planning how to avoid litigation, and in many industries such practices as commercial arbitration keep many disputes with legal issues from ending in litigation (Macaulay, 1963). Thus, litigation may be only a part, indeed a not very important part, of the total contribution of law to the maintenance of other institutions. Attempts to test the hypothesis of a monotonic, increasing relationship between social development and litigation have only reinforced the distinction between litigation and “legal activity” (Toharia, 1973; McIntosh, 1983; Grossman and Sarat, 1975). This research seems to show that while “legal activity” increases with social development, the relationship between litigation and social development may not be increasing at all, but may follow a different pattern specific to litigation as contrasted with other effects of law.

Even rejecting the implication that increasing complexity and alienation in society will by themselves lead to steadily increasing amounts of litigation, there is still a substantial core of normative effects theory suggesting that rapid change leads to conflict or breakdown in the social order and a need for intervention through law (Parsons, 1964). Hurst’s (1964) study of law and economic development in late nineteenth-century and early twentieth-century Wisconsin has played an important part in stimulating research testing this version of the relationship of law to social development. In his work law is a repository of community values that actors facing “problems” created during economic development turn to for answers. Hurst (*ibid.*, p. 4) makes no claim that all private relationships were influenced directly through litigation, but argues that private relationships nevertheless were to an important degree guided by law:

The facts of hard-paced exploitation of the Wisconsin forest are neutral in implication, possibly consistent with wise or with wasteful over-all use of resources. But the combination of quick commitment and lasting result raises sharp

issues of social order. These are issues to which the law must answer. They are not issues for law alone. . . . But it is the law's special function to legitimize the allocation of decision-making power in the society and to hold power in some measure accountable to the ends of human welfare which justify it.

To the extent that his description forms a coherent account of the relationship of law to economic development in which economic development produces a need for authoritative guidance for private relationships in conformity with core community values, the implications for civil litigation seem clear. Whether the bulk of private disputes are the subject of litigation, the proportion of commercial relationships that result in litigation should rise with economic risk taking and pressure to extend development of resources during rapid economic growth. The theory also implies that the litigation rate will decline once business relationships begin to develop on the basis of settled expectations, determined in part by law. As evidence of this relationship Hurst pointed to the rapid rise in appellate litigation and to the adoption of legislation during takeoff in the Wisconsin lumber industry. Both litigation and legislation were focused on the availability of natural resources for the most economically productive use, the supply of capital (in this case cheap land), security for unpaid wages, and commercial contract performance.

Hurst's research has stimulated further work in large part because, as in so many of his other studies, he is such a careful observer of the details of the legal process. Indeed his account is so complete he allows us to raise questions about the rationalization/legitimation hypothesis itself on the basis of his descriptions of the lumber industry in Wisconsin. First, in his case study the common law produced manifest dysfunctions. It was a source of problems as well as a source of authoritative guidance. Some areas of law changed quickly in response to perceived problems, for example, the law relating to the liability of railroads. But in other areas problems persisted, for example, the laws relating to the waste of the environment. Second, Hurst is candid enough to acknowledge that the law was stable throughout the period he studied in part because of the political hegemony of the economic interests that profited most from a *laissez-faire* economy (compare Genovese, 1985). Hurst comes close to admitting that his concept of consensus, and thus the idea that law is rational according to some discernible standard, are problematic when he acknowledges that the community is made up of opposed interests, some of which are dominant for long periods. Third, there were important unexplained differences in the legal behavior of significant actors in the Wisconsin lumber industry. Hurst notes that the Weyerhaeuser Lumber Company and other large companies rarely litigated, while marginal enterprises seemed to litigate more frequently.

Having called our attention to the resistance of the law to change, the role of politics in legal change, and the differences in the relationship of significant actors to litigation, Hurst fails to reconcile these aspects of Wisconsin's legal history with his theory that law is a response to the need of a community for social order.²

Yet Hurst's theory of law and change continues to have a powerful influence over the questions addressed in empirical studies. Subsequent research on litigation in the United States has taken for granted that social differentiation and integration during or following industrialization and modernization were central in determining litigation trends and that the critical time period in which they affected litigation was the late nineteenth century and early twentieth century.³

In sum, there are many reasons to be skeptical of both the simple and the complex versions of normative effects theory. The hypotheses that legal rules produce social order and, further, that actors in the midst of social breakdown or change will, with any degree of predictability, turn to law for assistance in restoring order and stability require many questionable assumptions about the availability of legal process and about why litigants litigate. But research to date simply fails to provide a basis for accepting or rejecting the usefulness of these hypotheses. Theory testing should begin with the clear specification of the predicted relationships, and in my view the failure to do this has made it difficult to assess

² Others have noted the undercurrent of functional theory beneath his otherwise excellent and broader historical narrative (Genovese, 1985; Gordon, 1976). For less ambivalent criticism, see Harring and Strutt (1985) and Tushnet (1972). In this essay I take more of Hurst at face value in order to operationalize the widely held theory his work represents. For a review of functionalist theory of law see Schur (1968: 79–85) and Parsons (1964). For a review of standard critiques of functionalism, see Zeitlin (1973: 3–60) and Gouldner (1970: 144–148).

³ Among the most sophisticated to follow in the wake of Friedman and Percival's (1976) research is a study of trends in litigation in the St. Louis Circuit Court over 50 years (McIntosh, 1983). The study is almost alone in its explicit testing of hypotheses about the function of trial court litigation. Although the data analysis employs highly sophisticated quantitative techniques, too little attention is given to the careful construction of hypotheses about the relationship between change and litigation predicted by normative effects theory. For example, McIntosh uses the entire civil caseload of the court to construct a measure of the litigation rate, rather than selecting cases appropriately related to particular types of social change. Also, the author's use of size of the industrial labor force and population density to measure economic change constitutes a misspecification of the most plausible version of the theory, which predicts a relationship between the rate of litigation and the *rate* of change (see the next section of the present article). Other recent research, in explicit or implicit response to contemporary concerns about litigation explosion, has found it sufficient to demonstrate that no simple or linear relationship exists between time and litigation or between indicators of the quantity of economic activity and litigation, and has avoided careful examination of the underlying theory (see, e.g., Daniels, 1985; Blankenburg, 1982). Kagan's (1984) use of data from these same studies to examine alternative hypotheses about the sources of debt litigation provides a valuable example of the much needed application of theory.

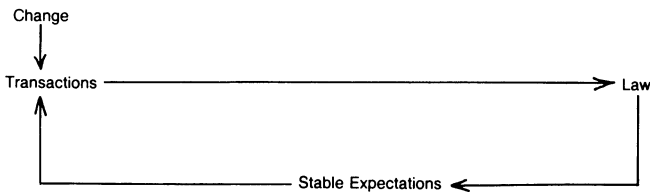


Figure 1. Normative Effects Model

the strengths and weaknesses of even the simplest hypotheses of normative effects theory and to move beyond them.

II. INTERPRETING NORMATIVE EFFECTS THEORY

In this part of the paper, I will examine normative effects theory in greater detail, exploring its most plausible applications, examining problems of operationalization and measurement of the relationship between change and litigation, and discussing the form the relationship might take in specific instances.

We may begin by constructing a general model of the relationship between change and law predicted by normative effects theory. The model represented by Figure 1 implies a role for trial and appellate courts as norm setters and norm enforcers. The theory implies that the more that social transactions are subjected to the effects of change, the more actors in those transactions turn to courts for dispute settlement and for appropriate norms.⁴ In the following two subsections I will give reasons for believing that this general model is implausible, because of both its omission of the social organization of dispute processing and its inherent ambiguity regarding actor motivations and the impact of change. Nevertheless, I will argue that an empirical test of the model is possible and desirable for two reasons. First, the general model has not been adequately tested, and its status in empirical research is therefore uncertain. Second, carefully interpreted, specific applications of

⁴ Hurst (1964: 294) again provides an illustration. The primary function of contract law, according to him, is to preserve the market structure by protecting private choices and insuring the broad dispersion of decision making. Both of these goals are accomplished by giving effect to private agreements. While Hurst was under no illusion about the proportion of business transactions that were actually viewed by a court, he noted the great rise in litigation at the height of the lumber industry, before the forests were cut to exhaustion. Thus, the relationship between social conflict and social control through law is quantitative (see Black, 1976). He argued that the rise in litigation was the result of the breakdown of the market due both to the uncertainty about appropriate business practices applied under new circumstances and to the breach of contract caused by miscalculations under changing business conditions. By altering the circumstances under which transactions were undertaken, social change made entrepreneurs more dependent on law through litigation as well as by other means. Out of the resolution of such "trouble cases" grew the role of the courts as dispute resolvers, norm setters, and ultimately conflict reducers. Not every contract ended in court, but the effect of rapid change in the social organization of business relations was to create a demand for more law.

the model are plausible. I will develop two such interpretations, a curvilinear⁵ model and a multifactor model.

A. *Using Litigation Rates to Measure the Function of Law*

Normative effects theory assumes that the primary activity of courts is to resolve disputes both by ending specific conflicts and by setting norms that actors use to resolve conflict.⁶ Cases reflect the dispute settlement activity of courts.⁷ One way of measuring the depth of involvement by courts is to look at the proportion of all transactions or social relationships of a given type that end in litigation.⁸ Litigation rates, defined as the proportion of transactions or social relations ending in litigation, are one measure of the function, or the degree of involvement of litigation in patterns of behavior outside the legal system.⁹

⁵ The term “curvilinear” means that if the relationship were depicted on a graph instead of as a straight line, the relationship would be represented by a curve indicating a change in the relationship over time. Substantively, it means that in the early stages of industrialization, for example, litigation may rise with increases in industrialization, while in the later stages, litigation may actually decline as industrialization reaches maturity.

⁶ The dispute resolution activity of courts is sometimes thought of as the primary contribution of *law*. An assumption is thereby made that without at least occasional sanction, law has no normative effect. This view is apparent in, for example, Macaulay’s (1963) characterization of business transactions as “non-contractual.” These transactions, as well as those that are committed to commercial arbitration, are conducted with the knowledge that the law sets boundaries to autonomy. Friendly business relations can sour and arbitration awards are enforced by courts. Thus there may be normative effects without litigation. Hurst (1964) and others note that law may guide behavior without litigation in the course of transaction planning (see Galanter, 1983a). But the extent of this behavior and its dependence on the threat of sanction through litigation is not well understood.

⁷ Cases are not the only measure of the contribution of law to dispute settlement, for they may be settled en route to court, but with litigation as a possibility urging parties on (see Lempert, 1978).

⁸ We may argue that when the proportion of disputes that are litigated is high, courts may be said to play a major role; when the proportion is low, regardless of the absolute number of cases, the role of courts is less significant. Of course, the rate of litigation is mainly a measure of the demand for formal dispute resolution and does not measure the impact of legal decisions. We may doubt its adequacy as a measure of the dispute resolution function of law in situations in which, for example, a single litigated case is followed by major changes in behavior by actors who chose to comply rather than face similar sanctions. It is possible that this is characteristic of particular types of disputes and actors (e.g., those with high visibility). If so, this possibility is of less concern if our primary objective is comparison of the significance of similar litigation in two or more time periods rather than comparison of litigation rates across types of situations. Litigation rates, defined as the proportion of transactions or social relations ending in litigation, are one measure of the function, or the degree of involvement of litigation in patterns of behavior outside the legal system. A full understanding of the function of courts with respect to the resolution of conflict in social relations requires a detailed examination of the origins of litigation and the impact of the legal process on subsequent behavior (compare Galanter, 1983b and Black, 1970).

