PROPERTY RIGHTS AND THE DYNAMICS OF INSTITUTIONAL CHANGE: THE CLOSING OF THE GEORGIA OPEN RANGE, 1870 — 1900

Thesis by

Shawn Everett Kantor

In Partial Fulfillment of the Requirements

for the Degree of

Doctor of Philosophy

California Institute of Technology

Pasadena, California

1991

(Submitted June 25, 1990)

DEDICATION

To Jennifer

ACKNOWLEDGMENTS

I owe much to J. Morgan Kousser, my principal advisor, who has been a constant source of encouragement for the two and a half years that I (we) have been thinking about Georgia fences. His intellectual contribution to my education and approach to economic history has been substantial. It was during our joint work on "Common Sense or Commonwealth?" that I learned the importance and benefits of combining cliometrics with more "traditional" approaches to history. Although this education was painful at first, I expect the rewards to be great. Finally, I would be remiss not to mention the small, yet highly significant, sacrifices Morgan made on my behalf — reading papers on short notice, collecting data for my work while on his own research trips, and sharing his hotel room with me during

the Social Science History meetings in Washington. As an advisor, he went above and beyond the call of duty.

Since my first year at Caltech, Lance Davis has been extremely supportive of my interest in economic history. As I floundered for a dissertation topic for a while, he displayed the utmost in patience, and when the decision was finally made, he trusted my judgement. After all, I did decide to study institutional change. Lance is never too busy to take time out for his students and to provide rapid feedback on papers. Having advisors who were willing to take active roles in my education made it that much more meaningful and worthwhile.

The social science faculty as a whole was most helpful and always accessible. In particular, I thank Phil Hoffman and Rod Kiewiet for their insightful comments and suggestions. Also, John Ledyard, Jeff Dubin, David Grether, and Kim Border offered valuable advice along the way. Doug Flamming provided extensive comments on an earlier version of chapter 2, for which I am most thankful. Economic historians from other universities were very considerate in reading and commenting on my work. I would especially like to thank Stanley Engerman, Avner Greif, John Nye, Ken Sokoloff, and David Weiman. My friends Ken Ng and Jean–Laurent Rosenthal encouraged me as I made my way through the graduate school maze.

Of course, thanks would not be complete without some for my compeers. For my officemates Guofu Tan and Mike Udell, no question was too silly. Richard Boylan, Skip Lupia, and Mark Olson patiently listened and helped me out of a bind or two (or more).

I had always thought that it was cliché that dissertation or book writers so extolled their spouses — it was a conjugal imperative I figured. But now, having gone through the process myself, I know the truth (about some things at least). Without Jennifer's love and never–ending support over the last four years, this thesis would be far from complete. Her sense of humor and constant energy makes even the most unbearable of times seem bright.

For all of the sacrifices you have made, I am eternally grateful. It is only fitting that this project be dedicated to you.

ABSTRACT

The traditional agricultural practice in Georgia from colonial times until after the Civil War allowed animals to roam the countryside freely and forced farmers to erect fences around their growing crops. All unfenced land, therefore, was considered common pasture that could be used by anyone. After the Civil War there was a concerted effort to eradicate the open range policy and to force all livestock owners to fence in their animals instead of forcing farmers to fence them out of the growing crops.

Previous historical research on the fence law debate has portrayed it as a class conflict. Investigation of the qualitative and quantitative evidence, however, shows that a two–class interpretation is wrongly simple. The fence law debate stemmed from the material-istic goals of individuals concerned about the distribution of costs and benefits of fencing crops and livestock.

The Georgia legislature's role in facilitating the closing of the range was crucial. First, it allowed countywide referenda. Upon seeing that majority rule generally failed as a mechanism to facilitate the adoption of a relatively profitable institution, the legislature mani-pulated the voting rules so as to guarantee compensation for a subset of the expected losers. By forcing the transfer of income from expected winners to losers, the legislature made volun-tary enactment of the closed range easier to attain. Moreover, roll call analyses of the ena-bling legislation refute previous historians' claims that the closed range was designed and implemented for reasons of social control.

Finally, some historinas claim that the animosities created during the bitter fence debate of the 1880s generated the bases of support for the Populist movement of the 1890s. The analysis provided in the thesis shows that the "Roots of Southern Populism" cannot be

easily found in the fence law conflict.

More generally, the dissertation is a study of institutional change. New institutional economists have been overly concerned with the beginning and end points of institutional change, and have portrayed the process of change as occuring within a "black box." This thesis demonstrates that the dynamics of change must be examined as more than voluntary bargaining between self–interested individuals. Institutional development, instead, must be studied within a broader framework that incorporates the complex interplay between economic, legal, political, and social forces.

TABLE OF CONTENTS

LIST OF TABLES, FIGURES, AND MAPS

CHAPTER 1

THE DYNAMICS OF INSTITUTIONAL CHANGE: THE INTRODUCTION OF AN ANALYTICAL FRAMEWORK

Economic growth does not come easily. The arduous process of achieving technological improvement, accumulating investment in human capital, and building a solid capital base all play a crucial role in the development of an economy. Very often economic, political, and social institutions must undergo a complete metamorphosis before barriers that inhibit economic development are broken down and replaced by a more efficient societal structure. Proposals to change an institutional arrangement that will alter production incentives often create conflicts between groups that expect to win and those that foresee losses from the proposed change. Before an institutional modification is implemented voluntarily, distributional conflicts must be resolved and pertinent parties must agree that the new institutional arrangement will be accompanied by an equitable or fair reallocation of resources.[1] As voluntary exchange contracts often break down as the result of numerous potential bargaining problems, interest groups may lobby the state for a political solution.[2]

Disparities in the political strength of competing parties create an incentive for the more powerful to substitute a coercive political redistribution for a "market" solution. Nothing guarantees, however, that the political decision will be the one that is most equitable, fair, or efficient, because the power differences of interest groups may sway the governmental decision process.[3] The study of institutional change, therefore, forces economists to go beyond the confines of describing economic processes solely as market outcomes. Economic growth is infrequently achieved by individuals cooperatively bargaining to rearrange society's institutions so as to expand production and wealth.[4] Ultimately, political intervention becomes necessary not only to enforce contracts and to redistribute income, but also to define formally the rules that determine how individuals are able to alter society's institutional structure.

Thus, in order to understand the institutional roots of economic growth (or stagnation), we must investigate the complex interaction between economic and political forces.[5]

"New institutional economists" have largely ignored the particular arrangements that govern the choice of a new institution. The rules that define the choice process must themselves be viewed as endogenous and dynamic variables. Why do inefficient institutions emerge or persist, and why can the adoption of relatively profitable institutions be delayed? Rules that influence the choice process can be manipulated and skewed so that a decision away from the status quo can never be achieved, or, if a decision is taken, it may serve the purposes of a subset of the population, while injuring society as a whole. If we are to understand the dynamics of institutional change better, our focus must be broadened beyond the limits of economic analysis.

Research in the new institutional economics has relegated the process of change to a "black box" — for the most part, researchers ignore the rules that govern choice. Consider Ronald Coase's classic conjecture that as long as transaction costs are zero or very small, then the initial assignment of property rights does not matter because agents will voluntarily reach an agreement that maximizes their joint production.[6] If externalities exist in the perfect Coasean world, individuals will internalize the social damage by cooperatively bargaining to a Pareto efficient solution. The important details of this bargaining arrangement are never explored. What strategies are available to players? What are the rules of the game that govern the negotiation? How do individuals communicate? How and when will an agreement be considered final? We know that within the black box there lies a complex labyrinth that can impede the path toward efficient institutional change, but these subtleties are usually ignored. This dissertation opens the lid of the black box and studies the dynamics of institutional change. The thesis provides a framework for charting the complex maze that heretofore

has been taken for granted in explaining institutional change.

When an income–enhancing institutional change has been obstructed, economists often blame transaction costs for blocking the movement. The realization that a new institution would be more valuable than the old one is quite different from actually adopting the better arrangement. As individuals who would be adversely affected by the change seek a priori contracts for compensation, those who anticipate net benefits must decide how much to pay, who should pay, and who should receive their payments. Free riding, strategic bargaining, or expensive monitoring and enforcement of contracts can block voluntary exchange and prohibit society from adopting the new institutional regime, despite its promise of increased social wealth. Collective action problems arise because the rules that govern social choice create incentives for individuals to deviate from acting cooperatively. How would a different set of rules (or mechanism) influence the path that change would follow? Moreover, who sets the rules, what are their objectives, and how do they make their decisions? The goal of this chapter is to provide a theoretical framework that makes the political process an integral part of the dynamics of institutional change.

When free market agreements break down, to what extent will the government be able to facilitate the adoption of efficient institutional arrangements? Stated another way, can the government create a set of rules that selfish individuals can follow so that society allocates resources efficiently? Moreover, if such rules exist, how likely is it that they will be the ones that the government implements to solve the "social dilemma"? Economic historians interested in institutions and property rights have underutilized the classic results of two fields — implementation and mechanism design theory and social choice theory — that provide answers to these questions.[7] The theoretical mechanism design and social choice literatures suggest that it is very uncertain whether the rules that emerge from the political process will

lead to the adoption of Pareto efficient institutions. Much more frequently, economies will only be able to achieve a suboptimal level of economic development. This result is directly at odds with that of economists who see efficient institutions emerging from the complex workings of a competitive market function. As long as individuals possess private information, society is forced to trade off efficiency for privacy.

One of the main objectives of this chapter, as stated above, is to show that the rules that govern choice may play a very important role in determining whether institutional change will lead to economic efficiency. A brief review of the mechanism design and social choice literatures will provide valuable insights into this theoretical question. A second goal of this chapter is to provide a framework for analyzing the process of institutional change. Economic historians have for too long dismissed the the details of institutional development as unimportant. This chapter provides a theoretical outline of the previously uncharted labyrinth regulating the path of institutional change; in other words, the chapter provides a model of the "black box." In sum, the chapter emphasizes the need for more comprehensive empirical work on the dynamics of institutional change.

Institutions and Rules: A Clarification and Discussion

Andrew Schotter suggests two ways to view institutions.[8] The first, which I will call the social engineering approach, sees social or economic institutions as a set of rules that constrain individual behavior and that determine economic outcomes. Borrowing the central idea of the mechanism design and implementation literature, the engineering approach models institutions as exogenous mechanisms designed and implemented by a social planner. Institutional change, according to this deterministic point of view, "is a process of social engineering that takes place through the manipulation of rules."[9] Laws handed down by the government

that explicitly define property rights and the legal status of corporations would be examples of institutions that fit this first definition.

The second, which I will call the interactions approach, views institutional development not as the designing of rules by an outside force, but as the result of human interactions. As Douglass North puts it, "institutions are regularities in repetitive interactions among individuals . . . . They . . . provide a set of incentives and disincentives for individuals."[10] According to this approach, customs and social norms that function like a formal legal system would be considered examples of institutions that develop over the course of repetitive interaction among individuals.[11]

How can these divergent views be reconciled? There are two basic concepts that must be melded. First, institutions are designed by individuals often through a process of interaction. Second, there exist rules that govern the way in which such interactions progress. For example, if individuals are bargaining amongst themselves, rules would determine how agents communicate (through an intermediary or directly), the timing of the communication (who has the first and last word), and when the bargaining will cease. Therefore, rules dictate how institutions may be adopted, modified, or removed. Unanimous consent, simple majority rule, plurality rule, or the Borda count are examples of rules or mechanisms that govern the choice of institutional arrangements.[12] Rules, of course, need not be restricted to voting mechanisms; they may govern the way in which bargaining between two parties will proceed. Finally, there is the question of how rules are created. The approach taken in this chapter and throughout the dissertation is that they emerge from the political process. Therefore, the "social planner" of the social engineering view of institutions has a somewhat diminished and intermediate role here — the planner sets the rules that govern institutional development, not the institutions *per se.* In other words, the planner acts as the constitutionalist, or Founding Father.

Moreover, when individuals have disagreements over what the rules mean, the planner acts as a court, providing an interpretation of the rules. Instead of having direct control over final economic outcomes, the planner (or the government) manipulates the rules that circumscribe human interaction that, in turn, influences the path of institutional development and change.

The importance of rules should be obvious, but to demonstrate this, consider the following elementary example: in a hypothetical society, although some individuals own their own land, their landless neighbors are permitted to hunt and to gather on the owners' unimproved acreage. Suppose that a coalition of landowners proposes two laws that would restructure property rights in their community. The first law would force an individual to receive permission from a landowner before he could hunt or gather on a landowner's property. The second would only restrict hunting and gathering on the particular day that individuals typically consume most of their leisure time (Sunday, for example). Assume that the laws would cost nothing to implement and cost virtually nothing to enforce. Table 1 reports the hypothetical changes in the expected utility of the five individuals who make up the entire society. (Assume that utility can be measured in common cardinal units.) For simplicity, I will assume that Table 1 is common knowledge among the players, but unknown to their benevolent leader. The leader of this group has no voice in how the individuals run their society, but she has the power to set the rules that determine how the individuals choose their institutions (laws). The leader then implements and enforces the social decision taken. Further assume that the leader has no power to enforce voluntary contracts between individuals that she has not personally endorsed. We will see that for three different regimes of rules, three different options can be chosen, and two of them are socially inefficient.

The leader first might naively ask everyone what his favorite option (the status quo, law 1, or law 2) is, and if all unanimously agree, then the leader implements that choice.