⁹ Other civil litigation research has defined the litigation rate differently. Lempert (1978), for example, chose the proportion of *disputes* litigated as the best measure of a court’s function. In practice, however, his measure of dis-

There is an initial problem in using litigation rates this way: The cases we count ultimately represent “legal” rather than “actual” disputes. A disagreement over who ought to pay for a new fence between yards is an actual dispute. If it became a legal dispute, it might concern contract rights, property rights, or a number of other issues that could be raised in one or more lawsuits. A single underlying conflict, therefore, may result in a series of lawsuits. In the common law system of pleading, a single transaction that is the subject of litigation may result in the filing of separate pleadings to resolve the merits, to seek attachment, and to seek execution on a judgment.¹⁰ On the other hand, in some situations disputes are more numerous than cases, as, for example, in a class action that involves the rights of many individuals or a bankruptcy proceeding that concerns the rights of many creditors. Further, the boundaries of actual and legal disputes may not be the same in the sense that parties with practical interest and whose behavior has determined the need for litigation or who will absorb its effects are not the only parties with legal interests in the litigation. By choosing to count cases, therefore, we ignore some obvious sources of distortion in this measure of dispute resolution by courts.¹¹

putes is an attempt to develop a proxy for the transactions out of which disputes arise, and change in the rate of disputing is treated as an intervening factor affecting the civil litigation rate. Likewise, other research has treated civil litigation as a reflection of conflict as well as a reflection of the disputing process without giving careful attention to either selecting a measure of the function of litigation or to controlling intervening factors. Only the Civil Litigation Research Project (CLRP) of 1980–81 has treated dispute resolution as a separately measured stage in the link between conflict and litigation. However, even the project ignored relevant theory of social organization in defining the meaning of “dispute” and in conceptualizing the relationship between a dispute and its context (Kidder, 1980–81).

¹⁰ The rules of civil procedure change, thus creating inconsistencies over time as well as across different types of disputes. Further, the effect of such formalities of substance and procedure may be to render only part of a grievance or dispute legally cognizable. For example, a portion of a claim may be barred by the statute of limitations or, more abstractly, not recognized as a cause of action at all (e.g., invasion of privacy prior to the twentieth century). West Virginia was remarkably free of such changes, at least in civil procedure, for common law pleading was not abolished in the state until after 1940.

¹¹ Other serious problems in the use of litigation rates as a measure of function have been widely discussed, the most important of which is the selection of the base. To construct a litigation rate, we must select a measure to represent the number of social transactions out of which litigation might arise. The universe of transactions or relationships in which the effects of litigation are being observed is usually impossible to measure directly. Population has been widely used as a surrogate for the volume of transactions out of which disputes arise. A surrogate for the base, which is analogous to population and more suitable for commercial litigation, might be the number of businesses in the jurisdiction. Or, since we are interested in the impact of economic change, a still better choice is the number of businesses involved in the transactions subjected to the conditions of economic change in which we are interested. The number of businesses will be a good substitute for the actual number of transactions as long as we believe that the ratio of transactions to businesses is relatively constant. But for research considering a substantial period of time,

There is an even more serious reason for questioning the relationship between litigation and disputes. Normative effects theory says that the need for dispute resolution and thus for litigation is directly related to the amount of conflict, which in turn is stimulated by social change. However, the theory does not take into account dispute processing itself as a factor affecting litigation rates. Only a small proportion of all disputes are litigated. Changes in the litigation rate may be due to changes in the proportion of disputes litigated as well as the proportion of underlying transactions resulting in disputes. A more accurate representation of the causal sequence might be as in Figure 2.¹²

The normative effects model ignores the process of dispute resolution by courts, including the way in which conflicts arise, are transformed, and expand to include third parties or formal dispute resolution institutions and the impact each of these has prospectively on each potential disputant. Results from the Civil Litigation Research Project suggest that each set of social transactions that are potential sources of conflict may have its own dispute resolution pattern.¹³ To permit the examination of the relationship between economic change and law, such variations in process must

this will generally not be the case. Many industries, including the coal industry, underwent considerable consolidation in the fifty years between 1875 and 1925. Thus, the number of companies may actually decline while the number of business transactions increases. Under these conditions this measure overstates the true litigation rate. The volume of business transacted is a plausible measure of the number of transactions that avoids the problem of declining numbers of actors. But this measure, too, may be subject to a different problem. If both buyers and sellers are consolidating, the actual number of transactions may be declining while production is increasing. In this case we would understate the true litigation rate. This may be the case in the coal industry, where many mines sent their entire output to a single buyer under a long-term contract or were owned outright by the company they supplied. Determining the best measure of the litigation rate may require taking account of the structure of the relationships or transactions at risk to litigation. Changes in that structure over time may require using more than one measure of the litigation rate.

¹² I am indebted to Richard Lempert for pointing out that in addition to the relationships that I have described in Figure 2, there are many secondary and arguable relationships making the linkages among litigation, disputes, dispute processing, and social change reciprocal rather than unidirectional, as I have represented them. Indeed, if the relationships were not reciprocal, it would not be possible to talk about the social control effects of litigation at all. The diagram traces only the first order effects of economic change on disputes and dispute processing.

¹³ In suppressing the role of conflict (see Gouldner, 1970), functional theories ignore variation introduced by differences among actors with different interests and unequal power. The dispute processing perspective reintroduces these actor variations as part of the explanation of the transformation of events at each stage of dispute processing (Mather and Yngvesson, 1981; Miller and Sarat, 1980–81). The debate about the general theoretical adequacy of the dispute processing paradigm of litigation, which is identified with the CLRP but is widely accepted, is reflected in Trubek's (1980–81) defense of the project and in critical comments both before and after the completion of the CLRP research (Kidder, 1980–81; Engel, 1984). Prior critics have made some of the same criticisms made in this essay.

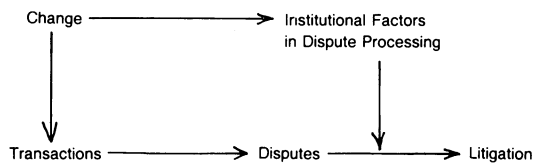


Figure 2. The Causal Relationship Between Social Change and Litigation

be controlled by considering contexts within which dispute resolution processes are constant or well understood. Within such a context we must be able to understand the behavior of participants in the social transactions giving rise to conflict, including their particular interests and preferences for particular means that they are likely to employ to further them. These observations imply that the best research design is one in which the process of dispute resolution is measured directly. Where that is not possible, variation in dispute processing may be reduced by examining different kinds of disputes separately. The doctrinal label lawyers apply to cases is not necessarily the best way to distinguish types of disputes and dispute processes. Therefore, in the West Virginia research we used party pairings together with doctrinal labels as a better way of identifying cases arising from disputes processed in similar ways.

B. The Relationship Between Social Change and Litigation Rates

Normative effects theory predicts that social change will have a direct effect on litigation. Hurst (1964) and Friedman (1965) distinguish different types of actors and commercial transactions that are affected differently by economic development. Indeed, much of Hurst's history of the growth of the Wisconsin lumber industry is about the separate legal developments entailed by different kinds of "needs" (such as the need to protect private decisions or the need to insure adequate financial resources for growth) or different actors (such as lumber companies, landowners, lumberjacks, or railroads). In brief, he describes different relationships to law for different actors. So we are faced with an initial problem of determining the precise process and its scope when Hurst refers to the role of law in releasing energy for private use.

Casting this problem in terms of my own research on the development of southern West Virginia's coal industry, economic takeoff altered the number, contents, and pace of business relations in the region. First, the railroad link with eastern markets was established. The decisions of railroad owners and financiers to build near the southern West Virginia coal fields triggered takeoff. The number of coal mining operations increased as did the popula-

tion and the services that population required. We may safely infer that there were also changes in the number and types of social transactions as a result of industrial growth. For example, the number of contracts concerning coal production increased between suppliers and coal operators, between operators and buyers or transporters, between operators and miners, and between mining companies and investors. A number of other legally relevant transactions also increased, such as forms of commercial credit; the sale, condemnation, and tenants' partitioning of common property that was mineral bearing or necessary for access to such property; the performance of labor under hazardous conditions in coal mines; and the conduct of business falling under various regulatory provisions of state law (including state incorporation, safety, and tax statutes). In addition, competition and opportunity increased the level of risk-taking and led to new types of agreements for employing miners, marketing coal, financing mine construction, and leasing mineral rights. Finally, driven by an expanding national market, production soared. Not only were there more coal companies, but the companies also expanded their production at a rapid rate (or, almost as likely, failed at a rapid rate).

Which of these changes produced the kind of breakdown and conflict that law responded to? Clearly for Hurst as well as other normative effects theorists, the instability of business conditions during takeoff and the new problems encountered created the opportunity for legal intervention. Not only were there more conflicts, but there were also fewer familiar or customary guidelines for resolving these conflicts. Of course these patterns could vary according to the type of underlying social transactions, situations, and actors.

Normative uncertainty causing a rise in the litigation rate in the trial courts was likely to occur when the process of industrialization had not yet settled into a routine. Thus we might expect a rise in both the trial and appellate litigation rates in the first county to industrialize in West Virginia. Counties that industrialized subsequently might or might not involve the same actors. There might be no rise in the litigation rate at either level if the same actors were involved, unless new conditions raised new issues. However, if the actors involved in later industrialization were different, the litigation rate might depend on the degree of transfer of business practices from the first region to develop. With subsequent industrialization it seems likely that the rate of appellate litigation would decline, since fewer critical issues would arise. But trial court litigation might have continued to respond to takeoff within the limited geographic area as operators, suppliers, and other regionally based actors worked out ongoing relations.

Next, what was the scope of the expanded normative role of law during takeoff? What, for example, happens during "normal" or post-takeoff economic fluctuations? How is the rate of litigation

affected by business cycle fluctuations, depressions, wars, unionization, or long-term routinization of business relations as well as other factors in economic change? Hurst has little to say about the effects of changes that do not implicate institutional establishment or reordering. Functional theory presumably envisions a constant role for law relative to the number of social transactions (and conflicts) in which norms are not in doubt or under challenge. The development of functional alternatives to litigation may explain the decline in litigation rates following takeoff. Thus, there is no particular reason to anticipate a rise or decline in the rate of litigation due to business cycle fluctuations other than as a reflection of change in the number of conflicts relative to the number of transactions.

We might argue, for example, that depressions and business downturns create conflicts due to inability to perform. The rate of litigation (but not the degree of normative instability) would then rise. On the other hand, we might also argue that business upturns increase the likelihood of breach of commercial agreements in order to take advantage of rising prices and thus lead to an increase in the litigation rate. One, both, or neither of these patterns may hold for an industry depending on how changing economic conditions actually affect conflict. Further, even though norms are relatively stable, the litigation rate may vary depending on how businesses value litigation relative to other forms of conflict resolution. For example, litigation may be more highly valued in times of depression than in times of relative expansion due to the greater number of alternatives available when markets are growing.¹⁴ Thus, the pattern that holds tells us something about how law is valued as a form of social control and has a direct bearing on a central theme of normative effects theory.

What of long-term changes in the litigation rate predicted by the theories of both Hurst and Friedman? Hurst believed that the role of law and courts was critical during takeoff in Wisconsin. He also argued that law was an important vehicle for reflecting changing community values once the lumber boom had passed and that the nature of legal intervention changed to reflect new community priorities (from supporting private decisions to creating a fair distribution of resource utilization). Friedman, extending Hurst's arguments into the middle of the twentieth century, adds that the shift of legal initiative from the courts to the legislature and the growing preference of businesses for private dispute settlement resulted in a gradual decline in the importance of contract litigation

¹⁴ It is also true that the cost of litigation as well as the reduced likelihood of collecting on a judgment may be greater factors in depressed times. Therefore, while depressions will almost certainly increase the number of disputes arising from debt, which will in turn increase the number of cases relative to the number of debts, it is not clear whether the number of cases will rise relative to the number of disputes (unpaid debts).

as a means of preserving order in commercial relations. At what point can we expect the long-term decline in the litigation rate predicted by Hurst and Friedman to occur? If a decline in litigation is associated with Progressive Era values (as Hurst argued), the two decades between 1900 and 1920 should reveal a decline in the rate of commercial litigation, especially litigation between businesses (independent of any effect of economic cycles, fluctuations in production, or World War I). If, on the other hand, the causes of the decline are structural (e.g., changes in the organization, control, and management practices of businesses; in the pattern of social control by the state; in the organization and practices of the legal profession or any combination of political forces), the decline (if any) may depend on more particular circumstances governing relationships within or concerning the coal industry, the growth of monopoly capital in that industry, and its relations with the legal profession or with local, state, and federal government.

III. THE WEST VIRGINIA CASE STUDY

The ambiguity of normative effects theory permits a broad range of interpretations. To test the theory we must determine which concepts to operationalize and which relationships to examine. The fundamental insight is that conditions that force behavior into new patterns create conflict and the possibility of litigation. I noted above that a frequent interpretation of normative effects theory is that civil litigation rates bear a generally curvilinear relationship to industrial takeoff. I will describe how this hypothesis can be tested using data from my study of litigation in West Virginia.

As I also noted, more sophisticated interpretations of the hypothesis are possible. To begin to account for this second, more sophisticated family of hypotheses, we must be able to distinguish between different levels and types of economic change on the one hand and between their effects on the rates of litigation arising from different social relationships caught up by industrialization on the other. These requirements place demands on the design of the research and on variable construction.

In the following three sections I shall discuss each of these problems in turn. I first shall examine the selection of the jurisdictions and time periods to distinguish between the effects of national (or regional) economic development and local or county economic development. The research design helps distinguish between these levels of causation, regardless of whether we are able to represent all of the distinct factors at each level that may have influenced litigation rates. Next, I shall consider dependent variables, selecting three rates that represent litigation arising from distinct types of social relationships. I shall consider alternative measures of two of these rates. Third, I shall describe the in-

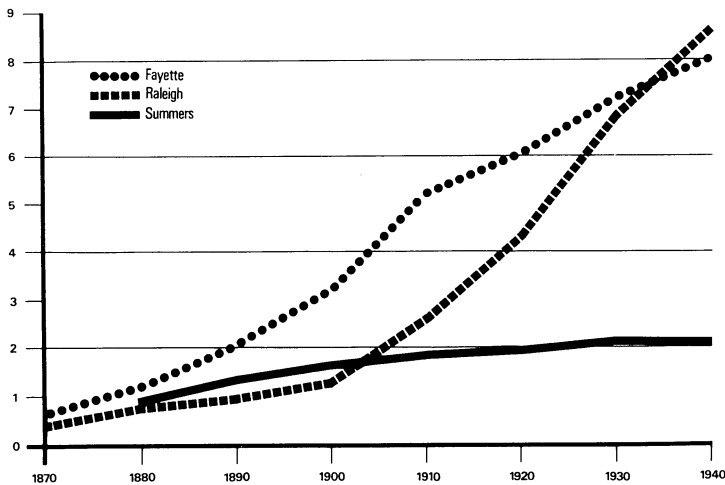


Figure 3. County Population, 1870–1940 (10,000s)

dependent variables and the plan for the analysis data used to test both the curvilinear and multifactor models of normative effects theory.

A. *Research Design*

The study examined civil litigation during the takeoff and maturation of the coal industry in three contiguous southern West Virginia counties from 1872 to 1925. The three counties were selected to provide control of alternative explanations of the relationships between economic change and litigation. In two of the counties, Fayette and Raleigh, the takeoff of the coal industry began thirty years apart, in approximately 1873 and 1903, respectively (see Figures 3 and 4). Both counties were similarly underdeveloped economically before takeoff; both developed an industrial economy centered almost exclusively on coal. The third county, Summers, had no coal nor coal industry, but its largest city, Hinton, was the location of the headquarters of the Chesapeake and Ohio Railroad's Hinton Division and freight yard, which caused the county to develop first. After 1900 Summers developed no new industry, and its economy stagnated in comparison to the coal-producing counties.¹⁵

¹⁵ The point at which industrialization began in each of the three counties was determined precisely by the development of railroad transportation. Hinton was strategically located at the junction of the New and Greenbrier rivers. The Chesapeake and Ohio passed through Hinton on its way up the New River Valley, and Hinton developed as an early center of regional trade. A list of businesses in the town in 1908 included 3 lumber and planing mills, 2 major banks, 3 "modern" hospitals, 12 doctors, 14 lawyers, 3 weekly and 2 daily papers, and 92 mercantile establishments (Miller, 1970), making Hinton the most important regional center. However, most of the county remained

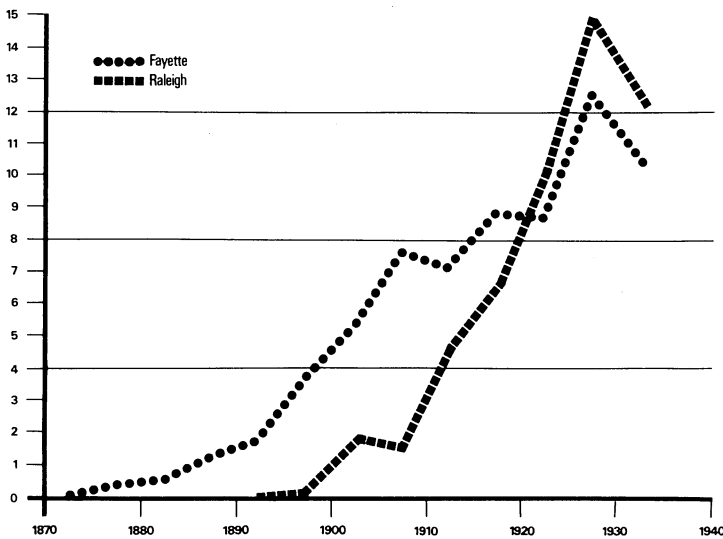


Figure 4. County Coal Production, 1870–1940
(Millions of Tons—Five Year Averages)

The takeoff periods of the two coal-producing counties bracket a transition in the growth of the national economy, which between 1870 and the end of the century was characterized by a series of crises and depressions that produced record business failures.¹⁶ As a result during the Progressive Era, roughly 1900 to 1920, there

rural. Notwithstanding its critical influence before 1900, the railroad did not generate further economic development after its early years of establishment, and Hinton itself was surpassed early in the twentieth century in population and importance as a regional center by Beckley. By 1910, Beckley's population was already more than twice that of Hinton and the adjoining town of Avis due to the explosive impact of coal industry development in the county. In 1890 Summers boasted 35 manufacturing establishments to Fayette's 42 and Raleigh's 15. In 1920, the number had declined in Summers to 34, while rising in Fayette to 63 and in Raleigh to 44. In 1880, Summers' land area was 73% agricultural compared to 42% in Fayette and 45% in Raleigh. In 1920, the proportion had risen to 80% for Summers, while Fayette's was only 21% and Raleigh's 32%.

¹⁶ According to the National Bureau of Economic Research, there were frequent fluctuations in the trade cycle between 1870 and 1900, with no less than 7 periods of severe business contraction between 1870 and 1900 (Fels, 1959). The business failure rate reached a 30-year high in 1896 (the highest rate between 1878 and 1915). The business failure rate was at a sustained high between 1893 and 1898 and maintained such a rate for only one other brief period between 1850 and 1900: from 1876 to 1878. After 1900 the business failure rate declined, reaching a single-year high in 1915 identical to the rate in 1896, although it was not sustained (see U.S. Department of Commerce, 1975). The cumulative effects of crises helped motivate the change in attitudes among business leaders that established the basis for the political alliance between big business and big government that underlay key Progressive Era reforms (Kolko, 1963). For an account of the tension between Progressive and reactionary business leadership, see especially Weinstein (1968). For an assessment of these attitudes among leaders in the coal industry, see Graebner (1976; 1973).

was a marked shift in the outlook of many industrial leaders in favor of moderating the effects of competitive markets through collective and public strategies. Whether as the result of this change or some other combination of forces, the early decades of the twentieth century were marked by both a sharp trend toward mergers and fewer economic crises (Kolko, 1963).

If the part played by law was related to the transformation of the local economy, the patterns of civil litigation in each of the three counties should have been quite distinct. The pattern in the two coal counties should have been similar but should have occurred at different times, while the pattern in the third county should have responded to its own pace of development. If, on the other hand, the role of law was specific to the last quarter of the nineteenth century, the litigation patterns in the two coal counties should be different in form as well as spacing. If there was a change affecting litigation that extended across the entire coal economy or all businesses, for that matter, there should have been a similarity in the patterns of litigation occurring in all three counties at one time. It is quite possible, of course, that more than one of these patterns existed. If this is so, a number of predictors may be significant in each county but with different predictive power.

The contrasting patterns of national and county economic development permit the examination of the relative influence of different levels of national and local change on litigation. It is quite likely that the effects of such change interact. For example, some aspects of national economic change may have their greatest impact on litigation in the early stages of regional industrialization, while others may have more effect at later stages. The research design permits us to organize the data by county and time period to explore this interaction (see Table 1).

This study employs data from the state circuit courts of the three counties between 1872 and 1925 and for the single years 1930 and 1940.¹⁷ Information about every adversarially styled proceed-

¹⁷ The beginning date was selected because it is the date of West Virginia's second constitution, which substantially altered its court system. This constitution remained in effect until 1974. Further, Summers County was formed in 1872. Since order books rather than civil docket books were used in this study, only cases called by the clerk at a court session are included. However, the common law rules followed by the circuit courts required that all cases in which there had been a return of service be called at each court session, even if only to be put over to the next session. Cases settled before being heard were entered as having been settled. Cases in which there had been an "office judgment," that is, a judgment entered by the clerk at his own office sessions, called "rules," were entered as judgments of the court in the order books. The principal drawback of using order books is that occasionally there were substantial delays between the filing date and the date on which a case was first called by the court. This is similar to the problem in all docket studies of matching cause with effect, since filings often occurred long after the events that provoked them. At a higher level of abstraction, the problem is conceptual, since functional theory assumes an automatic link between conflict and litigation, while experience with real court systems reveals the degree of discretion involved in invoking legal process in dispute resolution.

Table 1. Economic Development in Three West Virginia Counties, 1872–1925

Period	Fayette	Raleigh	Summers
1872–1900	takeoff	rural economy	takeoff
1901–1925	maturity	takeoff	stagnation

ing in the law and chancery order books of the circuit and county courts of the three counties was recorded and reduced to machine-readable form.¹⁸ Thus virtually the entire docket of the courts of general jurisdiction of the three counties for a fifty-three year period was available for analysis.¹⁹ Unlike many previous studies which either drew samples or used data separated by five- to fifteen-year intervals, the West Virginia data make it possible to examine trends in litigation with considerably greater accuracy. This collection strategy also made it possible to track the litigation histories of particular litigants, for example, large enterprises. Together with information about individual coal companies reported in the annual statistical reports of the West Virginia Department of Mines, it has been possible to link the economic and litigation history of some individual businesses for the period of the study.