Otherwise, without everyone's consent, the status quo is maintained. Clearly, as a cursory

glance at Table 1 shows, the traditional hunting and gathering practice would be maintained,

for individuals B and D would lose under either law 1 or law 2 and would block any change.

Conversely, voting under plurality rule would lead to law 1's adoption, because A, C, and E

would vote for it. Note, however, that the status quo and law 1 are socially inefficient — that

is, the sums of the individuals' values for the status quo and law 1 are less than what could be

achieved under law 2. In other words, with law 2, appropriate transfer payments can be made

so that everyone is made at least as well of as he was under the status quo. Finally, the leader

could bring all five individuals together, and have them jointly bargain to a solution. With

access to everyone else's value and barring expensive bargaining costs, Coase suggests that

this society would enact law 2, the most efficient allocation of property rights for this particu-

lar community's set of preferences.[13]

The central point of this seemingly trivial example is to show that the rules that

govern choice matter and, therefore, any model of institutional development must consider the

influence of rules, for those rules can determine the direction and flow of institutional change.

It will become apparent as one reads this chapter that the process of institutional modification

is multifaceted and constantly prone to manipulation and strategic, self–interested behavior.

In the above example, if an individual or a coalition could influence the leader's decision, then

the final outcome might depend heavily on this strategic behavior. A general model of institu-

tional change must consider these important, and sometimes subtle, issues.

Theories of Institutional Change

What, according to the interactions approach, causes individuals to change their

economic, political, or social institutions? The classic theory of institutional change is Marx's historical materialism. As productive forces, such as technology or the means of production, are altered or discovered, the economic structure of society (or social relations of production) develops in the way that organizes economic activity most efficiently. The "legal and political superstructure" is then created in order to stabilize the economy and to implement political institutions needed to sustain the economic structure. Class struggle plays a significant role in the Marxist theory. The classic historical materialist argument states that class struggle is the mechanism by which property relations are transformed in order to adapt to the new level of productive capability. A more modern materialist viewpoint — one championed by Robert Brenner — contends that class forces, not productive forces, are the motivating energy behind the restructuring of property relations or institutions. The resulting effect that class conflict has on the economic structure, in turn, determines the speed and level of development of an economy's productive forces.[14]

Moving away from the economic determinism of the Marxist analysis, two neoclassical approaches contend that individuals change institutions when market forces dictate that such an alteration is necessary. One such theory places heavy emphasis on the role of imperfect information as a facilitator of change. In an economy where information is not readily available or is expensive to obtain, problems of risk, incomplete markets, moral hazard, and adverse selection impede efficient economic development. Supporters of the "imperfect information paradigm" argue that certain institutions develop in order to act as substitutes for missing markets — they serve to internalize the inefficiencies that result from imperfect information.[15]

Similar to the imperfect information school, but covering a broader stretch of territory, is a third theory of institutional change. Stemming from Coase's seminal paper, the

transaction costs school believes that individuals respond to shifting costs and benefits of existing and potential institutions, and choose the ones that lead to the greatest level of economic efficiency. Harold Demsetz, for example, argues that "property rights develop to internalize externalities when the gains of internalization become larger than the cost of internalization. Increased internalization, in the main, results from changes in economic value, changes which stem from the development of new technology and the opening of new markets, changes to which old property rights are poorly attuned."[16] A reliable set of property rights, however, is only one of the institutional requirements necessary to overcome the costs of transacting in a highly complex, interdependent, and impersonal economic network. North, one of the leading spokesman of the transaction costs approach to institutional change, argues that "modern economic growth results from the development of institutions that permit an economy to realize gains from specialization and division of labor associated with the sophisticated technology that has developed in the Western world in the last several centuries."[17]

How exactly do individuals or groups formulate their decisions to modify society's institutional framework? Lance Davis and Douglass North theorize that institutional change will tend to come about when the net present value of a new regime, from the individual's or group's perspective, exceeds that of the status quo. As the costs and benefits are continuously changing under each potential institutional structure, the net present value calculation becomes a dynamic process that relevant parties constantly update. According to the Davis–North model, exogenous shocks, such as relative price changes or discoveries of new opportunities for gain, tend to induce alterations in institutions in a way that fosters economic growth.[18] In their model, adjustments to institutional arrangements are conducted within a world where "the set of fundamental political, social, and legal ground rules that establishes the basis for production, exchange, and distribution" are fixed. "Rules governing elections,

property rights, and the right of contract are examples of the type of ground rules that make up the economic environment."[19] Although they acknowledge that the "institutional environment" is subject to change, Davis and North proceed to model institutional innovation under the assumption that the environment is determined exogenously. North and Thomas, in their capsule history of the economic development of the western world, extend this theory by modelling economic and political institutions as endogenous variables. Instead of parametrizing laws or a political system, North and Thomas argue that they developed from economic changes, such as population growth. The resulting political changes, in turn, facilitated European economic growth.[20] North's 1981 monograph extends the theory further by assuming that ideology and social characteristics endogenously affect the flow and direction of institutional change and, thus, economic development.[21]

In a world of costless transacting, "new institutional arrangements will not be set up unless the private benefits of their creation promises to exceed the cost."[22] In essence, new institutions are created so as to capture efficiency gains and, therefore, to increase social wealth. "Competition in the face of ubiquitous scarcity dictates that the more efficient institution, policy, or individual action will survive and the inefficient ones perish."[23] In other words, as if operating within a market system, agents respond to economic incentives and restructure society so as to increase economic efficiency and, thus, pave the way for economic expansion.[24]

Realistically, however, the capture of potential economic efficiency gains and the actual implementation of the new, more "profitable" institution are quite distinct, and often distant, entities. Transaction costs can be prohibitively high and block any movement away from the status quo. For example, if the number of strategic bargainers is large, information becomes difficult to obtain, and the opportunity for individuals to free ride grows, the

cooperative solution breaks down; and those who expect to profit from an institutional reor-

ganization may see the government's intervention as the most practical method for achieving

success.[25] What individuals could not achieve in the private sector, the government is called

in to accomplish in the public sector. Davis and North outline the conditions under which a

group that expects to profit from an institutional change would solicit the government's coer-

cive assistance: When "(1) There is a relatively well developed structure of government, but

private markets are not highly developed . . . . (2) Large external benefits are coupled with

already existing property rights . . . . (3) The benefits derived from the reorganization are indi-

visible, and it pays each individual to pretend he is not interested in capturing them . . . . (4)

The benefits do not lead to a greater total but merely to a redistribution of the existing income

. . . ."[26]

Even for the government, however, changes in laws or property rights cannot be

achieved trivially, for political, social, and constitutional issues act as policy constraints. In

addition, the state only has at most a secondary role in influencing institutions like custom,

ideological belief, or religion.[27] Even if their alteration or eradication means increased

economic growth or improved social welfare, it might be difficult or virtually impossible to

break down such social structures.[28] Although the state does have the power to coerce and to

change the laws that govern institutional choice, we must be cautious in modelling the state as

a panacea for institutional deficiency.[29] Government also confronts scarcity with respect to

resources, mandate, and time; and the government is often bound to follow a prescribed set of

rules determined by its predecessors. Certainly, such rules are endogenous, but they do

prescribe the method by which new ones can be adopted. For example, the United States

Constitution describes how amendments can be added, but to change this method, the govern-

ment must follow the original procedure as defined in the Constitution. The web of

intertemporal relationships can be quite intricate.[30]

For the present analysis, I will make the simplifying assumption that the basic form of the government is given exogenously and cannot be changed, at least in the short term. Therefore, a representative form of government is assumed to exist, operating according to majority rule. Rules that govern elections, who may vote, and geographical political boundaries, for example, are determined endogenously, within the existing governmental structure. The government is delegated the responsibility of implementing and enforcing social decisions; furthermore, it has the power to tax and, thus, to redistribute income. All of these points have been emphasized in the literature. The novelty of the approach here is that it places the government in the powerful position of mechanism designer. That is, society's choice of institutional arrangements is assumed to be governed by a set of rules that emanate from the political process.

Mechanism Design— Benevolent and Otherwise

Consider an example of the type of institutional change that might be considered impossible to achieve using a private market reallocation of resources or property rights. Suppose that a proposal has been forwarded to build a dam that would provide irrigation for farmers south of the proposed dam, but would flood farms north of it. Assume that the net benefits of building the dam are positive — the expected profits of those south of the dam are greater than the losses of those to be flooded.[31] Clearly, one group benefits at another's expense. If this problem were to be solved voluntarily, the beneficiaries could offer sidepayments to the potential losers. However, each member of the profitting group has an incentive to free ride, hoping that everyone else will pay the bribe so that he can enjoy the full benefits of the dam. Also, each farmer may have private information about his expected gain or loss; and, if

sidepayments were based on his reported value, a loser would have an incentive to exaggerate his potential loss and a winner to underreport his expected gain.

This intuitive observation of human behavior has been proven formally by Allan Gibbard and Mark A. Satterthwaite.[32] Requiring their social choice function (voting rule) to satisfy certain conditions and to yield a single outcome, Gibbard and Satterthwaite prove that, if the decision is over more than two options, there is no voting rule or demand–revealing process that is immune from strategic behavior, except the dictatorial choice function. Depending on the particular arrangement of preferences among voters or economic agents, individuals may find it profitable to misrepresent their preferences strategically — in fact, *no* voting rule or economic process can guarantee that all individuals will always tell the truth.[33]

Given the situation posed in the example and in the formal proofs of Gibbard and Satterthwaite, we might ask under what conditions a third party (the government) would be able to create a set of rules that would induce people to reveal their true preferences for a public good or, similarly, an institutional change. Since society presumably wants to build the optimal level of the public good and since individuals possess private information, the goal is to find *incentive compatible* mechanisms that give no individual an incentive to misrepresent his or her true preferences. Finding everyone's true preferences over the set of feasible alternatives would be the first step in producing the optimal amount of the public good.[34]

The theoretical mechanism design/implementation literature, which is the source of the social engineering approach to institutional development, portrays the government as a political body devoid of any real substantive content. The government is modelled as an entity designed to help society achieve maximum economic growth. The organization does not seek to extract society's surplus (producer or consumer), but serves only to advance the welfare of the economy. In other words, the government "is benevolent and, ideally, if the full

description of the economic system were known to [it], [it] would select according to some rule among the Pareto optima."[35] Depicting the mechanism designer as benevolent and using Pareto optimality as their criterion of efficiency, theorists have been able to show the (non)existence of efficient, incentive compatible mechanisms. The focus here will be on public goods economies in which agents are assumed to use either dominant, Nash, or Bayesian Nash strategies.

An incentive compatible mechanism guarantees that each agent's best strategy, given his personal characteristics, is to follow the rules of the government–created game, regardless of what anybody else does.[36] This dominant strategy game has the virtue of not requiring agents to know or estimate anything about other agents' responses. Theodore Groves discovered a class of allocation rules in which each individual has a dominant strategy to reveal his true preferences for a proposed public good, assuming that individuals possess quasilinear utility functions.[37] The Groves mechanism, however, does not fully produce Pareto efficiency in an aggregate sense. Since the mechanism requires that the government collect and redistribute transfer payments, the Groves mechanism can be creatively designed so that the government will always collect a surplus of tax revenue.[38] In principle, the government could make everyone better off by giving back the surplus money to its constituents; however, the expectation of such a return would alter each person's "truthful" report. Therefore, in order for a mechanism to be fully efficient and incentive compatible, it must induce people to report their true preferences as well as balance the transfer payments between agents.

Another unfortunate aspect of the Groves mechanism is that individuals can be made worse off by participating in the demand–revelation game. If we assume that individuals need to have an incentive to play the game, we might like the mechanism to allow a "no–trade" option in which everyone is left, after the final allocation of resources is computed, at least as

well off as he was at the start of the game (this constraint has been termed *individual rationality*). Ledyard and Roberts, however, prove the nonexistence of efficient, dominant strategy mechanisms that allow individuals a no–trade option.[39] In sum, if we require that individuals be made at least as well off after the public good has been built and after transfer payments have been made, and we assume that they will use dominant strategies, if they exist, then the government will not be able to construct a mechanism that achieves full Pareto efficiency (assuming quasilinear utility functions).

Dropping the constraint of individual rationality, however, still does not produce satisfactory results. Green and Laffont and Walker prove that if utility functions are restricted to be quasilinear, then the only dominant strategy mechanism that chooses the efficient level of a public good is a Groves mechanism. They go on further to show that there is no Groves mechanism that balances the transfer payments, a necessary condition for efficiency.[40] Thus, in public goods economies in which agents use dominant strategies, the government cannot create a set of rules that will produce the optimal level of a public good or a set of institutions that leads to Pareto efficiency or maximum economic growth.

The failure to find a mechanism to produce a public good with full efficiency when individuals have no information about others' responses leads us to modify our portrayal of the decision making process. While maintaining the assumption of a benevolent government and a one–iteration implementation game, one might model individuals as Bayesian decision makers. This branch of theory supposes that everyone has a prior belief as to how other players will act during the game. This belief is represented in the form of a probability function. Furthermore, the theory assumes that the vector of probability functions of all agents is common knowledge among the players (everyone knows that everyone knows his function). Each agent, then, reports a "message" to the government that maximizes his utility, given his

prior belief about the expected actions of the other players in the game.[41] The theoretical results for this approach are, however, no better than those of the dominant strategy scenario. There are no Bayesian incentive compatible mechanisms that lead to Pareto efficiency.[42]

A third approach, assuming Nash behavior, has produced more satisfactory results. Nash implementation assumes that agents choose their optimal messages given that they have already seen the messages that other players have sent to the planner.[43] The Nash behavioral rule implicitly assumes that the revelation game allows for an infinite number of iterations as agents revise their messages as they learn the responses of others. For the public goods environment, Groves and Ledyard devised a rule that solves the free rider problem as their mechanism balances the government's budget and produces the optimal level of the public good.[44] Their mechanism, however, does not necessarily leave everyone at least as well off after the final reallocation of resources. Hurwicz and Walker independently solve this dilemma with incentive compatible mechanisms that produce Nash–efficient allocations that are also individually rational.[45]

It should be noted that all of the above mechanisms are designed for a "perfect" world. None deals with the complexity of carrying out such tax schemes, the government's use of resources to implement the process, or the potential strategic behavior of coalitions. Nash mechanisms, in particular, exist, but they are not infallible. Suppose an agent makes a slight mistake in communicating his message to the government. Since the mechanism may require that these "nonequilibrium messages" be used to determine the outcome, we would like to know if the mechanism would still lead to an efficient outcome. Theorists have found that if an outcome function is to implement individually rational, Nash–efficient allocations and players can make mistakes, then the social planner must be know the players' endowments, which are private information. Thus, if players are imperfect and if the outcome function is to

be independent of information outside of the demand revelation game, then individual

rationality and Nash–efficiency are incompatible.[46]

In addition, as the Nash mechanism allows for iterative play, it is conceivable that

individuals can pretend to have different preferences than their own. By lying, then, an agent

can steer the final allocation closer to his ideal point, assuming, of course, that his counterparts

do not know he is manipulating his preferences. In fact, Hurwicz has shown that if agents are

modelled as manipulative Nash players, the designer cannot achieve a Pareto efficient out-

come.[47] Thus, we must approach the theoretical results obtained for the Nash behavioral

assumption somewhat cautiously.

Up to this point, we have seen that, in a public goods setting, under certain restrictive

conditions, there do exist mechanisms that a benevolent government could implement so that

the optimal amount of the public good is produced and that resources are reallocated

efficiently. However, this result holds only if we assume Nash behavior, ignore manipulative

behavior, and do not require individual rationality when the transmission of nonequilibrium

messages is possible. In modern societies where the presence of a government is essential for

the maintenance of a complex economy, to what extent will a benevolent state be an effective

designer of rules that facilitate maximum economic growth? Can economists' traditional

notion of Pareto efficiency ever be achieved? Even portraying the government as the most

simple and innocuous of creatures, the answers to the above questions seem to be no.

As Douglass North warns, "[N]ew institutional economics must discard the traditional

criteria used by economists in the past. Pareto efficient or Pareto superior conditions simply

don't make a great deal of sense . . . . As long as transaction costs are positive and large, we

have no way by which to define an efficient solution with any real meaning . . . ."[48] As the

discussion in this section has demonstrated, the abandonment of Pareto efficiency, in fact,

precedes the introduction of transaction costs. When individuals possess private information, act in their own self–interest, and take steps to ensure a maximum private return, economic efficiency, defined traditionally, will suffer. Adding transaction costs to the decision making process only makes the suffering worse.

What happens when we abandon the naive assumption of the benevolent mechanism designer and assume that the government has its own objectives — objectives that may not necessarily coincide either with those of its constituents or with some preconceived notion of efficiency? Using a classic result from social choice theory, we see that, even if the government has at its disposal a Nash mechanism that is impervious to manipulation and error, the likelihood of adopting such a mechanism could be small. Until now we have assumed that the government's sole objective was to lead society toward Pareto efficiency. If the government consists of many members, the mechanism design approach implicitly assumes that all members unanimously agree on what needs to be done to ensure maximum efficiency. Stated another way, all members have identical utility functions. A possibly more interesting, and certainly a more realistic, approach is to consider the government as a collection of self–interested individuals, each attempting to maximize his own unique objective function. Since government decisions are the final product of legislative deliberations and the aggregation of preferences, what types of properties might these outcomes possess? If a set of rules exists that, if implemented, would lead the economy toward maximum efficiency, would a self–interested government be able to adopt the mechanism easily, or, would another, suboptimal alternative be chosen, instead?

A realistic portrayal makes the government a center of conflict between many politicians representing diverse economic, geographic, political, and social constituencies. We assume that each legislator has a preference ordering over the feasible policy alternatives

available to the government. When the government body aggregates the preferences of all its members, however, it is not clear what the final outcome will be nor what efficiency properties that outcome might possess. Arrow's classic impossibility theorem is the best starting point for this discussion.[49]

Arrow proves that if we restrict our attention to nondictatorial voting rules that obey certain realistic assumptions, and if individual preferences are complete and transitive, then it is not obligatory that the social preference ordering will itself be transitive.[50] In other words, the social preference ordering might cycle — option x can be preferred to option y which can be preferred to option z, but option z can be preferred to x. Such perverse results create an incentive for an individual, coalition, or political party to seize control of the agenda setting power, as the order of voting could be the crucial determinant of the final outcome. Consider the above example of options x, y, and z. If a coalition that preferred option x held the agenda setting power, then it could have the legislators vote between y and z and then place the winner against x. Assuming everyone is oblivious to the strategic agenda setting of the coalition, x would be chosen as the winning policy. Alternatively, if another coalition placed z against x and the winner against y, y would win.[51] Clearly, controlling the agenda matters. That is to say, those who set the voting agenda may well determine the ultimate outcome that emerges from the political process.

Although there might exist a theoretical mechanism that would lead to the adoption of Pareto efficient outcomes, it is impossible to state axiomatically that these rules will emerge from a government's actions. Arrow's theorem emphasizes, or at least cautions us, that once we add the element of aggregated preferences to the government's decision, the predictive power of any model that seeks to explain the emergence of certain outcomes from the political process becomes weaker and weaker. A priori, all that we can say is that anything is

theoretically possible.

When the government (modelled as a collection of self–interested politicians) is called upon to effect institutional changes that could not be achieved in the private sector, the results of the mechanism design and social choice literatures suggest that full efficiency may be an elusive goal. These are important results that, for the most part, have been ignored in the new institutional economics. By introducing the political process into an analysis of institutional development, it becomes immediately apparent that, on the basis of theory, we cannot presume that the persistence of a particular institution is prima facie evidence of efficiency. Nor can we assume that relatively inefficient institutions will be pushed aside to make room for rapid economic growth.[52] As Brian Binger and Elizabeth Hoffman note, "we cannot develop a theory of the origins of social institutions that makes general predictions of efficient outcomes from sets of initial conditions. The best we can do is to try to understand the process of institutional development within each individual society."[53] In the next section, I develop a simple framework for analyzing the dynamics of institutional change. The "model" makes it possible to divide the process of institutional change into its various components so as to make an analysis of the path of change more tractable. This approach, I propose, helps to provide a more comprehensive analysis of the closing of the open range in postbellum Georgia than has heretofore been offered.

A Framework for Analyzing the Dynamics of Institutional Change

Recall that we are concerned with institutional changes that cannot be achieved in the private sector. Agents who are interested in change, then, have as a recourse the political solution. Therefore, the process of institutional change might operate as follows: the government receives signals from individuals that there exists a problem in the economy that cannot

be solved in the private sector. Legislators (individuals operating the government) process these signals and create a set of rules that provides a way to resolve the economic problem within the economy. A crucial point is that legislators, when deciding upon a mechanism, do so in a way that maximizes their own utility functions subject to the constraints placed upon them. Individuals within the economy, then, play the "game" devised by the legislature, and that play, in turn, produces an outcome — an institutional change, for example. It is important to note that one of the legislature's alternatives is to do nothing and, thus, allow the status quo to prevail. At the opposite end of the spectrum, the government may create a "dictatorial" set of rules that imposes a new institutional arrangement on society. If the government has the power to create the mechanisms that govern choice, then certainly the dictatorial mechanism is feasible. Finally, to make the system endogenous, we assume that the outcome derived from the legislature's decision has an effect on the economic environment. This feedback mechanism may create an incentive for individuals to repeat their signalling to the government and that action could, in turn, start the process again. The entire system is presented diagrammatically in Figure 1.

E is the economic environment describing the set of all agents $i = 1, \cdots, N$, all feasible allocations, $X = (x^1, \cdots, x^N, y)$, and utility functions, $u^i(x^i, y)$, where the x's represent private goods and y an indivisible public good. Only agent i knows his own characteristics — for example, preferences, production capabilities, and initial endowment. Since we will be considering public goods economies in which private resources can be transformed into a public good, the environment must also include a description of the production function for the public good. The public good could come in many different forms, ranging from the construction of a dam to the creation of a new federal law — the latter is the type of institution considered here.

Agents within the economy send signals[54] (s) to the government (G). Since the

government can only imperfectly monitor the performance of the economy, it relies on its

constituents for such information. Therefore, if the internal dynamics of the economy create

an incentive for institutional change and agents cannot achieve this voluntarily, the only way

the government will learn of this failure is by way of the signalling process. By assuming that

the government cannot observe the intricate operations of the economy, we allow for the pos-

sibility that the institution called for may not be income–enhancing, but only redistributive. It

is at this point in the process that the political strength and manipulative behavior of groups or

individuals can influence the government's perception of the economy and affect the ultimate

outcome. Signals sent from the environment to the government are especially prone to exag-

geration, fraud, or misrepresentation. Since the government cannot directly monitor the

economy's performance, the incentive for individuals to send strategic signals to the govern-

ment is obviously great. If a coalition of economic agents can convince the government that a

problem, real or not, exists, then it increases the probability of attracting legislation that will

benefit its members. Depending on the circumstances, this benefit could come about as a cap-

tured efficiency gain or as the result of redistributed income.

As an example, consider the American Medical Association. One of the AMA's

strongest lobbying points is that it reduces the number of unqualified physicians practicing

medicine and, therefore, protects society from the negative externalities created by the incom-

petence of ill–trained doctors. The Association, however, recognizes that legislation that

allows for self–regulation makes it possible for existing doctors to control the supply of newly

licensed physicians. By restricting entry into their profession, physicians have the power to

extract monopoly rents from medical consumers. By couching its demands in terms of pro-

tecting society from unscrupulous charlatans, the AMA's signals receive a more sympathetic

hearing from the government as well as from consumers of medical services. Clearly, if the AMA requested special, self–regulatory status in order to increase its members' own profits at the expense of consumers, the institution of licensing doctors would certainly be looked at much differently than it is. In sum, economic agents send signals to the government in a way that will produce favorable political action with the highest probability. Since different groups have varying degrees of political influence, this asymmetry will play an important role in determining the amount and nature of information received by the state, which will necessarily affect the ultimate political outcome.

The government consists of individuals indexed $j=1, \ldots, M$. Note that the set j is a subset of i, the set of all agents within the economy. The economic environment is divided into geographic/political regions, each represented in the government by an elected official. Each legislator brings with him a set of personal objectives (to feed and to house the poor, to eradicate government corruption, to end abortion, to be reelected, to make money, etc.) as well as a set of constituent demands (to build a local highway, to reduce taxes, to support abortion, etc.). Certainly, a politician's personal objectives may at times be at odds with those of his constituents. The legislator's ultimate policy choice, however, will be the one that maximizes his total utility, $u^j(x^j, y, p, c)$, where x^j and y are defined above and p and c represent his personal and constituents' political goals, respectively. It is important to emphasize that legislators face constraints in their efforts to maximize their utility functions. Governments in democratic societies must follow a set of constitutional constraints that circumscribe their decision–making ability by defining what type of rules the government may dictate to society.

Constraints, however, need not be restricted to those explicitly defined in constitutions. There may be norms that develop within the legislature that constrain the way

individual politicians vote on certain issues. In the United States Congress today, for example, norms have developed that encourage cooperative play. Legislators often act in concert so as to achieve a uniform objective, such as reelection. Congressmen allow a wide spectrum of pork barrel legislation to be funded because each knows that if he disturbs the cooperative ethos, then it will likely be his projects that are denied funding in order to satisfy "budgetary constraints." As congressmen seek to provide net positive benefits for their constituents that will, hopefully, translate into reelection, each has an incentive to continue to misrepresent his true preferences for other members' local projects. To deviate from the cooperative norm would normally mean an immediate decrease in a congressman's utility. Therefore, this type of self–reinforcing norm acts as a constraint on individual legislator's policy decisions. The constitutional and informal constraints just described, however, can be relaxed or changed over time, but in the short run they are assumed to be fixed.

Agents within the environment communicate their desires to their representatives through the signalling process. As legislators receive signals from the economy, they filter them so as to maximize their own utility functions. Therefore, by throwing out signals that they deem irrelevant, discounting others from politically "unimportant" constituents, and highlighting those signals that they believe are significant policy issues, the legislators' ultimate perception of the signalled economic "problem" may be somewhat distorted. Using the signals sent to it, the government legislates a decision. In Figure 1, the function $l(s)$ maps the government (politicians, their utility functions, and the set of constitutional or informal constraints) into a policy output, h. The function l basically represents the institutional rules that govern the legislature's decision making. For example, the committee that the proposal is sent to, the agenda that governs voting, and the manner of voting (roll call, show of hands, etc.) could all affect the ultimate outcome.