B. Constructing Litigation Rates

A major problem of normative effects theory is determining precisely where and when the predicted effects occur. The theory has been operationalized in previous studies using rates based on the entire civil caseload as a measure of the effects of industrialization litigation. While Hurst's theorizing is rarely more specific than this, as noted earlier, his history suggests that different actors had different relationships to law. His implicit normative effects

¹⁸ Since the circuit courts handled much administrative business, such as the appointment and payment of court and county officers, some matters were excluded. The rule of thumb was the formal adversarial structure of the proceeding. This rule erred on the side of generosity. Name changes, uncontested adoptions, and appointments of guardians and trustees of charitable institutions all were included, although they were not adversarial proceedings in a practical sense. Since the analysis of the data reported here relies on the careful selection of litigants, these peripheral matters are not generally included. Where they are because a company was listed as plaintiff, I would argue that they are a point of contact between an enterprise and formal judicial authority and thus properly belong in the study. Functional theory does not suggest that some uses of judicial authority were functional and others were not.

¹⁹ The data reported do not include issues before the justices of the peace, who handled matters involving up to \$300 in value and some misdemeanors. They could not handle cases involving title to land. Matters involving less than \$25 in value were not appealable to the circuit courts. These jurisdictional limits remained constant throughout the period of the study. The progress of inflation meant that as a practical matter more and more cases came within the exclusive jurisdiction of the circuit courts between 1872 and 1925.

theory thus potentially predicts different trends for the rates of litigation by classes of actors affected in different ways by industrialization.

I have chosen to look at three representative rates of litigation, recognizing that others might have been used. Each of these presents a conceptually compelling reason for selection. I will look at changes in the rate of litigation by companies against other companies (the company/company rate), the rate of litigation by coal companies against other companies (the coal company/company rate), and the rate of litigation by companies against individuals (the company/individual rate). The company/company rate will reflect the effects of economic change on the entire business community, capturing in particular the effects of industrial takeoff on contract litigation.²⁰ The coal company/company rate demonstrates the effects of industrialization on the primary industry of southern West Virginia.²¹ According to the logic of the theory, the

²⁰ Construction of each rate required selecting the most appropriate proxy for the number of transactions or relationships out of which litigation might have arisen. For example, coal production may be a good proxy for the number of commercial transactions within the coal industry and a particularly good proxy for the number of transactions between coal companies and other businesses. Other surrogates are also plausible. Population has been used as a base for litigation rates in many studies, but makes less substantive sense for litigation between businesses. By analogy to population, the number of mines or mining companies might be a plausible base. The number of mining companies represents the number of actors in a given industry, while the number of mines (eventually considerably larger than the number of companies) represents the number of producing units, with independent management in local matters, with which other actors had to transact business. Rates constructed on all three bases were compared. Inspection of the graph of the rate based on production suggested using a transformation of coal production as a base for the company/company litigation rate. Using the natural log of the amount of coal produced removes the effects of the extreme change in the scale of coal production. The four rates have strong similarities, rising in the early stages of Fayette's industrialization, sharply rising in the 1890s and just before World War I, declining sharply during the war, and rising again in the depressed economy after the war. The similarities are encouraging because they suggest that the exact measurement of the litigation rate may not be critical. I will employ the natural log of coal production for each county as a base. In making this choice I gain substantive significance for the litigation rate in terms of the theory to be tested, but I lose easy interpretability of the strength of the effect of particular predictors since the measure is now expressed in terms of cases per logarithmic unit rather than cases per million tons of coal produced. The choice of units will in general depend upon the objective of the research. A side benefit of using the log of coal production is that the relationship between independent and dependent variables is more nearly linear than if coal production had been used as the base. This is not the only possible choice, however. The differences among these four measures of the relative magnitude of the involvement of the courts in commercial transactions are a reminder that litigation rates are at best only a crude indicator of function, and the choice of measure may have an important effect on the results.

²¹ Similarly, three potential coal company/company litigation rates were constructed on the basis of the number of mines, the coal production, and the natural log of coal production. Again, the different rates yielded trends with strong similarities. I have chosen to use the natural log of coal production as a base for the reasons explained in connection with the company/company rate in n. 20 above.

effects of industrialization on coal company/company litigation should be stronger and clearer than its effects on the business community as a whole. The company/individual litigation rate will reflect the impact of changes in relationships between companies and another class of actors that was affected by industrialization in different ways from companies.²² The impact of industrialization on litigation arising from employer/employee, landlord/tenant, retailer/consumer, or railroad/right-of-way-owner relations may be quite different from its impact on the other two litigation rates.

The simplest normative effects hypothesis is that all three rates of litigation will rise during industrial takeoff, since a broad range of social relationships falling into each of these subgroups will be affected by the changes that accompany the establishment of industry in a rural region. If all three litigation rates increase with rapid economic growth, the theory becomes more plausible because it predicts that the need for normative ordering provided by law should rise whenever there is a change or breakdown in social relations. Given the same interpretation of the theory, if there are differences among these three litigation rates, normative effects theory will not help explain them.

By using three litigation rates we can consider the validity of the more sophisticated version of normative effects theory by examining the effects of economic change on each. If there are differences among the rates, I will attempt to determine whether the stresses of industrialization caused them, as predicted by normative effects theory, or whether other factors were responsible.²³

²² The company/individual rate has been constructed using population as the base. Many of the relationships underlying these transactions, such as credit arrangements and consumer purchases, are widely dispersed in the general population, making adult population a plausible surrogate. Subclasses of legally relevant transactions, for example, conflicts between mine owners and strikers, affect much more limited populations. A more accurate representation of the base for this rate might be constructed as a weighted average of subclasses of the general population based on plausible estimates of the likelihood of litigation against them. Such a complex estimate has not been undertaken here.

²³ For Summers, the log of Fayette coal production has been used as a base for the company/company rate. This is far from ideal, particularly since one of the purposes of choosing Summers was that its experience during the industrialization of the region was so different from that of the other two counties. Yet there are few alternatives. Trackage of the Chesapeake and Ohio is not available, and even if it were, does not necessarily reflect the railroad's economic effect on the county. No other annual measures of the county's economic base are available in the state auditor's reports. Comparing rates across jurisdictions in the way I propose assumes that the base used has uniform validity over time and across the three counties. Over time the validity of a measure of coal industry activity is likely to be increasingly reflective of commercial transactions, but of course this might easily be treated as a hypothesis, particularly for Summers. Further, we can compare only trends, not the relative sizes of the rates. Summers is a smaller county than the other two, yet the base used for Fayette and Summers does not take account of this

C. Independent Variables and Data Analysis

In practice Hurst's (1964) rather simple model of the relationship between law and industrialization leads him to complex historical research on the many different "needs" of different actors in the Wisconsin lumber economy. Yet he views economic expansion as driving society in new directions and therefore as concentrating the need for normative intervention in particular periods. Rostow's (1948) concept of economic takeoff captures the sense of intense growth leading to the reordering of a broad range of social relationships. Since we now face the task of creating objective measures of concepts in the model, how do we locate takeoff concretely in time and space?

Takeoff has many possible definitions. Following Hurst's theory, normative reordering could occur at many levels of the society, including fundamental shifts in the moral outlook, more localized development of forms of social organization appropriate to local industrialization, and changes in specific ongoing or episodic social relations of a community and in the relationships between particular entrepreneurs. A one-time change in moral outlook or state legal rules might have been sufficient to "solve" problems leading to some types of conflict (when "solve" is used to mean reducing the number of disputes—although not necessarily the number of grievances—that social transactions generated). Such effects at the state level might cause a one-time intervention by the legislature or court of appeals, not repeated for takeoff in each county. On the other hand, social transactions involving the entrepreneurs in a region might have required subsequent intervention tailored to more specific needs. Functional theory suggests that the need for intervention, at least in ongoing social relations, should not be continuing but should peak and decline as adaptations become routinized. Finally, how broad were the effects of adaptation to economic change through legal intervention or other means? Once mining was underway in southern West Virginia, did the opening of each new coal field engender a similar pattern of court use by entrepreneurs, or was a regional pattern reflected in the litigation rates of both newly developed and established coal fields?

The hypothesis that industrialization has a curvilinear effect on litigation can be modeled statistically. To determine whether this effect is a pattern characteristic of a period in national or regional social development or whether it is determined by conditions peculiar to each county, the model can be applied to the litigation rates over the entire time period and to the takeoff period in each county. I employ a simple model that allows for a curvilinear relationship between litigation rates and industrialization:

difference in the scale of commercial activity in the two counties since the same base is used for both.

$$\text{Litigation rate} = a + b(\text{time}) + c(\text{time})^2 + e$$

Time is a stand-in for industrialization, although any of the measures of local economic development (such as coal production) would do as well and yield similar results. If the litigation rate grows in direct proportion to the progress of industrialization (measured here simply by the passage of time), the coefficient of the second term should be statistically significant and positive. If, after a period of time, the litigation rate falls as a result of routinization, the creation of barriers to litigation, or the establishment of definite legal norms, the coefficient of the third term should be significant and negative.

The more sophisticated theory of normative effects implicit in Hurst's history may be modeled by employing a number of different measures of economic change as predictors of each of the three litigation rates. Normative effects theory predicts that the types of economic change that created stress in the relationships represented by each litigation rate will increase that rate.

Measures were selected or created to represent six different processes of change occurring in the national and county economies during industrialization in southern West Virginia between 1872 and 1925. Three variables measure the normative effects of local economic change: takeoff periods,²⁴ annual change in coal production,²⁵ and business turnover in the coal industry.²⁶ Three

²⁴ Normative effects theory says that there will be a significant increase in the litigation rate during a period of industrial takeoff. Takeoff in each county is represented by a dummy variable for the first 9 years following the appearance and sustained growth of industry in each county (1872–80 for Fayette and Summers, 1903–11 for Raleigh). A dummy variable is one that assumes the value 1 for the years assigned to takeoff and the value 0 for all other years.

The operationalization of takeoff is necessarily somewhat arbitrary. By Rostow's (1948) definition it is a period characterized by composite indicators of change, mainly growth. But conceptually takeoff began when there was a sharp increase in the value that West Virginia's natural and social resources held for speculators, entrepreneurs, and property owners. This change probably occurred in stages, with an increase in the value of property occupying a long, not sharply defined stage; mineral rights specifically capturing attention from the 1860s; but interest in the human and financial capital necessary to build railroads and to extract coal creating the most clearly defined transition in the last quarter of the nineteenth century. These shelving transitions undoubtedly moderate or alter the effect of "takeoff," which is often described almost as if it had similar character and consequences at all times and places.

²⁵ Normative effects theory predicts that the more rapidly a change occurs, the greater the stress and breakdown of traditional social relations and the greater the need for social control, including litigation. Annual percentage changes in county coal production is a plausible measure of the pace of industrialization in each county once the coal industry and its dominant position in the southern West Virginia economy was established. No satisfactory equivalent is available for Summers County, so increments in Fayette County coal production have been used as a measure. This is plausible because Summers was the site of the rail yards through which Fayette's coal passed.