The legislation that the government creates triggers another process that we term the *implementation stage*. The government's goal, theoretically, is to create a mechanism or a set of rules that will lead individuals to reach an outcome that solves what the government believes to be the economic problem. How the government actually designs the mechanism will depend critically on the signals it receives, the objective function of its members, the constitutional constraints that define the government's role in society, and the rules that govern the legislature's deliberations. The outcome from a government interested in finding the most efficient institutions will most likely be different from that of an elitist government, serving to please only a small subset of the population. For example, consider the mechanism designer whose sole objective was to achieve full Pareto efficiency. If the particular problem is to determine the optimal level of a public good, the government would strive to induce individuals to report their true preferences for the good so that an appropriate reallocation of resources can be achieved. If it turns out that the public good would cost more than it is valued by society, then the mechanism should reveal this fact and the proposal will be rejected. Alternatively, consider a government "captured" by individuals expecting to profit from the public good. The government might build the good (impose a dictatorial rule) and then tax people equally for the cost of production, regardless of the fact that producing the good might be socially suboptimal. Thus, before we begin to predict the policy outcomes from any particular government, it is necessary to have a clear understanding of the legislators' objective functions.

The policy output from the government is a mechanism, h, that theoretically maps individuals' preferences into a social decision. On a theoretical level, the implementation stage operates as follows: the government creates a mechanism (set of rules) that dictates how a social decision will be made or that specifies how a redistribution of income will be effected.

Once society knows the mechanism, individuals play the "implementation game," which involves the revelation of preferences for the proposed public good or institutional change. In an abstract sense, those preferences could be revealed to the government in the form of "messages."[55] Depending on the government–designed set of rules, messages may be sent in the form of a description of individual i's characteristics (or utility function), i's willingness to pay for certain goods, i's production capabilities, or a set of proposed responses to the potential actions of other individuals. The government may ask individuals for messages in the form of a vote — a simple yes or no to a proposed institutional change. The outcome or allocation function then maps the vector of messages from all agents into an outcome. An extremely simple decision rule, for instance, would implement a proposed institutional change if a majority of the voters cast a ballot in favor of it. More complicated outcome rules might identify the specific tax an individual would have to pay as a result of his message to the government. The implementation feature of the institutional change process is presented in Figure 1 as the dashed line from E to h and then from h to O, the outcome space.[56]

Much of the most interesting economic activity is subsumed in O. The implementation process as defined here produces only an institutional change. It is this newly created economic structure that inevitably changes production and consumption incentives that, in turn, leads to a different distribution of income and a new level of economic efficiency. For our purposes, though, we will concentrate only on the actual institutional change and the resulting reallocation of resources.

Once the implementation stage has iterated and the reallocation of resources is completed, we are able to measure the performance (p) of the particular politically designed mechanism. Judging the success of a mechanism amounts to comparing it to some ideal. Traditionally, economists ask whether it is consistent with Pareto efficiency; however, the

Pareto criterion is only one example of a potential bench mark. We might also ask whether the rules implement the equitable, the Lindahl, or the core allocations, or individually rational ones. Moreover, given the political realities of most government actions, we might ask whether the mechanism creates an allocation such that at least a majority of the eligible voters are satisfied with the social decision.

The allocation of resources associated with the induced institutional change may create a coalition of disillusioned constituents or cause people to question the fairness of the government's decision and the outcome it produced. The economic or social consequences of the final outcome might encourage unhappy constituents to send messages to their representatives. Depending on the composition of the government's objective function — a function that may change as new legislators are elected — negative feedback may cause the government to redesign the implementation game and then the process starts all over again.

Conclusion

According to the traditional view of institutional change, "Competition in the face of ubiquitous scarcity dictates that the more efficient institution, policy, or individual action will survive and the inefficient ones perish."[57] For such as result to hold, however, transaction costs must be negligible and information must be abundantly available and costless to obtain. When these crucial assumptions are violated, how likely is it that society will be able to adopt a proposed institutional arrangement that promises to increase social wealth? Not very likely, according to the analysis provided in this chapter. Voluntary agreements are likely to fail for any number of reasons, including free riding, strategic bargaining, or expensive monitoring and enforcement of contracts. One of the goals of this chapter has been to determine whether a third party, such as the government, would be able to create a decision rule that would lead

individuals to adopt an income–enhancing institutional modification. The brief review of the mechanism design and social choice literatures suggests, however, that Pareto efficiency, in most situations, remains an illusory goal. As long as individuals have private information about their preferences, there will be an efficiency–privacy trade off. Moreover, even if the government were to have a demand–revealing mechanism that enabled people to adopt relatively profitable institutions, Arrow's theorem cautions us that it would be remiss to predict with certainty that this particular mechanism will emerge from legislative deliberation and voting. Thus, as Douglass North suggests, new institutional economists should abandon the traditional efficiency criterion used in the past because Pareto efficiency will very rarely be achieved in reality.

New institutional economists have been overly concerned with the beginning and end points of institutional change, and have portrayed the process of change as occuring within a "black box." This chapter has attempted to show that studying the dynamics of institutional development is very important if we are to understand why inefficient institutions emerge or persist and why relatively profitable ones are delayed. By dividing the process of institutional change into its various components, analyzing the path of change becomes much more manageable. This dissertation provides a comprehensive analysis of the closing of the Georgia open range from 1870 to 1900. But on a more general level, the thesis attempts to illuminate the black box by providing a microscopic look at the dynamics of a particular institutional change in postbellum Georgia.

FOOTNOTES

1. "Equitable" and "fair" allocations have specific meanings in welfare economics. An allocation X is *equitable* if no individual prefers the allocation of someone else to that of his own. X is *fair* if it is both Pareto efficient and equitable. However, the words seem to be used rather loosely in the literature. Economists have suggested criteria to measure the optimality of a certain reallocation of resources — should it follow the Pareto criterion, or the Kaldor, or the Scitovsky, or the Samuelson, or the Rawls criteria? See Allan M. Feldman, *Welfare Economics and Social Choice Theory* (Boston: Kluwer Nijhoff, 1980), chapters 7 and 8, for a discussion of the above welfare criteria.

2. The terms "state" and "government" are used interchangably throughout the chapter.

3. See, for example, George J. Stigler, "The Theory of Economic Regulation," *Bell Journal of Economics and Management Science*, 2 (Spring 1971), pp. 3–21; Sam Peltzman, "Toward a More General Theory of Regulation," *Journal of Law and Economics*, 19 (August 1976), pp. 211–248; Gary Becker, "A Theory of Competition Among Pressure Groups for Political Influence," *Quarterly Journal of Economics*, 98 (August 1983), pp. 371–400.

4. Certainly there are exceptions to this claim. For instance, John Umbeck, "The California Gold Rush: A Study of Emerging Property Rights," *Explorations in Economic History*, 14 (July 1977), pp. 197–226, documents the voluntary bargaining over property rights in order to capture potential efficiency gains.

5. This suggestion has been emphasized in the new institutional economics literature by Douglass C. North, *Structure and Change in Economic History* (New York: Norton, 1981) and North, "The New Institutional Economics," *Journal of Institutional and*

Theoretical Economics, 142 (March 1986), pp. 230–237.

6. Ronald Coase, "The Theory of Social Cost," *Journal of Law and Economics*, 3 (October 1960), pp. 1–44.

7. One notable exception is Brian R. Binger and Elizabeth Hoffman, "Institutional Persistence and Change: The Question of Efficiency," *Journal of Theoretical and Institutional Economics*, 145 (March 1989), pp. 67–84. In fact, I adopt their modelling of institutions as public goods.

8. Andrew Schotter, "The Evolution of Rules," in Richard N. Langlois, ed., *Economics as a Process: Essays in the New Institutional Economics* (New York: Cambridge University Press, 1986), pp. 117–133.

9. *Ibid.*, p. 118.

10. North, "New Institutional Economics," p. 231.

11. See Richard A. Posner, "A Theory of Primitive Society, with Special Reference to Law," *Journal of Law and Economics*, 23 (April 1980), pp. 1–53 and Bruce L. Benson, "Legal Evolution in Primitive Societies," *Journal of Institutional and Theoretical Economics*, 144 (December 1988), pp. 772–788.

12. The Borda rule operates as follows: Assume that individuals have to vote on three options. Each person ranks his preferences and assigns a value of 2 to the first choice, 1 to the second, and 0 to the last. The Borda rule chooses as the winner, that option which receives the most number of points when all voters' scores are tabulated.

13. Ronald Coase, "Theory of Social Cost." For experimental evidence that the "Coase theorem" applies to groups larger than two people, see Elizabeth Hoffman and Matthew L. Spitzer, "The Coase Theorem: Some Experimental Results," *Journal of Law and Economics*, 25 (April 1982), pp. 73–98.

14. For a discussion of the historical materialist position and its criticisms, see John E. Roemer, *Free to Lose: An Introduction to Marxist Economic Philosophy* (Cambridge, MA: Harvard University Press, 1988), pp. 108–124. Robert Brenner's thesis can be found in "Agrarian Class Structure and Economic Development in Pre–industrial Europe," in T.H. Ashton and C.H.E. Philpin, eds., *The Brenner Debate* (Cambridge, Eng.: Cambridge University Press, 1986), pp. 10–63.

15. See Joseph E. Stiglitz, "The New Development Economics," *World Development*, 14 (February 1986), pp. 257–265, for an overview of the imperfect information school and a criticism of the radical and transaction costs (described below) approaches to institutional change.

16. Harold Demsetz, "Toward a Theory of Property Rights," *American Economic Review*, 57 (May 1967), p. 350. See also Demsetz, "Some Aspects of Property Rights," *Journal of Law and Economics*, 9 (October 1966), pp. 61–70. Although coming from a neoclassical point of view, Demsetz's words bear a striking resemblance to the classic historical materialist position.

17. Douglass C. North, "Institutions, Transaction Costs and Economic Growth," *Economic Inquiry*, 25 (July 1987), p. 422. See also North, "Government and the Cost of Exchange in History," *Journal of Economic History*, 44 (June 1984), pp. 255–264. For a comparison of the strengths and weaknesses of the three approaches to institutional development cited here, see Pranab Bardhan, "Alternative Approaches to the Theory of Institutions in Economic Development," in Pranab Bardhan, *The Economic Theory of Agrarian Institutions* (Oxford, Eng.: Clarendon, 1989).

18.	Lance E. Davis and Douglass C. North, *Institutional Change and American Economic Growth* (Cambridge, Eng.: Cambridge University Press, 1971), chapters 1–4.

19.	*Ibid.*, p. 6. For a criticism of their position, see Alan L. Olmstead and Victor P. Goldberg, "Institutional Change and American Economic Growth: A Critique of Davis and North," *Explorations in Economic History*, 12 (April 1975), pp. 193–210.

20.	Douglass C. North and Robert Paul Thomas, *The Rise of the Western World: A New Economic History* (Cambridge, Eng.: Cambridge University Press, 1973). Richard A. Posner, *Economic Analysis of Law* (Boston: Little Brown, 1973) also presents a model that endogenizes the legal structure. Alexander James Field, "The Problem with Neoclassical Institutional Economics: A Critique with Special Reference to the North/Thomas Model of Pre–1500 Europe," *Explorations in Economic History*, 18 (April 1981), pp. 174–198 criticizes North and Thomas and Posner for modelling non–economic forces of an economic system as endogenous, when they should, he believes, be considered exogenous. Field is rebutted convincingly by Kaushik Basu, Eric Jones, and Ekkehart Schlicht, "The Growth and Decay of Custom: The Role of New Institutional Economics in Economic History," *Explorations in Economic History*, 24 (January 1987), pp. 1–21.

21.	North, *Structure and Change*.

22.	North and Thomas, *Rise of the Western World*, p. 6.

23.	North, *Structure and Change*, p. 7 and pp. 42–3. To rely on the fundamental welfare theorems in an analysis of institutional development, we need to assume that the conditions of an Arrow–Debreu economy hold — one being that transactions are effected costlessly.

24.   Davis and North (*Institutional Change*, chapter 2) do argue that groups can use the government to redistribute income coercively even though a new institutional arrangement does not necessarily increase social income. In this case, one group gains while another loses, and it may be the case that social income could decrease. I deal with these issues below.

25.   Several recent papers have dealt with the problem that imperfect information plays in the attainment of an efficient cooperative solution. George J. Mailath and Andrew Postlewaite, "Asymmetric Information Bargaining Problems with Many Agents," mimeo, University of Pennsylvania, June 1988, study a situation in which all members of a society must agree to the building of a public good. Furthermore, they assume that each individual has private information about his valuation of the proposed public good. Even if the project would generate net positive benefits, Mailath and Postlewaite show that as the group of decision makers approaches infinity, it is impossible to devise a mechanism that will induce everyone to reveal their true preferences. Therefore, the probability that a socially beneficial action will be taken goes to zero under these seemingly innocent informational constraints. Raphael Robb, "Pollution Claim Settlements Under Private Information," *Journal of Economic Theory*, 47 (April 1989), pp. 307–333, suggests a framework in which a pollution–generating firm and many potential victims have to decide whether or not to build a factory. Since residents are injured by the pollution, both parties (victims and firm) must bargain (in a Coasean sense) to an outcome. Robb shows that when individuals have private information regarding their expected damage, inefficient outcomes will likely emerge as equilibria. In fact, the inefficiencies can be quite substantial when the number of bargainers is large. It could reach a point where a relatively

profitable social production center would not be constructed as a result of the firm's belief that its profits would be negative (reported damages exceed expected profits). Vincent C. Crawford, "A Theory of Disagreement in Bargaining," *Econometrica*, 50 (May 1982), pp. 607–637, shows that voluntary movements away from a status quo point can break down as one party in a bargaining situation precommits to carry out a threat (such as to break off negotiations). Although the threat seems to be a good strategy for the bargainer (the strategy may be ex ante efficient), the broken negotiations may prevent the adoption of relatively profitable institutions (the strategy in this case is ex post inefficient).

26. Davis and North, *Institutional Change*, pp. 28–29.

27. Note that customs, norms, religions, or ideological beliefs, broadly defined, may also be seen as rules that govern institutional choice. For the purposes of the analysis here, I will define these social forces as "interactive" institutions and not rules, as defined strictly by the social engineering approach.

28. George Akerloff, "The Economics of Caste and of the Rat Race and Other Woeful Tales," *Quarterly Journal of Economics*, 90 (November 1976), pp. 599–617, provides a discussion of the persistence of customs that are inefficient. In his example of marriage customs in India, he explains that institutions, such as customs, can be self–reinforcing and resist change, even though no individual benefits from them. Individuals who fail to comport to the social norm, believe that they will be ostracized by society. Furthermore, those who fail to outcaste a deviant, fear that they, too, will be shunned by society if they do not conform to the norm of punishing deviants. Thus, this system of caste is in equilibrium regardless of individual preference or distate for the norm. In essence, "the caste system become[s] a self–fulfilling

prophecy" (pp. 610–1).

29.   If agents of the state are extracting rents from their constituents, it might also be the case that they have no desire to change the system for this might mean a decrease in their own wealth. Such rent–seeking behavior could be the fuel for revolutionary response, however.

30.   This type of problem is confronted by Paul David in his analysis of path–dependent institutions. See Paul A. David, "Path–dependence: Putting the Past into the Future of Economics," Technical Report No. 533, Institute for Mathematical Studies in the Social Sciences, Stanford University, August 1988 and W. Brian Arthur, "Self–reinforcing Mechanisms in Economics," in Philip W. Anderson, Kenneth J. Arrow, and David Pines, eds., *The Economy as an Evolving Complex System* (New York: Addison–Wesley, 1988), pp. 9–31.

31.   To be able to say this, we have to be able to make interpersonal utility comparisons. This can be achieved simply by assuming that individuals have utility functions which are risk neutral in money. For example, $u^i(X) = x_i$, where u^i is individual i's utility function, X is a public good, and x_i is individual i's expected gain or loss in money units.

32.   Allan Gibbard, "Manipulation of Voting Schemes: A General Result," *Econometrica*, 41 (July 1973), pp. 587–601 and Mark A. Satterthwaite, "Strategy–Proofness and Arrow's Conditions: Existence and Correspondence Theorems for Voting Procedures and Social Welfare Functions," *Journal of Economic Theory*, 10 (February 1975), pp. 187–217. For a discussion of their assumptions and results see Peter C. Ordeshook, *Game Theory and Political Theory* (New York: Cambridge University Press, 1986), pp. 82–89 and Allan M. Feldman, *Welfare Economics*, chapter 11.

33. The mechanisms mentioned below are able to induce people to tell the truth, but they violate one of the Arrow or Gibbard–Satterthwaite assumptions. Some of the mechanisms reported below will require utility functions to be quasilinear which violates the universal domain assumption (that all preferences are admissible).

34 The incentive compatibility model presented below draws upon surveys by Theodore Groves and John O. Ledyard, "Incentive Compatibility since 1972," in Theodore Groves, Roy Radner, and Stanley Reiter, eds., *Information, Incentives, and Economic Mechanism: Essays in Honor of Leonid Hurwicz* (Minneapolis: University of Minnesota Press, 1987), pp. 48–111 and John O. Ledyard, "Incentive Compatibility," Social Science Working Paper 622, California Institute of Technology, January 1987.

35. Jerry R. Green and Jean–Jacques Laffont, *Incentives in Public Decision–Making* (Amsterdam: North–Holland, 1979), p. vii. Six different concepts of Pareto efficiency with the presence of incomplete and imperfect information are presented in Bengt Holmström and Roger B. Myerson, "Efficient and Durable Decision Rules with Incomplete Information," *Econometrica*, 51 (November 1983), pp. 1799–1819. Since we assume that agents already know their own types, the notion of efficiency we use here is "interim efficiency" in the Holmström and Myerson terminology.

A distinction should be made here between mechanisms that produce Pareto efficient allocations and those that yield Pareto superior allocations. The former concept analyzes the performance of the implementation game without comparing it to the status quo point. An allocation of resources derived from a set of rules is Pareto efficient if resources cannot be reallocated in a way that makes at least one person strictly better off without making anyone else worse off (in utility terms). Alternatively, Pareto superiority compares the final allocation with that of the status quo.

Thus, a mechanism is Pareto superior if it causes an allocation of resources so that at least one person is made strictly better off relative to his initial position and no one else suffers a loss in utility as a result. For the purposes of this chapter, the concentration will be on the Pareto efficiency of a set of rules. However, the reader will notice later that Pareto superiority is called individual rationality, which is discussed below.

36. More formally, an allocation mechanism is incentive compatible in E if for all $e \in E$, there is a message $m_i'(e_i)$ for all i such that $u^i(h(m/m_i'(e_i));e_i) \geq u^i(h(m);e_i)$ for all i, for all $m \in M$, and where $h(m/m_i'(e_i))$ represents the outcome as a function of the vector of messages $m = (m_1, \cdots, m_i', \cdots, m_N)$. This differs from $h(m)$ as m_i' replaces m_i.

37. Theodore Groves, "Incentives in Teams," *Econometrica*, 41 (July 1973), pp. 617–631. See also Edward H. Clarke, "Multipart Pricing of Public Goods," *Public Choice*, 11 (Fall 1971), pp. 17–33 and Theodore Groves and Martin Loeb, "Incentives and Public Inputs," *Journal of Public Economics*, 4 (August 1975), pp. 211–226. The Groves mechanism specifies a tax for individual i which is independent of his own reported message. In other words, the tax rule is $t_i(\bar{m}_{-i}) = \sum_{j \neq i} \bar{m}_j$, if $\sum_j \bar{m}_j \geq 0$; otherwise, $t_i(\bar{m}_{-i}) = 0$. The $\bar{m}$'s are the reported messages or preferences.

Quasilinear utility functions are of the form $u^i(y,x_i) = x_i + v^i(y)$, where y is the public good and x_i is a numeraire good, usually money. The benefit of using this type of function is that it excludes income effects from the analysis.

38. Clarke, "Multipart Pricing" and Groves and Loeb, "Incentives" were able to adjust the rules of their mechanisms so that a surplus was generated each time. T. Nicolaus Tideman and Gordon Tullock, "A New and Superior Process for Making Social Choices," *Journal of Political Economy*, 84 (December 1976), pp. 1145–1159, argue

that the government's excess revenues would be so small that they "deserve to be ignored" (p. 1156). Theodore Groves and John O. Ledyard, "A Solution to the 'Free Rider' Problem," *Econometrica*, 45 (May 1977), pp. 783–809, however, argue that this will not necessarily be the case — the excess revenue is indeed a serious problem, something which their mechanism explicitly corrects.

39. For a discussion of the Ledyard and Roberts result, see Groves and Ledyard, "Incentive Compatibility," pp. 65 and 66–68. Leonid Hurwicz, "On Informationally Decentralized Systems," in Roy Radner and C.B. McGuire, eds., *Decision and Organization: A Volume in Honor of Jacob Marschak* (Amsterdam: North–Holland, 1972), pp. 297–336, initially proved this result for the private goods environment.

40. Jerry R. Green and Jean–Jacques Laffont, "Characterization of Satisfactory Mechanisms for the Revelation of the Preferences for Public Goods," *Econometrica*, 45 (March 1977), pp. 427–438; Green and Laffont, *Incentives*, pp. 90–95; Mark Walker, "A Note on the Characterization of Mechanisms for the Revelation of Preferences," *Econometrica*, 46 (January 1978), pp. 147–152; and Walker, "On the Impossibility of a Dominant Strategy Mechanism to Optimally Decide Public Questions," *Econometrica*, 48 (September 1980), pp. 1521–1540.

41. To describe this more formally, we first assume that each player has a probability density function on E, $g_i(e)$, which describes i's prior beliefs. The vector of priors $q = (q_1, \ldots, q_N)$ is assumed to be common knowledge among the agents. Let $d_i : E_i \rightarrow M_i$ be agent i's decision rule. Then $d = (d_1, \ldots, d_N)$ is a Bayesian equilibrium if and only if for each i and each $e_i \in E_i$,

$$\int_{E_{-i}} u^i(d(e); e_i)\, q_i(e_{-i} \mid e_i)\, de_{-i} \geq \int_{E_{-i}} u^i(d(e)/m_i; e_i)\, q_i(e_{-i} \mid e_i)\, de_{-i},$$

for all $m_i \in M_i$, where $E_{-i} = \prod_{j \neq i} E_j$.

42. John O. Ledyard, "Incomplete Information and Incentive Compatibility," *Journal of Economic Theory*, 18 (June 1978), pp. 171–189 and Ledyard, "Incentive Compatibility," pp. 6–7.

43. The Nash behavior rule $b : E \rightarrow M$, $b = (b_1, \ldots, b_N)$ is a Nash equilibrium if and only if for each i and each $e_i \in E$,

$$u^i(b(e); e_i) \geq u^i(b(e)/m_i; e_i),$$

for all $m_i \in M_i$.

44. Groves and Ledyard, "A Solution to the 'Free Rider' Problem." Theodore Bergstrom, Carl P. Simon, and Charles J. Titus, "Counting Groves–Ledyard Equilibria Via Degree Theory," *Journal of Mathematical Economics*, 12 (October 1983), pp. 167–184, show that the Groves and Ledyard mechanism produces 2^{N-1} Nash equilibrium messages. Each yields an efficient outcome, but multiple equilibria create specific problems which might make the Nash behavioral assumption difficult to justify. As different equilibria are associated with different distributions of utility, individuals, while the game is iterating, may have an incentive to distort the report of their true preferences in order to drive the decision process toward one specific equilibrium which maximizes that individual's utility.

45. Leonid Hurwicz, "Outcome Functions Yielding Walrasian and Lindahl Allocations at Nash Equilibrium Points," *Review of Economic Studies*, 46 (April 1979), pp. 217–225, assumes that utility functions are strictly increasing in money and that there are at least three agents. Mark Walker, "A Simple Incentive Compatible Scheme for Attaining Lindahl Allocations," *Econometrica*, 49 (January 1981), pp. 65–71, assumes an

economy with at least three agents with utility functions that are monotonic in money.

46. This theorem is due to Leonid Hurwicz, Eric Maskin, and Andrew Postlewaite, "Feasible Implementation of Social Choice Correspondences by Nash Equilibria," mimeo, Department of Economics, Universities of Minnesota and Pennsylvania, 1982. A discussion of their results can be found in Groves and Ledyard, "Incentive Compatibility," p. 75.

47. m^* is a manipulative Nash equilibrium if $m^* = b(\tilde{e},h)$ and

$$u^i[h(b(\tilde{e},h));e_i] \geq u^i(h(b(\tilde{e}/e_i'),h));e_i],$$

for all $e_i' \in E_i$ and where $b(\cdot,h)$ is the naive Nash behavior rule given the mechanism h. Intuitively, we can think of this type of equilibrium resulting from iterative play in which individuals act as if they are naive Nash players, but manipulate their true characteristics to be $\tilde{e}_i$. Pretending to be from $\tilde{e}_i$ produces the best Nash response for individual i, assuming that all other players are "naive" Nash players. This discussion follows from Groves and Ledyard, "Incentive Compatibility," p. 82.

48. North, "New Institutional Economics," p. 236.

49. Kenneth J. Arrow, *Social Choice and Individual Values* (New Haven: Yale University Press, 1963).

50. Let R_i be the weak preference relation describing individual i's preferences. We assume that i's preferences are complete and transitive. That is, for two alternatives x and y, completeness requires that either xR_iy or yR_ix. If there are three alternatives x, y, and z, then transitivity requires that xR_iy and yR_iz implies xR_iz. In other words, if the first choice is no worse than the second, and the second is no worse than the third, then the first must be no worse than the third. Arrow's theorem assumes that there are at least three voters and three alternatives and that the voting rule allows an

unrestricted domain, the Pareto principle, and independence. See *Game Theory*, pp. 60–65 for a lucid discussion of the assumptions and proof of Arrow's theorem.

51. Richard D. McKelvey, "Intransitivities in Multidimensional Voting Models and Some Implications for Agenda Control," *Journal of Economic Theory*, 16 (June 1976), pp. 472–482, shows that in n– dimensional majority rule systems, it is possible to cycle over the entire choice set. First, a definition: A *Condorcet winner*, x, is that alternative in the choice set in which the number of people who prefer x to all other alternatives, y, is greater than the number who prefer y to x (for all y). McKelvey shows that if voters' preference sets are convex over the alternative space and if a Condorcet winner does not exist, then for any two points a and b, there is a finite amendment agenda leading from a to b and then back to a. This theorem suggests that the agenda setter's power is potentially significant. In essence, the committee that sets the agenda can theoretically steer the entire legislative body's choice to a specific outcome.