²⁶ One of the principal structural effects of industrial takeoff is business failure due to fluctuating markets and inexperienced management. Normative effects theory predicts that instability in the coal industry is a significant pre-

variables represent the normative effects of national or regional economic change: national coal prices,²⁷ a dummy variable representing the national economic crisis from 1896 to 1899,²⁸ and a dummy variable representing World War I mobilization from 1916 to 1919.²⁹

dictor of an increase in the litigation rate. To measure this source of stress in the coal industry, a step function was created whose values were the percentage of coal companies in the county that ceased to operate during a five-year interval. This variable was not used in analysis of the data for the noncoal county, Summers.

A step function seemed the best operationalization of industry reorganization. An annual measure that consisted of increments in the number of coal companies in each county was also considered. However, this variable both added less to the explained variance of the model and increased the problem of serial correlation (see n. 32 below). Using an annual measure of instability assumes that the effects of failures and mergers were felt immediately rather than cumulatively. An alternative, not tried, might have been to use a distributed lag model of the effects of mergers and failures.

The step function increasingly measures, in my view, the dominance of capitalists outside the region since attrition of coal companies was increasingly due to mergers, particularly in Raleigh County. Unfortunately, the number of mergers in each county could not be determined with accuracy and used as a separate variable. As nearly as can be estimated, about 8% of the coal companies that disappeared from the state Department of Mines' lists for Fayette between 1901 and 1925 were merged with other companies, and about 13.3% failed but were not merged with another coal company. For Raleigh, the merger rate was about 13.3%, while the rate of failure without merger was about 4.8%.

²⁷ The dummy variable assumed the value 1 for the depression years 1896–99 and the value 0 for all other years. A coefficient significantly different from 0 would indicate that the depression had an effect on the litigation rate independent of the other factors included in the model.

²⁸ The dummy variable assumed the value 1 for the war years 1916–19 and the value 0 for all other years. A coefficient significantly different from 0 would indicate that the war had an effect on litigation rates independent of the other factors in the model.

²⁹ Normative effects theory predicts that stresses due to business cycle fluctuations will create normative uncertainty and increase the litigation rate. National coal market prices are a good measure of the effect of national business cycles on the southern West Virginia economy. Both rising and declining prices are plausible sources of stress: Rising prices create opportunities for competition; declining prices create scarce financial resources and arguably stronger reactions to breaches of contract because of the reduced likelihood of obtaining substitute performance.

The National Bureau of Mines' (NBM) bituminous coal price series begins in 1880. Prior to 1880 a number of newspapers and trade journals reported prices. Weekly bituminous coal prices of Fairmont, West Virginia, coal sold at the Port of Baltimore and reported in the *American Mining and Engineering Journal* were averaged for years 1872–90, and the NBM index was extended backward by regressing its coal prices on the Fairmont coal price series and using the coefficients to transform the values of the latter series. Fairmont is located outside the three counties in West Virginia's northern coal fields. Of the available early coal price series, this one seemed most likely to capture the effects of the national coal market on West Virginia coal production.

Table 2. Company/Company Litigation Rate Trends in Three West Virginia Counties, 1872–1925

Time Period	Cases/Population Rate (10,000s)			Cases/Log of Coal Production Rate		
	Fayette	Raleigh	Summers	Fayette	Raleigh	Summers
1872–80	.199	.12	.41	4.23	—	6.52
1881–90	.18	.19	.19	4.37	—	3.19
1891–1900	.196	.24	.14	6.54	—	2.62
1901–10	.15	.29	.13	7.42	4.10	2.56
1911–20	.13	.21	.13	8.40	5.1	2.3
1921–25	.28	.34	.26	20.0	14.7	5.6

IV. AN EMPIRICAL TEST OF THE EFFECTS OF INDUSTRIALIZATION ON LITIGATION RATES

Two different models of the relationship between social change and litigation were derived above from normative effects theory and operationalized. According to one model litigation will bear a curvilinear relation to industrialization. According to the second, multifactor model different types of social change will have a different impact on specific litigation rates. I shall next examine the explanatory power of each model in turn.

A. *The Curvilinear Hypothesis*

The general hypothesis that litigation bears a curvilinear relation to industrialization should apply to the company/company litigation rates presented in Table 2. The cases/population litigation rates are based on population, following the practice of prior research. The litigation rates for the takeoff of Fayette County (1872–80), Summers County (1872–80) and Raleigh County (1901–10) are the highest, while the post-takeoff rates for all three are lower. The relationship between litigation rates and economic growth displayed closely resembles the results of prior research (see Toharia, 1973; McIntosh, 1983; Friedman and Percival, 1976). However, this finding must not be considered conclusive. The cases/natural log of coal production rate tells quite a different story. Only for Summers does the takeoff period have a higher litigation rate than other periods. This is intrinsically plausible because Summers' company/company litigation rate is based on Fayette's coal production, and the effects of Fayette's boom may not have been (in fact almost certainly were not) as strong in Summers. In both coal counties (Fayette and Raleigh), the rate of company/company litigation increases steadily by decade over time,

while in Summers the litigation rate (based on the natural log of Fayette coal production) declines steadily until the final 1920–25 time period.

Based on the comparison of the two rates presented in Table 2, I maintain that the apparent rise and decline of population-based litigation rates during industrialization have no theoretical significance. Activities related to the changing organization of the market and business may initially have outpaced population growth, thereby creating a high litigation rate. The resulting rise in the population-based litigation rate has no substantive meaning because as population growth caught up with industrial development, the litigation rate declined, giving the impression of a decline in the use of courts by companies *relative to underlying activity*, when in fact no such interpretation is appropriate. Using a litigation rate based on a more plausible measure of industrial activity, the company litigation rate continues to rise well after population catches up with the growth of industrial activity. Thus, company use of courts (relative to the amount of business activity) does not appear to bear a curvilinear relation to the amount of industrial activity during industrialization.³⁰

The data in Table 2 suggest that company/company litigation rates reflect the effects of local economic development. The trends in Fayette and Raleigh counties, following their respective initial industrialization in 1872 and 1901, seem to bear a strong relationship to local industrialization, while the downward trend in Summers reflects that county's failure to keep pace with the two coal-producing counties following their industrialization.

A statistical test of the hypothesis of a curvilinear relationship between industrialization and the company/company litigation rate is also revealing. For this I have used the litigation rate that appears most likely to bear a curvilinear relation to industrialization based on the results in Table 2: the ratio of cases brought by companies against other companies to population of the county. Time is used to represent industrialization.³¹ The results show

³⁰ My use of the natural log of Fayette's coal production as a base of industrial activity for Summers creates a very different impression of Summers' company/company litigation rate relative to the more industrialized counties. Instead of appearing to have a similar litigation rate, Summers now seems to have a much lower rate relative to industrial activity. The truth is probably that Summers' level of industrial activity *was* lower, and that its company/company litigation rate less sharply differentiated from the rates in the other two counties, but nevertheless trended downward. The accuracy of this impression is dependent on the accuracy of my characterization of the level of industrial activity in Summers as proportionate to Fayette's coal production. In my view, the rate based on the natural log of Fayette's coal production probably captures the trend in company/company litigation accurately, but not the relative size of the litigation rate in Summers as compared with the two more industrialized counties. This makes the rate useful for the statistical analysis of the influence of other factors on litigation, but not a good basis for comparisons across counties.

³¹ Any measure of industrial growth in the region would serve as well,

Table 3. Regression of Company/Company Litigation Rates (Cases/10,000 Population) on Measures of Curvilinear Relationship With Change in Three West Virginia Counties, 1872–1925

County	Years	Time		Time ²		R ²
		b ^a	T ^b	b	T	
Fayette	1872–1925	.12	.20	-.00003	-.80	.07
Raleigh	1901–25	.095	.18	-.00002	-.18	.21
Raleigh	1872–1925	-.16 ^c	-2.82	.00004 ^c	-2.85	.59
Summers	1872–1925	-.31 ^c	-2.19	.00008 ^c	2.19	.10

^a b = Nonstandardized regression coefficient

^b T = T -statistic

^c Coefficient significant at the .05 level

that the model does not fit the data well. When applied to the takeoff and post-takeoff periods in each county, in no case does the model explain more than 20 percent of the variance in the litigation rate, and only for Summers County are the coefficients even statistically significant (see Table 3: Fayette [1872–1925], Raleigh [1901–25], Summers [1872–1925]). For Summers, the coefficients are significant, but the sign of each coefficient is the reverse of the prediction, indicating a U-shaped relation between industrialization and litigation rather than the expected inverted U-shape. The time over which the model is tested is critical. The two results for Raleigh illustrate the difference between applying the model strictly to the period of industrialization (1901–25) and to a longer period (1872–1925). When applied to the longer period, the coefficients are nearly identical to those for Summers, including the reversal of the signs of the coefficients. Even though in two of the counties the litigation rates developed in a curvilinear pattern, it is not a relation explained by normative effects theory.

B. The Effects of Measures of Industrialization on Litigation Rates

A stronger case can be made for a model that takes into account independent effects of different types of social change occurring during industrialization that produce stress, conflict, and hypothetically a need for litigation. Industrial takeoff combines many forms of social change, each one of which may involve a separate process of normative change, conflict, and need for litigation. I examine the effects of measures of six distinct components of change taking place between 1872 and 1925 on each of the three litigation rates. The effects of each measure in each county are ex-

including the coal production, log of coal production, population, number of miners, and others. The results are the same.

amined for two periods, 1872–1900 and 1901–25, corresponding to both the evolution of a national market organization and the takeoff periods of the two coal-producing counties.

My results explain between 10 percent and 67 percent of the variance in the litigation rates, but much less than half the variance in most of the applications of the model.³²

1. The Effects of Takeoff and the Rate of Industrialization on Litigation Rates. According to normative effects theory, litigation rates should rise during takeoff relative to other periods, reflecting the need for normative guidance at the onset of industrialization. I have operationalized takeoff as the first nine years of industrialization in each county (1872–80 for Fayette and Summers, 1903–11 for Raleigh). The effect of takeoff on the company/company litigation rate (Tables 4a and 4b) was positive and statistically significant in Summers; there was a *negative* statistically significant effect in Raleigh. The coefficient for Raleigh suggests that, contrary to expectations, net of the effects of other changes measured, companies litigated at a *lower* rate during takeoff in that county. It is, of course, possible that only takeoff in Summers is operationalized correctly, but the reasons for selecting the periods chosen for the other two counties are conceptually sound.³³

This pattern is arguably consistent with normative effects the-

³² For each application of the model the Durbin-Watson statistic is reported. In concrete terms this statistic indicates whether the statistical significance of the coefficients is likely to be biased because the assumption of independent error terms is violated by these data. Where the statistic falls considerably above or below the value 2, it is likely that such autocorrelation of the error term in the regression is present. In such cases one can elect to use an alternative model of the relationships between predictor variables and the dependent variable. The alternative model depends on how one interprets the presence of autocorrelation. For example, autocorrelation can have substantive implications, suggesting that a variable with predictive power has been left out of the original model. Alternatively, one can assume, as I have, that the variables in the original model are sufficient to represent the effects of industrialization, and that the autocorrelation that is present is simply an unavoidable characteristic of the residuals of these particular variables. Given this choice of interpretations, one can attempt to obtain an unbiased estimate of the coefficients of the independent variables by applying one of several statistical procedures that will reduce the effects of autocorrelation on the estimated significance of the coefficients. I have chosen to use the Cochrane Orcutt procedure whenever the Durbin-Watson statistic is significant at the .05 level, indicating that autocorrelation is present. In Tables 4–6, a dagger indicates that the Cochrane Orcutt procedure has been applied. In these cases, the coefficients, *t*-statistics, and Durbin-Watson statistic for the model are the values obtained after application of the Cochrane Orcutt procedure.