52. Binger and Hoffman, "Institutional Persistence," reach this same conclusion in their analysis of institutional change. They show that in finitely– and infinitely– repeated games (such as the prisoner's dilemma), inefficient equilibria may result and persist. Moreover, they rely on the extensive experimental work that shows that voluntary contribution games usually lead to inefficient levels in the provision of public goods. Finally, Binger and Hoffman use Arrow's theorem to demonstrate that public decision making may not lead to the implementation of the optimal institutional arrangement.

53. Binger and Hoffman, "Institutional Persistence," pp. 79–80.

54. Signals can be of various types. Influencing the government may mean that individuals send letters to their representatives, offer campaign contributions, elect candidates of particular political persuassions, demonstrate publicly, or discuss problems in open forums, such as newspapers or television. No restrictions are placed on the variety of signals that can be transmitted.

55. Messages should not be confused with signals. Signals are sent to the government from individuals within the economic environment before the political body legislates. After the government creates the set of rules, the implementation game is played and individuals transmit messages to the government which reveal their preferences for the change in question. Individuals determine what messages to send after they learn the rules of the game. Messages are also dependent on the behavioral pattern, b, that we assume individuals possess. Players are assumed to be either dominant strategy, Nash, or Bayesian Nash decision makers.

56. The dashed line from E to h represents the message process. Once the designer has received the vector of messages, it computes the final outcome according to the rules, h. For the sake of completeness, this event has been labelled i in Figure 1, denoting the implementation of the outcome.

57. North, *Structure and Change*, p. 7 and pp. 42–3.

TABLE 1.1

HYPOTHETICAL CHANGES IN UTILITY FROM TWO PROPOSED LAWS

Alternative	Individual				
	A	B	C	D	E
Status Quo	0	0	0	0	0
Law 1	20	−30	5	−3	7
Law 2	10	−15	4	−3	5

FIGURE 1.1

**SCHEMATIC REPRESENTATION OF THE
PROCESS OF INSTITUTIONAL CHANGE**
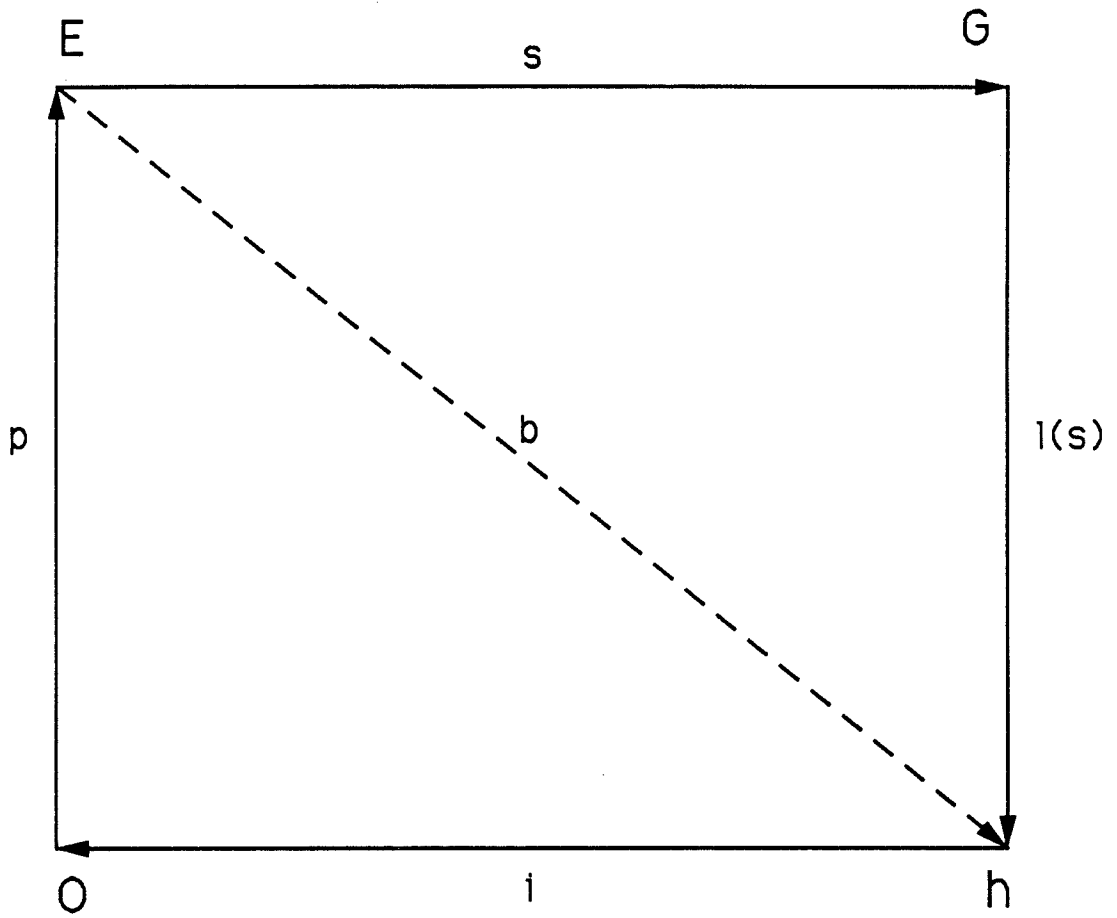
CHAPTER 2

COMMON SENSE OR COMMONWEALTH?:
THE FENCE LAW AND INSTITUTIONAL CHANGE IN THE POSTBELLUM SOUTH

"Let us suppose that a farmer and [a] cattle–raiser are operating on neighboring properties. Let us further suppose that, without any fencing between the properties, an increase in the size of the cattle–raiser's herd increases the total damage to the farmer's crops. . . .The real question that has to be decided is: should A be allowed to harm B or should B be allowed to harm A? The problem is to avoid the more serious harm."[1]
    – Ronald Coase, "The Problem of Social Cost," *Journal of Law and Economics*, 3 (October 1960), pp. 2–3. The order of the two sentences has been rearranged.

"What underlay contention over the material consequences of the stock law was considerably different, and increasingly antagonistic, ideas about social relations and property rights. . . .The freedom to which [stock law opponents] adhered was not merely that founded upon ownership of one's person and exchange in the marketplace, but that founded upon control over productive resources, labor time, and subsistence which, in turn, could be realized only through membership in the commonwealth of producers. The stock–law controversy set the republicanism of those producers against the values of the free market."
    – Steven Hahn, *The Roots of Southern Populism: Yeoman Farmers and the Transformation of the Georgia Upcountry, 1850–1890* (New York: Oxford University Press, 1983), pp. 250, 254.

Economists and Historians on the Fence

Economists and labor historians view the topics of property rights and institutional change quite differently. While economists' theoretical accounts stress efficiency and bargaining between self–interested individuals, historians, no less abstract, but more in the tradition of Karl Marx than of Ronald Coase, highlight distributional issues and conflicts between classes that represented, some historians assert, contending cultures. To economists such as Lance Davis and Douglass North, shifts in relative prices and discoveries of new opportunities for gain tend to induce alterations in institutions so as to foster economic growth.[2] To "radi-

cal" historians, such as Steven Hahn, elites used their political dominance to substitute a capitalist for a cooperative, non–profit–oriented "household mode of production" in order to control labor more easily, and thereby to facilitate their exploitation of the "labor surplus."

These two conflicting views are not incommensurable. They do not represent incompatible rhetorics, or "different tropes for different folks," as Donald N. McCloskey might express it.[3] Even though labor historians have heretofore not directly confronted the economists' contentions, both schools have examined a common example, fence laws, and the accounts of both contain serious deficiencies. This paper seeks to combine the theoretical insights of the economics literature with the empirical richness of the historians' research mode to provide a new, more comprehensive account of the fence law debate in the postbellum South, a debate in which Hahn and others have discerned "the roots of southern Populism."

For evidence of contemporary behavior, we will draw not only on economic and political statistics but also on a startlingly rich debate over the fence laws conducted by partisans of the two sides in local newspapers. That late nineteenth century Georgia backwoodsmen demonstrably understood all the economic subtleties of the fence problem and the consequences of changing their economic, political, and social institutions should both cheer and chasten us — the former because their statements demonstrate the ubiquity of economic reasoning and the rationality and vigor of democratic debate during the 1880s, the latter because our models a century later are no more sophisticated.

Historians' Explanations of the Fence Law Struggle

Hailed as an important reinterpretation of postbellum southern society and politics, Steven Hahn's prize–winning *Roots of Southern Populism* puts major emphasis on what is in

essence a simple question of tort law: Would owners of livestock be liable for damages to

other people's crops if they did not fence in their animals (which was referred to as the "stock

law") or did crop-owners have to fence out other people's cattle and swine (the "fence law")?[4]

Before 1872 in most of sparsely-settled Georgia, the open range or fence law position pre-

vailed. After 1872, when the state legislature passed a general act allowing citizens in each

county to petition to hold referenda on the question, an increasing number of counties, and

later districts within counties, adopted stock laws that shifted property rights to crop-growers

and town-dwellers, and away from owners of livestock.[5] Debates over this question, Hahn

contends, reflected struggles between an "agrarian bourgeoisie," on the one hand, and those

who believed in "a cooperative principle that challenged the tenets of bourgeois individualism

and property, that challenged the hegemony of the marketplace," on the other. The fence law

contests "paved the road to Populism."[6] Actually devoting little direct attention to Populism

itself, Hahn concentrates on two small counties in the Georgia hills, Carroll and Jackson, and

for obvious reasons we focus our attention on the same two counties.

Charles L. Flynn, Jr., also highlights the fence law problem, which he refers to as "the

bitterest political issue in Georgia politics between Redemption and the Populist Revolt of the

1890s."[7] But instead of a symbolic cultural battle, Flynn sees the contest as a purely material-

istic class conflict between relatively affluent landowners, on one side, and landless or

land-poor whites and blacks, on the other. Although he admits the validity of some of the

arguments of the stock law proponents, Flynn judges partisans of that position "at least indif-

ferent to the burdens that the change placed upon the poor."[8] As the controversy spread from

the more thickly settled, less heavily forested black belt to the still developing hill country, it

shifted from a predominantly racial contest to one primarily between different classes of

whites. "The fence-law controversy," Flynn contends, "illustrated the intersecting class and

racial division in the life of the New South." While the stock law men wished to minimize the expense of fencing and the losses from scrawny, ill–bred, marauding animals, fence law advocates feared high charges by landlords or large farmers for penned, watered grazing space if the fence law were repealed.[9]

Reviewing two centuries of southern grazing laws, J. Crawford King, Jr., details the gradual closing of the southern range.[10] Rather than analyzing what each side said were its reasons for acting, King divides the counties of Alabama and Mississippi in 1880 into those that partially or wholly adopted the stock law and those where no animal had to be fenced in, and compares several of the objective traits of the two groups of counties: population density, racial proportions, farm tenure arrangements and size, intensity of cultivation and concentration on cotton, and stock (especially hogs) per person. Unfortunately, he does not employ any multivariate methods or explicit statistical models, but only a series of contrasts between the mean values of each variable in the two sets of counties.[11] Although King concludes that his results "suggest a much more complex interpretation than the simplistic and somewhat artificial picture of battle between 'haves' and 'have–nots'," he does not flesh out such an interpretation himself.[12]

In another analysis of the fence question, James C. Bonner views the debate as a conflict mainly between "small farmers in isolated areas and those living in more densely populated areas."[13] Before the Civil War, agriculture had dominated the southern economy. After 1865, southern farmers suffered from periodic depressions at the same time that railroad mileage, town population, and industries were expanding. This uneven development created a "rural–urban schism" that manifested itself in the local debate over the fence issue. The Populists' relative success in Carroll County, Georgia, in the 1890s, according to Bonner, was the climactic result of class conflicts that began to develop during local battles to close the open

range.[14] Expressing many of the core ideas later generalized to the entire South and expressed

more vividly by Hahn, Bonner's 1971 monograph attracted much less attention than Hahn's

1984 work.

Economic Theories of Property Rights and Institutional Change

The neoclassical literature on property rights and institutional change begins with

Coase's seminal paper. Coase argues that as long as transaction costs are zero or at least very

small, the initial assignment of property rights does not matter because agents can voluntarily

reach an agreement that maximizes their joint production.[15] To give a simplistic example,

suppose that there are two college students who live next door to each other in a dormitory.