³³ For example, an argument could be made for an alternative operationalization of Fayette's takeoff period. Looking at the rise in production (Figure 4), the 1880s were a period of more rapid growth due to a change in management of the Chesapeake and Ohio Railroad that took place following bankruptcy in the early 1880s. But the period does not represent the first exposure to commercial mining in the county. After redefining takeoff for Fayette and applying the model, the coefficient of the new takeoff period was *negative*, indicating a relative decline in the company/company litigation rate rather than a rise as expected.

Table 4a. Regression of Company/Company Litigation Rates on Measures of Change in Two West Virginia Counties, 1872-1900

County	% Change in Production		Change in Prices		Instability		Takeoff		Depression		R ²	D-W ^d
	b ^a	T ^b	b	T	b	T	b	T	b	T		
Fayette	.0078	1.91	.0031	.116	-.055	-1.44	-.98	-1.03	.056	.065	.29	1.86 ^e
Summers	.0009	-.41	.026	-1.45			1.37 ^c	5.90	.54	2.07	.67	2.10 ^e

^a b = Nonstandardized regression coefficient

^b T = T-statistic

^c Coefficient significant at the .05 level

^d D-W = Durbin-Watson statistic for the regression

^e Cochran-Orcutt procedure applied

Table 4b. Regression of Company/Company Litigation Rates on Measures of Change in Three West Virginia Counties, 1901-25

County	% Change in Production		Change in Prices		Instability		Takeoff		War		R ²	D-W ^d
	b ^a	T ^b	b	T	b	T	b	T	b	T		
Fayette	.01	1.1	-.02 ^c	-3.1 ^c	-.13	-2.6 ^c	-1.19	-1.8	-1.19	-1.8	.41	2.09
Raleigh	.01	1.46	-.012	-2.18 ^c	.027	1.03	-2.14 ^c	3.45	-2.10 ^c	-2.79 ^c	.61	2.20 ^e
Summers	.0095 ^c	2.69	.0019	1.09			-.67 ^c		-.67 ^c	-2.53 ^c	.41	1.83 ^e

^a b = Nonstandardized regression coefficient

^b T = T-statistic

^c Coefficient significant at the .05 level

^d D-W = Durbin-Watson statistic for the regression

^e Cochran-Orcutt procedure applied

ory. Takeoff is a complex of simultaneous changes, including increases in the frequency and types of economic activities and the growing predominance of entrepreneurs with attitudes and interests facilitating economic development. The need for litigation during takeoff arises from the relative inexperience of entrepreneurs in managing the effects of the combined changes. According to normative effects theory, takeoff in Raleigh would not yield higher litigation rates if the effect of earlier elevated rates of litigation was to resolve some of the uncertainties surrounding the conduct of business transactions.

The special nature of the earlier period of takeoff is supported by a close look at the effects of the measure of the pace of industrial growth, namely percentage changes in the amount of coal produced (with Fayette's measure serving for Summers). According to normative effects theory, increases in the percentage change in production should be associated with a higher rate of litigation. However, there is no such relationship in general. The coefficient of the pace of growth (see Table 4a and 4b) is close to significance ($p < .07$) as a predictor of the company/company litigation rate only in Fayette in the earlier period and in Summers in the later period. Moreover, the effect of the rate of growth in Fayette appears to be due solely to the strong effect of the growth in production between 1872 and 1880, which was Fayette's takeoff period. When these years were excluded from the analysis, the rate of growth had no effect on the company/company litigation rate in Fayette.³⁴

Therefore, while the earliest takeoff period was associated with higher rates of company/company litigation, the effect was not repeated for later periods of takeoff. Nor were the company/company litigation rates associated with the rate of growth in the coal industry, which appears to have affected the litigation rate only in Summers in 1901–25. (I shall return to this interesting exception below.)

Following similar reasoning, takeoff and the pace of industrialization should be good predictors of coal company/company litigation rates (see Tables 5a and 5b). The measures of market, competition, and the rate of industrialization and depression are derived directly from conditions in the local and national coal industry.³⁵ Tables 5a and 5b show that the model explains between

³⁴ When the takeoff period for Fayette (1872–80) is omitted, the coefficient of increments in production drops below significance (coefficient = $-.0029$; $T = -.39$; $R^2 = .38$).

³⁵ Offsetting this advantage, the number of cases brought by coal companies was so small that the regression coefficients would tend to have lower statistical significance for methodological reasons. Nevertheless, the strength of the relationship between industrialization and coal company litigation behavior should offset this. There are also problems in interpreting the findings. Low levels of coal company litigation do not necessarily mean low levels of litigation associated with the start-up of the coal industry. Before companies

Table 5a. Regression of Coal Company/Company Litigation Rates on Measures of Change in Fayette County, 1872-1900

County	% Change in Production		Change in Prices		Instability		Takeoff		Depression		R^2	$D-W^d$
	b^a	T^b	b	T	b	T	b	T	b	T		
Fayette	.0004	1.09	-.0012	-.45	-.0028	-.92	-.062	-.85	.14 ^c	2.22	.26	2.09

^a b = Nonstandardized regression coefficient

^b T = T -statistic

^c Coefficient significant at the .05 level

^d $D-W$ = Durbin-Watson statistic for the regression

^e Cochran-Orcutt procedure applied

Table 5b. Regression of Coal Company/Company Litigation Rates on Measures of Change in Two West Virginia Counties, 1901-25

County	% Change in Production		Change in Prices		Instability		Takeoff		War		R^2	$D-W^d$
	b^a	T^b	b	T	b	T	b	T	b	T		
Fayette	.0016	.59	-.0046 ^c	-2.11	-.043 ^c	-4.11	-.50 ^c	-3.41	.58	2.17 ^e		
Raleigh	.0005	.47	.0004	.49	.011 ^c	2.13	-.16	-1.31	.36	2.11 ^e		

^a b = Nonstandardized regression coefficient

^b T = T -statistic

^c Coefficient significant at the .05 level

^d $D-W$ = Durbin-Watson statistic for the regression

^e Cochran-Orcutt procedure applied

22 percent and 58 percent of the variance of the litigation rates, notwithstanding the fact that normative effects theory, as operationalized here, is better suited to explaining coal company/company litigation rates than the other rates examined. Perhaps most significantly, takeoff had a different effect on coal company/company litigation than on company/company litigation. The coefficients of the effect of takeoff in Fayette and Raleigh counties on the rate of litigation by coal companies against other companies are not statistically significant. Further, the measure of the overall pace of industrialization (percentage increases in coal production) was not a significant predictor of increases in the rate of such litigation in either county.

Confirmation of the low coal company/company and company/company litigation rates may be found in the rate at which appeals were taken to the West Virginia Supreme Court of Appeals by coal companies and by businesses generally. If conflicts requiring clarification of norms rose at increased rates during takeoff, we would expect an increased role for appellate courts, even if there was no increase in the rate of litigation at the trial court level. Yet, the rate of appeal from circuit court cases in Fayette by companies, coal companies, and litigants in general did not increase during takeoff.³⁶

To this point the analysis demonstrates that normative effects theory is a poor predictor of trends in precisely those litigation rates that it should predict with greatest accuracy. The theory also predicts that the company/individual litigation rate (Tables 6a and 6b), like the company/company litigation rate, will rise during economic takeoff and in proportion to the rate of growth of industrialization as businesses develop methods of buying and selling, establishing credit, taking and using property, and employing labor.³⁷ Tables 6a and 6b show that the takeoff variable was a statistically

could begin operation, investors, potential managers, landowners, and others engaged in many kinds of activities to make mining possible. If these activities ended in litigation, a coal company was not necessarily a party. These findings alone do not mean that takeoff was without significance for litigation affecting coal industry, only that coal companies themselves did not choose to litigate at a higher rate during takeoff.

³⁶ The number of appeals by companies was extremely low throughout the period studied. The actual number by decade, including all types of cases brought by companies was: 1872–79, 2 appeals; 1880–89, 2 appeals; 1890–99, 11 appeals; 1900–1909, 23 appeals; 1910–19, 18 appeals; 1920–25, 26 appeals. For cases brought by coal companies: 1872–99, 0 appeals; 1900–1909, 1 appeal; 1910–19, 4 appeals; 1910–25, 10 appeals.

³⁷ It would be a mistake, of course, to assume that the individual defendants in suits brought by companies were broadly representative of the community. The underclass of miners, other wage earners, and small farmers was vastly underrepresented in the litigation of this early industrial economy. Defendants were more likely to range from entrepreneurs and financiers with resources roughly equivalent to the plaintiff enterprises, to middle-income residents who could muster enough debt to escape the \$300 limit on justice of the peace jurisdiction, and property owners who had interfered with industrial interests.

Table 6a. Regression of Company/Individual Litigation Rates on Measures of Change in Two West Virginia Counties, 1872-1900

County	% Change in Production		Change in Prices		Instability		Takeoff		Depression		R^2	$D-W^d$
	b^a	T^b	b	T	b	T	b	T	b	T		
Fayette	.0002	.73	.0005	.21	-.005 ^c	-2.17	-.073	-1.42	.004	.08	.33	2.08 ^e
Summers	.0006	1.26	-.0035	-1.0			.18 ^c	3.3 ^c	-.06	-.93	.54	2.19 ^e

^a b = Nonstandardized regression coefficient

^b T = T -statistic

^c Coefficient significant at the .05 level

^d $D-W$ = Durbin-Watson statistic for the regression

^e Cochran-Orcutt procedure applied

Table 6b. Regression of Company/Individual Litigation Rates on Measures of Change in Three West Virginia Counties, 1901-25

County	% Change in Production		Change in Prices		Instability		Takeoff		War		R^2	$D-W^d$
	b^a	T^b	b	T	b	T	b	T	b	T		
Fayette	.0004	.5	.0002	.32	.0085	1.57	.01	.15	.18	.161 ^e	.18	1.61 ^e
Raleigh	-.0004	-.82	.00005	.085	.0002	.08	-.11	-1.74	.16	1.97 ^e	.16	1.97 ^e
Summers	.0004	.79	-.00005	-.25			-.045	-1.21	.10	1.59 ^e	.10	1.59 ^e
Fayette (no strikes)	.00001	.068	-.00028 ^c	-2.26	.00031	.57	-.0055	-.70	.53	1.91 ^e	.53	1.91 ^e
Raleigh (no strikes)	.00004	.12	-.00017	-.64	-.0011	-.63	-.077	-1.5	.17	1.76 ^e	.17	1.76 ^e

^a b = Nonstandardized regression coefficient

^b T = T -statistic

^c Coefficient significant at the .05 level

^d $D-W$ = Durbin-Watson statistic for the regression

^e Cochran-Orcutt procedure applied

significant predictor of the company/individual litigation rate only for Summers, and that the rate of growth of coal production had no statistically significant effect on company/individual litigation in any of the three counties for either time period. As before there is no persuasive reason to think that takeoff is measured incorrectly, and this time only one of the two counties that industrialized in the 1870s shows a takeoff effect. I conclude that the effects of takeoff and rate of growth on company/individual litigation rates are weaker than their effects on company/company litigation rates.³⁸

The sharp drop in variance between the first and second time periods explained by the model is contrary to expectations.³⁹ If normative effects theory is valid, we would expect the effects of the growth of the coal industry and the national market on relationships underlying the company/individual rate to become stronger, not weaker, over time. The explained decline in variance is due in part to litigation that does not follow patterns predicted by normative effects theory. A large proportion of the company/individual cases in Fayette and a smaller proportion in Raleigh were appeals by coal companies of cases won by miners who were resisting eviction during strikes that had occurred in periods of peak coal production, strategically timed by the miners for maximum advantage. Other company/individual litigation included debt litigation and the acquisition or retention of mineral-bearing property or rights of way. The model fits the Fayette data much better with strike cases removed, as can be seen from the increased variance explained (see Table 6b).

³⁸ If takeoff and the pace of industrialization do not have significant effects on the rate of company/individual litigation, another form of change may be more directly related, namely the rate of increasing complexity and density of each county. Normative effects theory would predict that a rapid increase in the complexity and density of social relations will increase normative ambiguity and conflict. The rate of litigation arising from the proliferation of relationships between companies and individuals should be a good measure of this effect. Regression analysis of the effects of population on the company/individual litigation rate showed that population change was a significant predictor only in Raleigh County. Yet, increments in population were monotonically increasing in both Fayette and Raleigh. There is no apparent substantive reason why this should be related to company/individual rates in one county but not in the other. The reason for a spurious correlation is obvious in Raleigh, where, due to causes not related to population growth, litigation rates rose steadily and faster than the population. Hence the rates, based on population, are simply trending in the same direction as population growth. Summers' population increased in declining increments. Its company/individual litigation rate was unrelated to this trend.

³⁹ These results might be taken as evidence of the routinization predicted by Toharia (1973), Hurst (1964), or Friedman and Percival (1976). But if so, the routinization of business relations occurred where least expected; in the relationships between companies and individuals and not in the relationships among members of the business community. This is another reason for rejecting the routinization explanation and looking instead to the historical development of continuing relations and contention for power between unequals in the communities.

The impact of takeoff and rapid growth of the coal industry on the three litigation rates constitutes a critical test of normative effects theory. The theory predicted an elevated rate of litigation in all three counties. However, only one of the three rates rose during takeoff and in only one of the three counties. The pace of industrial growth had no impact on litigation rates, with the exception of Summers, and even there only after 1901. It is most telling that the theory has not been at all successful in predicting the impact of takeoff or industrial growth on litigation rates in either of the two coal-producing counties. These negative findings are perhaps the single most important test of the theory.

2. The Effects of the 1890s Depression and Changes in the National Coal Market on Litigation Rates. The coal industry in Fayette and Raleigh counties was closely tied to the national market for coal. Stress caused by market fluctuations should increase the litigation rate, in particular the coal company/company rate. Since coal was the engine of the entire economy of the region, coal prices should also have affected company/company and company/individual litigation, the latter by virtue of both the direct effect of coal prices on local employment and coal companies' purchases from other businesses and the indirect effects of these transactions on the economic activity of the region.

However, as I discussed earlier, normative effects theory is ambiguous about whether the litigation rate will rise with declining prices, rising prices, or both. A rising market for coal created business opportunities and may have been associated with greater risk-taking and more competition as new entrepreneurs entered the market. On the other hand, declining prices created financial problems for existing businesses, including greater numbers of defaults and a greater willingness to litigate to preserve the few remaining business opportunities. Thus according to normative effects theory, either market trend may be associated with rising litigation rates.

Therefore, I included measures of two different types of effects of the coal market in the model. A sustained decline in prices due to a national depression between 1889 and 1899 produced financial crises, business failures, and increased competition due to scarcity of buyers. First, its cumulative effects are represented by a dummy variable for 1896–99. Second, annual increments in national coal prices provide a continuous measure of changing market pressure.

The data show that the sustained depression increased only the coal company/company litigation rate (Table 5). As the effects of the prolonged coal market depression on the industry in Fayette accumulated, the rate of such litigation rose significantly. There was no similar effect on company/company or company/individual litigation rates in any county.

The effects of prices on litigation rates also create a clear pattern. First, declining rather than rising prices stimulated litigation. Second, the effects of declining coal prices are most pronounced on company/company litigation (Table 4). The effects of declining prices are strong and significant in both Fayette and Raleigh after 1900, suggesting the importance of the national coal market for the whole economy of the two industrial counties. In contrast, coal prices were a significant predictor of company/individual (with strike cases removed; see Table 6) and coal company/company litigation rates only in Fayette.⁴⁰ These findings are contrary to the prediction that coal company/company litigation rates should be most affected by prices. The results suggest that coal price fluctuations were a surrogate measure of the market pressure on all types of business and that litigation by other businesses was more sensitive to such stress.

The results underscore important differences between the counties. Coal company/company litigation and company/individual litigation increased with declining prices in Fayette alone. This can be explained by differences in the business organization and relationships among actors that are unique to Fayette. Similarly, the absence of any relationship between prices or depression and litigation rates in Summers strongly suggests that Summers followed an independent pattern determined by the declining proportion of variance of all litigation rates explained over time and the poorer fit of the model in the later period, as measured by the Durbin-Watson statistic.

3. The Effects of Coal Company Failures On Litigation Rates. Normative effects theory predicts a higher rate of litigation as a result of increasing business failures during industrialization. In my measure of coal industry instability I have taken account of both failures and mergers, since they were often linked and both arguably created a need for norms and dispute resolution. The measure is a step function representing the percentage of all coal companies that ceased operations during a five-year interval in each of the coal-producing counties.

Instability in the coal industry had a statistically significant effect on coal company/company litigation rates after 1900. The effect is particularly pronounced in Fayette, which I interpret as a reflection of the impact specifically on coal companies, since coal company/company cases are included in the company/company rate.

The effects of industry instability are not those predicted by

⁴⁰ Given the strong effect of prices on company/company litigation, it is surprising that company/individual litigation rose as prices declined only in Fayette. If the bulk of such litigation comprises debt cases, we would expect a higher rate of default and litigation in the individual debt as well as in commercial transactions between businesses, but this prediction is not borne out.

normative effects theory, however, and in fact were different in each county. In Fayette the coal company/company litigation rate *declined* with increasing instability, contrary to expectations; in Raleigh it rose, conforming to expectations. The inconsistency of the effects of coal industry instability casts doubt on the underlying theory. Instead, the findings draw our attention once again to the unique conditions of each county.⁴¹

To this point, the results have suggested that the effects of industrialization were consistent within counties over time but differed between the counties, even between the two coal-producing counties. Prices and depression had stronger effects on the litigation rates in Fayette than in the other two counties. Coal industry instability had a different effect in each coal-producing county. There was an obvious difference between the patterns of economic development in Summers and in Fayette and Raleigh. The patterns in the latter also differed from each other. Fayette developed thirty years ahead of Raleigh, employing correspondingly more primitive technology and management skills. For example, there were more coal companies in Fayette even when the county was being outproduced by Raleigh.⁴² Those companies, on the average, were smaller than those in Raleigh. These differences suggest that industrialization may have produced different kinds of stress in each county.

4. The Effects of World War I on Litigation Rates. World War I produced a statistically significant reduction in the company/company litigation rate (Table 4) in Raleigh and Summers and a reduction just short of significance ($p < .08$) for Fayette. Although we might expect increases in prices or in industry stability to explain the decline in company/company litigation during World War I, the significance of this dummy variable demonstrates that the war tended to suppress this litigation independently of other changes measured by the model. Similarly, World War I lowered the coal company/company litigation rate (Table 5) independently of the effects of the other measures of industrial change.

By contrast, the dummy variable for World War I had no statistically significant effect on company/individual litigation rates,

⁴¹ While there are differences in the economic development of each county (see Figure 4), they do not help explain the differences in the effect of instability on litigation rates. For example, instability in Raleigh was due more to the effect of mergers and in Fayette more to the effects of business failures. There is no reason why mergers should produce a greater need for clarification of norms or for conflict resolution and thus for litigation in state courts than business failures. Indeed, we should expect the reverse. The results show that some other factor mediated the effects of business failures thereby creating differences in the patterns of litigation in the two counties. What this factor might be is not suggested by normative effects theory.

⁴² In 1920, the largest 10% of Fayette coal companies produced 40.2% of the county's coal. In Raleigh, the largest 10% produced 44.7%.

independent of the effects of other variables in the model. The stepwise removal of other variables showed that increments in production, industry stability, and market prices all converged to produce the strong decline in company/individual litigation rates during the war. Normative effects theory does not help us understand these significant findings.

V. DISCUSSION

The results of my attempt to apply a carefully constructed and operationalized functional model to explain changes in litigation rates raise serious questions about the model. These findings suggest that the process of bringing conflicts to courts for resolution is not simply a function of economic growth, the pace of economic or social change, or the distress in the main engines of the economy. More people and more commercial credit arrangements meant more transactions at risk to conflict, more disputes, and sometimes, although the relationship is not monotonic, more litigation. But among commercial enterprises in southern West Virginia, economic development did not necessarily mean that a greater proportion of disputes went to court. Except for an increase during takeoff in each county, to which it is difficult to attach unambiguous significance, rates of intercompany litigation declined during World War I and bore no consistent, statistically significant relationship to any other measure of economic change across all counties.

A defender of this model might respond to these findings in at least two ways. First, it might be argued that the model was operationalized poorly. A serious weakness of the model, discussed at some length, is its lack of specificity. Almost any particular operationalization could be criticized as constituting the wrong one, and therefore the model should not be rejected until all other possible operationalizations of its concepts have been tried. The operationalizations employed here, however, were carefully derived from the most sophisticated suggestions in the literature on litigation rates. Further, I used enough different measures of both court use and social change to have obtained significant results if the model is valid. I used three different litigation rates, each arguably closely connected with industrialization. I examined the effects of many aspects of changing social relations underlying industrialization on these three rates—the pressures of the national market economy, global societal change, industry structure and competition, and pace of local industrialization—each in theory creating a need and opportunity for normative support. Many if not all of these measures should have been significantly related to changes in the litigation rates if litigation and legal change are caused mainly by changes within the normative social order. Instead,

with the exception of the war, these measures either did not predict litigation rates or had an effect contrary to predictions.

Second, it might be argued that the causal connections in the model were misspecified by the research. For example, the connection between the pace of coal industry growth and the litigation rate might involve a lag time of more than one year, or the effects might be distributed over several years following the alteration of the underlying social relations. There is, of course, evidence of great lag times between some events and the appearance of litigation associated with those events. There is a possibility that employing different assumptions about the causal connections between economic change and litigation might lead to the discovery that the causal connections were stronger than it now appears. But it seems unlikely that the picture would change dramatically. The hypothetical effects of sudden change or rapid development should be strong enough and the lagged effects irregular enough so that some statistical effect of change should be detected using annual data of the type employed here. There is no reason to believe, for example, that there will only be effects that are lagged more than a year.

Contrary to these imagined objections, I believe that these results paint an accurate picture of the link between change, measured in market terms, and litigation. There is plenty of evidence that the number of cases was affected by economic change in obvious ways. The amount of production, the cycle of the market prices, and the amount of competition in the coal industry all affected the total number of cases between companies, between companies and individuals, and between coal companies and other companies. But litigation *rates* did not respond systematically to change in the pace or extent of industrialization. Other than the strong effects that the initial takeoff period might have had on litigation rates and the effects of World War I, economic change had few consistent effects on litigation rates. The effect of takeoff disappeared between industrialization of Fayette and Summers and industrialization in Raleigh, the last to experience takeoff. It appears that the effects of economic change on the company/individual litigation rate actually declined over time in all three counties.