One likes to sleep late in the morning and to stay up late at night, while the other rises early

and retires early. Both have stereos, which they prefer to play at high volume. But, given thin

walls in the building and their opposed schedules, they quickly agree that, while both can play

music loud during the middle of the day, neither will do so early or late. This voluntary agree-

ment among two people is obviously easy to negotiate and enforce. It suggests, by contrast,

the difficulties that might arise when this extremely uncomplicated situation is altered by

relaxing the implicit assumption that each party is equally able to negotiate the contract, by

multiplying the number of people involved, by making information less easy to obtain, or by

increasing the costs of supervision and/or enforcement. Alternatively, when transactions costs

are sufficiently high, the assignment of property rights becomes crucial, as different assign-

ments may lead to quite different allocations of resources, levels of production, and distribu-

tions of burdens and benefits. Clearly, the assumption that transactions costs are small is

difficult to apply to almost any historical or contemporary situation. However, Coase's work

offers insight into the various problems that arise when parties are unable to negotiate

effectively a Pareto–improving contract.[16]

The effects on efficiency were understandably great when animals were free to roam the open range and farmers were required to enclose their crops. Following Gordon, we can sketch the theoretical problems that arise when animal owners have free access to exploit the "common pool."[17] If we assume, as economists typically do, that individuals do not take into account the costs that they impose on others, then in a "common pool" setting, they will equate only their own private marginal benefits to the private marginal costs of grazing animals. The result will be inordinate short–term exploitation of the land with little long–term investment to restore it. If there are no exclusive property rights, because animals can graze in any unfenced area, every individual person will have an incentive to increase his herd to higher levels than he would if he had to provide all the foraging himself. In more technical terms, such an institutional arrangement encourages stockowners to create negative externalities for other people and not to take into account the full social costs of keeping animals. Therefore, as displayed in Figure 2.1, animal owners will carry a herd size of A*, whereas A is the socially optimal size.[18] Thus, there will be an overinvestment in animals under the open range system.

Alternatively, farmers who must fence out the animals will not expect to receive a "normal" rate of return, and will underinvest in improvements on their land, or, what amounts to the same thing, will be forced to overinvest in fencing, buckshot, and lawyers' fees. This phenomenon is pictured in Figure 2.2. Because of the wedge created between the private and social marginal benefits (i.e., the farmer is unable to realize all of the benefits from his land because marauding animals are extracting some of the benefits), an individual farmer will invest in L* of land, while L would be the socially optimal amount. Thus, future generations will be robbed to allow for the rapid exploitation of resources in the present, and land, labor,

and capital will be socially misallocated to erecting long, sinuous fences around crops in order to protect against the violation of ill–defined rights.

Since the large number of participants, each trying to transfer his own cost onto others, makes private contracts in this setting unstable, government intervention becomes necessary to enforce strict property rights or contracts between the different bargaining parties. However, as the relative strength of the competing groups differs, the government's ultimate decision is likely to be influenced by the power of each individual group.[19] The final allocation of property rights dictated by the government, therefore, may not conform to the one which maximizes social welfare.[20]

What will cause people to seek a change in the status quo in the first place? Davis and North theorize that institutional change will tend to come about when the net present value of a new regime of property rights exceeds the net present value of the traditional set of rights.[21] As the costs and benefits are continuously changing under each institutional structure, the net present value calculation will become a dynamic process that individuals and groups constantly update. Examples of changes which might have encouraged groups in upcountry Georgia to reassess the costs and benefits of the open range and fence law include technological advances in agriculture or animal husbandry, improved transportation, and changes in the population density, the amount of improved acreage under cultivation, or the relative prices of certain commodities, such as timber, labor, animals, animal products, or agricultural produce. As more people occupied the same amount of land and the proportion of land under cultivation grew, for example, the probability that one man's animal would destroy another's crops would increase as well. This would, in turn, make the stock law more attractive.

Of course, realizing that a new institution is more valuable than the old one is quite different from actually adopting the new, better regime. As individuals who would be

adversely affected by the change seek a priori contracts for compensation, those who are destined to benefit must decide upon how much to pay, who should pay, and who should receive their payments. The "free rider"[22] problem ultimately plagues the transition, as those who should be making the payment try to hold out and refuse to participate, hoping that their neighbors will pay the entire amount. Thus, even though an institution may be Pareto improving, there are difficult problems of free riding, distribution, equity, and fairness that must be resolved before all pertinent parties decide to undergo change voluntarily.[23] At this point the impasse must be solved by a governmental arbiter, but there is nothing to guarantee that the political solution adopted will be the most efficient or equitable one, or even that it will be more efficient or fair than the status quo.

By focusing our attention on the role of property rights and institutional change, we are in a better position to determine the economic (dis)incentives which drove Georgia's upcountry citizens to argue bitterly over the fence law. Issues of efficiency, equity, fairness, and distribution of income fit naturally into any explanation of institutional change and provide us with a framework for analyzing the rich debate which clearly displays the economic concerns and desires of those involved.

The Fence Law Debate in 19th Century Upcountry Georgia

While the inhabitants of the nineteenth century Georgia upcountry were lamentably ignorant of neoclassical economic theory, the arguments that they offered during the fence law debate bear a striking resemblance to those of modern economic historians. Like recent theorists of property rights and institutional change, nineteenth century Georgians discussed possible gains in farming efficiency and resource conservation, as well as the effects of these changes on the distribution of income under different institutional structures.

Georgia law from colonial times until after the Civil War essentially stipulated that land that was not fenced in could be used as common pasture by everyone.[24] This was not an English or "Celtic" inheritance, however.[25] English common law did not require a man to fence in his land against another man's cattle. Rather, owners of animals were required to keep their stock on their own property, and, thus, animals that strayed onto a neighbor's enclosed or unenclosed land were considered trespassers.[26] As English emigrants arrived in America to find vast amounts of unimproved land and sparse settlements, it seemed desirable and economical to allow animals to roam the countryside freely. The eventual result of this new policy was to force landowners to erect and maintain adequate or "lawful" fences, or else to forgo any chance for compensation for damages caused by another person's animals. In other words, "in every state of the Union, from the earliest times, it ha[d] been made compulsory for the landowner to maintain good fences for the protection of crops; to fence animals *out*, rather than to fence them *in*."[27] Georgia's first fence law, passed in 1759, explicitly required that:

> all fences or enclosures . . . that shall be made around or about any garden, orchard, rice ground, indigo field, plantation or settlement in this province, shall be six feet high from the ground when staked or ridered and from the ground to the height of three feet of every such fence or enclosure, the rails thereof shall not be more than four inches distant from each other; and that all fences or enclosures that shall consist of paling shall likewise be six feet from the ground and the pales thereof not more than two inches asunder: *Provided always*, that where any fence or enclosure shall be made with a ditch or trench, the same shall be four feet wide, and in that case the fence shall be six feet high from the bottom of the ditch.[28]

Those whose fences did not adhere precisely to the letter of the fence law were subject to treble damages if they killed or injured an animal straying upon ill–fenced land. In the 1881 decision of *Hamilton* v. *Howard*, the Georgia Supreme Court declared that a lawful fence had to rise five feet from the ground everywhere, rather than merely averaging that

height.[29] Furthermore, an 1889 decision ruled that an agreement to dispense with a partition fence (one between two neighbors) was not the equivalent of a legal fence. Unless an actual fence were broken — not merely a contract or agreement to dispense with a fence or an agreement to treat a dividing line as a fence — it was illegal for a farmer to harm a stray.[30] The Court's message throughout was clear: a legal fence was defined absolutely and no room for variations and exceptions existed.

The economic changes occuring in the postbellum era, however, gave many farmers reason to question the traditional practice of fencing in crops from animals. "I am compelled to build a lawful fence: or in other words a fence, 'horse–high, bull–strong and pig–tight,' to protect my own growing crop. Is that just? If this land belongs to me, has your stock any right to anything that grows upon it without my consent? That is my property. As a matter of justice, as a matter of policy, what right have you to the grasses that grow on the land of your neighbor? It is only permissive right, there is no legal or moral right in it." Such was the emphatic and frustrated argument of "P," a Thompson's Mills resident in Jackson County, Georgia, who finally pleaded with his fellow citizens, "'The stock law we must have, or we perish.'" For many stock law supporters in the postbellum period, the argument to fence in animals was very basic — each person should be entitled to use his own private property as he saw fit. "Where does one man have a right to let his stock run over, and feed upon another's land?" asked a landless citizen of Carroll County in 1878 who went by the *nom de plume*, "L." I.H.P. Beck, a landless farmer, schoolteacher, and devout Populist in the 1890s, agreed: "A man's land is his own and one man's cow has no right to run on another's land inclosed or not."[31]

Drawing on familiar Jeffersonian rhetoric, reformers attacked fence laws as incompatible with "republican" independence. As "L" advised, "If you have stock, own a piece of land

to put them on, and keep them; not have them, and allow them to run over other's property."

[sic][32] Not only did stock law advocates claim that roving stock illegally violated their personal property rights, they also felt that their neighbor's had a moral obligation to respect these rights. Appealing to a widely shared individualistic natural rights tradition, J.O.R. Word proclaimed that "from a sense of justice between man and man, I think that every man should be compelled to take care of his own stock, that he has no moral right to turn loose his stock to prowl around upon his neighbor's crop." Illustrating the incongruity of common grazing rights within a more general system of wholly private property, proponents of the stock law posed homespun analogies: "A man has as much right to take his household and kitchen furniture and put it in another man's house and kitchen, as he does for his stock to run on his neighbor's enclosed or unenclosed." A *Carroll Free Press* reporter from Villa Rica described the logical result of a law which allowed a man to permit his stock to graze upon his neighbor's land. "If he has this right, then by the same reasoning, he would be entitled to all the property not sheltered. A buggy or wagon left from under the shelter would be public property."[33]

While some renters, such as I.H.P. Beck, announced that "I am going to vote for 'no fence' because I think it will be to my interest to do so and every other renter," others disagreed. Thus, an anonymous writer in Carroll County declared that "It is time now for the poor people to open their eyes and to come forward and stand up for their rights and not allow themselves to be led by the cunning land owners any longer and to come out and say we want a fence and turn out en masse and carry the election for fence . . . ." Anti–stock law men appealed to traditional rights, just as the stock law proponents did. A. Nixon, an owner of a 125 acre farm in Carroll County, contended that "the citizens of this county have and always have had the legal, moral and the Bible right to let their stock, unless of a dangerous character,

run at large." Like their opponents, fence law champions mixed practical with moral appeals.

Many could not understand the logic of depriving their animals of nature's abundant gifts.

This was the argument of J.W. Pitts, alias "Buffalo Bill," of Carroll, ". . . we have acorns,

hickory–nuts, chestnuts and m[o]ss for hogs and in most parts we have a splendid range of

grass. Wouldn't it be foolishness to shut our stock from it? Of course it would." Although

Pitts believed that Carroll's natural resources were large enough to make the stock law

unnecessary, he did not categorically dismiss the idea: "while they [trees] are all cut down and

washed away in a great many places, Carroll boasts of plenty of timber, one thousand acres or

more in one body, while the fields are small. It's the other way in those counties [that have

adopted the stock law], and when Carroll gets in that condition, we'll give up for no fence,

and not before." Similarly, W.D. Lovvorn of Bowdon, Georgia, saw no reason for the stock

law because "the woods are full of grass and acorns part of the year. They were put here by

our Creator for the benefit to his people, and I don't think it right to deprive a large majority to

please a minority."[34]

It was not only the threat of being "deprived" that frightened anti–stock law support-

ers, but also the belief that the poor man's loss was the rich landowner's gain. Many contem-

poraries viewed the struggle not as a cultural one, but as a simple material class conflict. John

Stogner of Bowdon, for example, condemned the stock law as

> the greatest curse upon the poor laborer that has been since the civil war. We were
> told in 1859 that secession was the greatest thing that the south could do, so it was
> to lead her into destruction. It was a rich mans war and a poor mans fight, so will
> the stock law be to a few landlords who have plenty of water on their lands while
> nine tenths of the people will be in a deplorable condition.

If the stock law passed, according to Stogner, "the common laborer will be the ones that will

be the sufferers . . . and why should we try [to] oppress this class any worse. God makes the

grass[,] the mountaines crown, and corn in valley grow, so lets not try to deprive our poor

neighbors from receiving his blessing. . . ." A. Nixon lent a literary note to predictions of the

law's effect:

> The stock law will divide the people of this county into classes similar to the patri-
> cians and plebians of ancient Rome, which unhappy division, was the source of
> much contention, injustice, violence and blood shed, and finally the overthrow of
> the republic, the kingdom and the empire, and brought on the dark ages of the
> world.[35]

Or as one tenant farmer bluntly observed, "This [stock] law will simply take rights away from

the poor man and give them to the rich."[36]

Some stock law supporters lent credence to the class oppression charges of their cri-

tics. One, for instance, contended that "the non land holding class have no right to vote on

this subject." Another asserted that "there should be a property qualification to every vote cast

— own so much property to be allowed to vote . . . It does seem sensible, dont you think, to

allow the landholders to say whether they shall fence their lands or not."[37] Thomas P. Janes,

the Georgia Commissioner of Agriculture, in his 1875 annual report made clear his position

on the fence question:

> Even the present Act, which leaves the question of "fencing stock" or "fencing
> crops" to the *voters* of the several counties is unjust, since it allows
> non–freeholders, who generally consist a majority of the voters of every county, to
> decide a question of policy and economy in which they have no interest. The most
> equitable way of disposing of the question which, under the present labor system,
> is a vital one, is by legislative enactment leaving its decision to the *freeholders* of
> each county.[38]

This conjunction of attacks on traditional political rights with those on traditional economic

rights stimulated bitter responses condemning the stock law supporters as tyrants and oppres-

sors of the poor and laboring class. "P.H.C.," a Democratic party leader from the Kansas dis-

trict of Carroll County, who became a stock law supporter in 1882, earlier denounced "such a

law to prohibit any one from voting [as] wickedness in the eye of the law and the eye of God."