Further, there is some reason to doubt that the elevated litigation rate experienced in all three counties during takeoff represents a turning to the courts for clarification of general norms governing economic relationships. First, if clarification of norms had been an objective, we would expect an elevated rate of appeal as well as rate of litigation. However, the data show no increase in the rate of appeal during the periods I have defined as takeoff.⁴³

⁴³ Of course, for a complete picture of law as one among many alternative strategies of conflict resolution we would have to consider in detail businesses' legislative as well as appellate strategies for managing conflict.

Second, the companies that should have had the greatest need for normative intervention—the coal companies—had a very low rate of litigation during the takeoff periods, increasing their litigation rate only when production became established. Of course, the fact that the rate increased so rapidly once production had become established may be taken as evidence that law provided answers to needs generated during early industrialization. But their litigation rate increased only after the companies were in a position to devote resources to activities that were prospective in the sense of either “playing for rules” or trying to establish a better competitive position with regard to specific business rivals or partners.

These findings move us in a more promising direction, indeed the only one that appears to be open to functional theory. The very fact that the timing of coal company litigation appears to have been resource dependent, together with the strategy-determined pattern of strike litigation, which set it apart from other types of company/individual litigation, suggests that litigation was a strategy that litigants sought to manipulate, not an automatic response to conflict under conditions of uncertainty caused by rapid change. This impression is reinforced by the distinct patterns within the counties over time, which suggest that litigation trends were a function of the social organization of particular communities. I conclude that theories predicting automatic functional responses to stress are not helpful. Research should turn to examining historically specific conflict in contexts in which the capacities and interests of the participants are explicit and supply missing links in the model between change and conflict and between conflict and litigation. To predict the effects of social change on litigation we must understand the decisions of individuals and business managers in specific contexts, including their objectives and capacities for managing conflict resolution. For this, something quite different from normative effects theory is required.

By focusing attention on the issues raised by dispute processing research, I do not suggest that we abandon all theory that attributes systemwide effects to law. The findings of this research may be cast in a different way. The results, which suggest that court use was a strategy in conflict, tell us both that the process of dispute resolution was resource dependent and that litigation was a weapon used at the discretion of actors with sufficient capacity. They also indicate that discretionary litigation followed patterns that reflect conflict strategies, not the pressure of economic need and disruption alone. Such discretionary litigation may have played a *systematic* role in at least some important types of conflict arising from industrialization and the growth of monopoly capital. Perceiving these patterns correctly depends on understanding the role of litigation in the ongoing relations between workers and employers, between enterprises in a particular business community, and between consumers and retail businesses, all

within a context with historical continuity for the actors. Such litigation patterns are dependent on both the successful efforts of those with greater power to direct law to particular ends and the continuing success of law in “capturing” some types of conflict that might otherwise be pursued by alternate means.

VI. CONCLUSION

In this essay we began with the functional model of litigation, and by criticizing its conceptualization and operationalization and testing its hypotheses, replaced it with another one. The functionalist theory of litigation is like the functionalist theory of social movements and collective behavior: It takes litigation as a sign of a failure of the normative order—a kind of deviant behavior produced by the stress or breakdown caused by change. But, as I have demonstrated, no such simple relationship exists. Litigation, and thus the function of litigation, cannot be considered independently of the framework of social organization within which the litigants act. This context varies from one social relationship to the next. Who litigates is a function of strategy and litigation capacity (including knowledge and experience of litigation), as so many recent studies of dispute resolution have shown. Behavior in which actors seek advantages in conflict by manipulating litigation is beyond the capacity of functional theory to explain.

Further, functional theory assumes a world in which basic hierarchies of right and power are widely accepted and a community that will move in concert in response to change. The litigation patterns in an industrializing community challenge these assumptions. Examination of the three West Virginia counties undergoing industrialization revealed some of the weaknesses of this theory and suggested promising alternatives that give a central place to the capacities and interests of the classes and communities of actors in their historical setting.

The findings of this research do not show that no systematic role for law exists. How particular actors use law to manage conflict calls for the application of what we know about the translation of actor capacity, including the capacity of organizations, into power and domination. We must try to understand why litigation and other ways of using law for conflict management are attractive to particular actors. For example, it is not obvious why large organizations with political power would choose litigation or law reform as opposed to other ways of maintaining hegemony over economic and other resources. The particular role played by law relates to the effectiveness of different kinds of power in Western, industrial society, and this in turn relates to the legitimacy of the exercise of particular kinds of power. Further research on litigation should determine why certain actors choose to use law rather than other means of social control in conflict resolution and how

particular actors make long-term adaptations to the use of litigation in conflict management.

REFERENCES

- BLACK, D. (1976) *The Behavior of Law*. New York: Academic Press.
- (1970) "The Production of Crime Rates," 35 *American Sociological Review* 733.
- BLANKENBURG, Erhard (1982) "Legal Insurance, Litigant Decisions, and the Rising Caseloads of Courts: A West German Study," 16 *Law & Society Review* 601.
- BOHANNAN, Paul (1967) "The Differing Realms of the Law," in P. Bohannan (ed.), *Law and Warfare*. Austin: University of Texas Press.
- DANIELS, Stephen (1985) "Continuity and Change in Patterns of Case Handling: A Case Study of Two Rural Counties," 19 *Law & Society Review* 381.
- DIAMOND, Stanley (1971) "The Rule of Law Versus the Order of Custom," 38 *Social Research* 42.
- DURKHEIM, Emile (1947) *The Division of Labor in Society*, trans. G. Simpson. New York: Free Press. [Orig. publ. 1893.]
- ENGEL, David M. (1984) "The Oven Bird's Song: Insiders, Outsiders, and Personal Injuries in an American Community," 18 *Law & Society Review* 551.
- FELS, Rendigs (1959) *American Business Cycles, 1865-1897*. Chapel Hill: University of North Carolina Press.
- FRIEDMAN, Lawrence M. (1986) *Total Justice*. New York: Russell Sage Foundation.
- (1965) *Contract Law in America: A Social and Economic Case Study*. Madison: University of Wisconsin Press.
- FRIEDMAN, Lawrence M., and Jack LADINSKY (1967) "Social Change and the Law of Industrial Accidents," 67 *Columbia Law Review* 50.
- FRIEDMAN, Lawrence M., and Robert PERCIVAL (1976) "A Tale of Two Courts: Litigation in Alameda and San Benito Counties," 10 *Law & Society Review* 267.
- GALANTER, Marc (1983a) "The Radiating Effects of Courts," in K. Boyum and L. Mather (eds.), *Empirical Theories About Courts*. New York: Longman.
- (1983b) "Reading the Landscape of Disputes: What We Know and Don't Know (and Think We Know) About Our Allegedly Contentious and Litigious Society," 31 *UCLA Law Review* 1.
- GENOVESE, Eugene D. (1985) "Law and the Economy in Capitalist America: Questions for Mr. Hurst on the Occasion of His Curti Lectures," 1985 *American Bar Foundation Research Journal* 113.
- GORDON, Robert W. (1976) "Introduction: J. Willard Hurst and the Common Law Tradition in American Legal Historiography," 10 *Law & Society Review* 9.
- GOULDNER, Alvin W. (1970) *The Coming Crisis of Western Sociology*. New York: Basic Books.
- GRAEBNER, William (1976) *Coal Mining Safety in the Progressive Era*. Lexington: University of Kentucky Press.
- (1973) "Great Expectations: The Search for Order in Bituminous Coal, 1890-1917," 56 *Business History Review* 49.
- GROSSMAN, Joel, and Austin SARAT, (1975) "Litigation in the Federal Courts: A Comparative Perspective," 9 *Law & Society Review* 321.
- HARRING, Sidney L., and Barry R. STRUTT (1985) "Lumber, Law, and Social Change: The Legal History of Willard Hurst," 1985 *American Bar Foundation Research Journal* 123.
- HURST, James Willard (1964) *Law and Economic Growth: The Legal History of the Lumber Industry in Wisconsin, 1836-1915*. Cambridge, MA: Belknap Press.
- KAGAN, Robert A. (1984) "The Routinization of Debt Collection: An Essay

- on Social Change and Conflict in the Courts," 18 *Law & Society Review* 323.
- KIDDER, Robert L. (1980–81) "The End of the Road? Problems in the Analysis of Disputes," 15 *Law & Society Review* 717.
- KOLKO, Gabriel (1963) *The Triumph of Conservatism: A Reinterpretation of American History, 1900–1916*. New York: Free Press.
- LAW & SOCIETY REVIEW (1980–81) "Special Issue on Dispute Processing and Civil Litigation," 15 *Law & Society Review* 1.
- LEMPERT, Richard (1978) "More Tales of Two Courts: Exploring Changes in the 'Dispute Settlement Function' of Trial Courts," 13 *Law & Society Review* 91.
- (1972) "Norm-Making in Social Exchange: A Contract Law Model," 7 *Law & Society Review* 1.
- MACAULAY, Stewart (1966) *Law and the Balance of Power: The Automobile Manufacturers and Their Dealers*. New York: Russell Sage Foundation.
- (1963) "Non-Contractual Relations in Business: A Preliminary Study," 28 *American Sociological Review* 55.
- MCINTOSH, Wayne (1983) "Private Use of a Public Forum: A Long-Range View of the Dispute Processing Role of Courts," 77 *American Political Science Review* 991.
- MATHER, Lynn, and Barbara YNGVESSON (1981) "Language, Audience, and the Transformation of Disputes," 15 *Law & Society Review* 775.
- MAYHEW, Leon H. (1968) *Law and Equal Opportunity: A Study of the Massachusetts Commission Against Discrimination*. Cambridge: Harvard University Press.
- MILLER, Richard E. and Austin SARAT (1980–81) "Grievances, Claims, and Disputes: Assessing the Adversary Culture," 15 *Law & Society Review* 525.
- MILLER, William (1970) *History of Summers County*. Parsons, WV: McClain Printing Co.
- PARSONS, Talcott (1964) "A Sociologist Looks at the Legal Profession," in T. Parsons (ed.), *Essays in Sociological Theory*. New York: Free Press.
- ROSTOW, W. (1948) *British Economy of the Nineteenth Century*. Cambridge: Clarendon Press.
- SCHUR, Edwin M. (1968) *Law and Society: A Sociological View*. New York: Random House.
- SMELSER, Neil J. (1959) *Social Change in the Industrial Revolution*. Chicago: University of Chicago Press.
- TOHARIA, José (1973) "Economic Development and Litigation: The Case of Spain." Presented to the Conference on the Sociology of Judicial Process, University of Bielefeld, West Germany (September).
- TRUBEK, David M. (1980–81) "Studying Courts in Context," 15 *Law & Society Review* 485.
- (1972) "Max Weber on Law and the Rise of Capitalism," 1972 *Wisconsin Law Review* 720.
- TUSHNET, Mark (1972) "Lumber and the Legal Process," 1972 *Wisconsin Law Review* 114.
- UNITED STATES DEPARTMENT OF COMMERCE (1975) *Historical Statistics of the United States, Colonial Times to 1970*, Series V-23. Washington, D.C.: United States Government Printing Office.
- WEBER, Max (1967) *Max Weber on Law in Economy and Society*, ed. M. Rheinstein. New York: Simon & Schuster.
- WEINSTEIN, James (1968) *The Corporate Ideal in the Liberal State, 1900–1918*. Boston: Beacon Press.
- ZEITLIN, Irvin M. (1973) *Rethinking Sociology: A Critique of Contemporary Theory*. New York: Appleton-Century Crofts.