He further blasted those supporting disfranchisement, saying that, "such sentiments as these

are tyranical and we are opposed to them from the fact that we live in an independent govern-ment by the people." Right–thinking elements of the population advocating white supremacy, however, made it clear that they did not oppose restricting black suffrage. "Mill Boy" explained that "If he [the stock proponent] can scratch out that clause in the constitution that entitles them [blacks] to vote, I dont suppose that there are many Mill Boys that would cry about it. But sir, for God's sake dont disfranchise a white man, just because he is poor." [39]

But combat over political rights was usually subordinated to purely economic debates. Observing tangible losses in land, labor, capital, and natural resources, stock law supporters pressed their case with the utmost urgency. Nineteenth century southern farmers, for the most part, used "worm" fences to enclose their crops, and fences made of pale for their gardens and homesteads. Because the worm fence is constructed by laying the ends of rails on each other, a four foot strip on each side of the fence was wasted.[40] Therefore, for every mile of fence, approximately one acre of productive land was wasted. Those who were forced to expend extra land, labor, and capital under the fence law began to ask, "Why . . . should my land which I choose to turn out to improve by rest, be taken possession of and impoverished by other people's stock?"[41] Although farmers conceded that the fence law was once an economi-cal response to the antebellum geography and demography of an area, many began to feel the increasing burden of fencing in their crops. "School Boy" of Carroll County admitted that "when our fathers first settled in this country and our range was good and when the acreage in cultivation was [s]mall, the present system of fencing was proper . . ." J.O.R. Word, a fellow Carrollite and stock law supporter, told a similar story about the stock law's erstwhile useful-ness: "Forty nine years ag[o] father moved to this county. It was then a fine range for stock. I[t] was then the best economy to fence up our crops, for our farms were small and far between and range fresh and large." The Jefferson *Forest News* tried to reason with its

readers: "When the country was very sparsely settled, farms few and timber very abundant the present law was enacted, and like many law and customs, its has outlived its usefulness . . ." In fact, the paper believed that "it is a sad evidence of old fogyism, general ignorance and backwardness of agriculture in the South that such a law as that now in force can exist." In a word, "reformers" believed that increases in population made the open range growingly inefficient for the society as a whole. "This is not a range country like it once was," as the ubiquitous correspondent "Ripples" put it.[42]

As economic changes were taking place in the Georgia upcountry, many reformers argued that the stock law was a first step in the South's movement away from relative poverty. In a Darwinian allusion, "Edgar" declared that "we must learn to give way to the fittest, for by doing so we will keep prospering, and if not, we will never prosper." Jackson County's "P" was even more certain of the stock law's necessity. "I regard it [stock law] as the preliminary step to the prosperity of the agriculturalists of Jackson County." On the eve of the first fence election in Carroll County, "Ripples" chided his opponents, "Dont say the time is not yet come to begin to economize." While stock law advocates stressed progress, their opponents just as vaguely invoked tradition. Thus, Jackson County's "Fairplay" forthrightly sought to preserve the status quo, "Our present system of fencing is an old one — so old that it would seem cruel to attempt an innovation upon it."[43] Another saw the fence law as an embodiment of "the liberty that our forefathers fought for."[44] "C.W.C" of Carroll County was simply at philosophical odds with his progressive stock law opponents, "He [I.H.P. Beck] says that he would rather jump into something new than to stand still and die in stagnation. There's where we differ, I would rather stagnate than to die in the stock law." Such statements made easy targets for "New South" rhetoric: "'. . . By long usage our people are accustomed to the wagons, and why should we now try to supplant them by an engine? Whew! Supreme folly!'

The fence law as we now have it was itself, at one age of the world, a new thing." Or, as another reformer chided, "Does improvement, progress and enterprise mean cruelty? Then Webster stands revised."[45]

While the stock law supporters may have hailed the law as a panacea for the economic woes of the South, they had difficulty convincing their contemporaries that the law would, in fact, increase their wealth. Their contention that the fence law unnecessarily wasted labor, land, and capital aimed to convert those who showed signs of "old fogyism, general ignorance and backwardness," in "an age of improvement" like that of the nineteenth century. "[T]he Southern farmer ha[d] not learned yet" economy.[46] Stock law champions would teach him.

Reformers in Jackson and Carroll Counties claimed that the stock law would save farmers both labor and capital. "It [fence law] takes away most of the profit of farming to keep up good fences," cried I.H.P. Beck. The *Jefferson Forest News* anticipated that "when farm stock is restrained, and the responsibility for their depredations is thrown on their own-ers, capital is released from the very unprofitable investment of fencing, and made available for farm improvements." Combining both factors of production, "Plow Boy" suggested that ". . .we should dispense with fences. . .because we could spend our time at something that would be much more renumerative than patching up fences such as making our manure heaps larger, stopping washes, etc., besides we would have no other stock to see after but our own." Like-wise, Eugene F. Adair of Harmony Grove, Jackson County, asserted that, "While we used to split and haul rails, we could, under this arrangement [stock law], with the same labor, be making manure to improve the land intended to be cultivated."[47]

Other stock law advocates tried to make more precise calculations of the economic disadvantages of the status quo. Thus, "School Boy" claimed that "the fences of Carroll County are worth three times more than all the hogs, cows and sheep in the county, and I . . .

ask . . . if it is economy for a man to have one dollar invested in a business and it takes three

t[o] keep that one dollar up."   After diligent computation, Vande Linctum found that "for

every dollar invested in livestock in the State, two dollars are required for construction of

fences to protect the growing crops." "Hopeful" from Human's Store, Jackson County, "found

out that it costs us twice as much to fence out stock as it does to pay our taxes, and besides we

have had about enough of our crops destroyed by stock to pay our taxes . . ." In an

anonymous Jackson County writer's derisive summary, the fence law advocate was like the

"foolish boy who invested ten cents in a candle in order to look for [the] three cent piece he

had dropped."   In the face of such arguments, opponents could only bluster, as "Sandy Creek"

of Jackson County did: "I don't call a man a farmer until he does keep his field fenced, and

well at that. . .I think any man that is worthy of owning a farm ought to keep it fenced, and I

don't consider him worthy of the name of a farmer unless he does."[48]

Even more often than they stressed labor saving, reformers prophesied that the stock

law would improve the quality of livestock and, thus, yield better meat and dairy products.

While fencing might reduce the number of livestock, the improved quality of the animal

would more than compensate for the loss in number. "Ripples'" argument was typical:

> The milk and butter is free from poisons taken from cows that are kept up [i.e.,
> fenced in] and then you know what your cattle eat. But when they woods it, you
> don't know when you are drinking or eating deadly poisons. Butter made from
> cows kept up is much richer than from those cows that are allowed to run at large.
> There is as much difference as between gold and nickle silver. The beef is fatter,
> tenderer and better. Breed stock can be improved. One good cow well fed and
> pastured is worth 5 ticky woods cows. Two hogs kept up is worth ten razor backs
> running at large.

Others asserted that Coweta County, which passed the stock law in 1881, was self–sufficient

in meat, while Carroll was not. " . . . [H]ere are two counties [Coweta and Carroll], one self

sustaining and the other not," "Plow Boy" wrote in the *Free Press*, "and yet some will tell you

that you cant raise hogs in a stock law county." "Ripples," who lived in neighboring Coweta

County but communicated through the Carroll newspapers, admitted that "we don't have quite

so many hogs over here in Coweta as we used to have," before Coweta passed a stock law, but

assured Carroll countians that Coweta hogs "are a heap bigger and fatter than they were."[49]

As population expanded throughout the South, as blacks took advantage of their free-

dom to move, and as the growth of the railroad network made it possible to market crops from

previously isolated areas, population density increased in the Georgia upcountry. Table 2.1

shows the percentage change in population by race, broken down into the six conventional

regions of Georgia from 1850 to 1890. Between 1870 and 1880 the Upcountry, Wiregrass,

and Pine Barrens regions were leading the state with percentage increases between 24 and 36

percent for whites and between 34 and 39 percent for blacks. Even though it grew less rapidly

in the 1880s than did the Wiregrass and Pine Barrens regions, the Upcountry population was

still increasing at a faster pace than either the Plantation Belt or the Mountain regions. The

Table also shows the percentage increase for Carroll and Jackson Counties. Carroll's popula-

tion growth was rather astounding, with the black population growing, on average, 55 percent

per decade and 177 percent from 1870 to 1890. The white population growth was also rela-

tively healthy, with an average increase of 27 percent per decade and 76 percent over the two

decades. Jackson County's black population growth was more modest with an 1870 to 1890

total of 45 percent, while the white sector grew 84 percent over the two decades.

To stock law supporters, the increasing pressure on the land required that it be used

more efficiently. If animals were forced to be fenced in, improved acreage could be expanded.

The reformers saw two sources of unimproved land that could be brought into cultivation —

the wasted land used as fence rows and patches of fertile land too small to justify the expendi-

ture for a surrounding fence. Speaking from his stock law experience in Coweta, J.P. Reese

(alias "Ripples") contended that "the old fence rows of Carroll County will make corn enough in three years to pay for all the crops that will grow in the county for the next ten years. I mean the wood grasses." Similarly, Jackson County's Adair predicted that "if there was a law compelling owners of stock to keep them under a fence, we could clean and plant just such pieces of land as we thought best. Leaving out the poorest, we could plant where we pleased, no matter how small, or in what shape it might be."[50]

Yet population growth is hardly a necessary condition and may not be even a sufficient condition for institutional change. What about relative price changes and a changing market environment as an impetus for doing away with the fence law? Let us suppose that farmers produced two commodities, crops and animals. If the relative price of crops to animals increased, the farmer would shift away from producing animals and increase his crop acreage. As a consumer, on the other hand, he would tend to eat relatively more meat and less corn and other grains. As a consequence, this hypothesized relative price change would make the stock law more attractive to a farmer having access to inter-regional trade, *ceteris paribus*. Figure 2.3 plots the relative price of corn to bacon sides and of cotton to bacon sides in Georgia from 1870 to 1890, inclusive. As regressions based on this Figure show, the relative price of corn and cotton rose during this two decade span, but at a statistically insignificant rate.[51] And while contemporary debaters did not explicitly refer to such complex and subtle economic trends, the discussion did reflect an awareness of the basic facts. As the editor of the *Jackson Herald* observed, "It stands to reason that in an agricultural country stock is not of such great importance as the crops, hence they should be confined. If this was a stock county the crops, which would be small and insignificant, ought to be fenced." In sum, "the whole subject is one that can be reduced to dollars and cents."[52]

The market environment in the upcountry was changing dramatically as recovery

from the Civil War progressed. Since many rivers were not yet navigable and wagon tran-

sportation to the nearest major trading centers, such as Atlanta and Augusta, was very expen-

sive, railroads became the essential driving force behind the economic growth of many coun-

ties in the Georgia hills. Although the first rail company that proposed a line in Carroll

County was chartered in 1852, the Savannah, Griffin, and North Alabama Railroad Company

(SG&NA) did not have a track in Carroll ready for use until 1873. Because of natural obsta-

cles, the SG&NA did not reach Carrollton, Carroll's largest town, until 1874. By 1888 the

Chattanooga, Rome, and Columbus Railroad had only a short section in Floyd County to

finish before connecting Carrollton and Chattanooga. As an example of the railroad's success,

consider the following: In 1890 passengers travelling to Atlanta (about 45 miles away) could

leave Carrollton at 5:00 a.m., spend the day in the city, and then return to Carrollton by 8:00

p.m. Elsewhere in the county, the Georgia Pacific Railroad, which completed work in 1882,

connected Villa Rica, Carroll's second largest town, to central Alabama.[53]

Jackson County, on the other hand, was still without its own rail connection in 1880.

However, since 1876 residents on the eastern border of the county were able to use the

Northeastern Railroad of Georgia (NRG), which connected them to wider markets via Athens,

Georgia. In the early–1880s, however, the Gainesville, Jefferson, and Southern Railroad

(GJ&S) began to stir public emotion in order to attract local stockholders so that a road could

be built into Jefferson, Jackson's County seat. John W. Glenn, spokesman for the railroad

company, explained to Jackson County's farmers that their county was rich in natural

resources which could easily "bring an astonishing income," if only they could get their pro-

duce to market. Glenn foresaw land values near the route "doubl[ing] and quadrupl[ing],"

capital flowing freely into the county, and a population increase which would result in a great

competition for land. Glenn emphasized that "we can never be a great agricultural district without quick and cheap transportation."[54] In 1884 the GJ&S began operation and connected Jackson's largest town to major trading centers of Georgia.[55] Having close communications with such major trade cities as Atlanta, Augusta, Chattanooga, and Montgomery greatly expanded the economic opportunities of upcountry farmers. In fact, James C. Bonner, in his history of Carroll County, explains that "the railroads did more to quicken the economic tempo of Carroll County than any other event during [the nineteenth] century."[56]

The emergence of the railroad had three very important effects on the upcountry economy. First, relatively inexpensive transportation enabled farmers to import a technology, namely guano (contemporaries seem to have called any commercial fertilizer "guano"), which tremendously increased cotton yields per acre. Second, the railroad provided an efficient method for sending the county's fertilizer–stimulated surplus to major marketing centers.[57] Together, these explosions in productivity induced a third change, an increased demand for cultivated acreage, which, in turn, raised the stakes of the controversy over the fence laws.

The reformers' concern for the future was reflected also in their emphasis on resource conservation. Present over–exploitation of forests to build extensive networks of fences robbed future generations and threatened to denude the areas of timber. As J.O.R. Word insisted, " . . . this is a question of vast importance not only to the present, but to the future generation." "I speak in behalf of saving the timber for the benefit of the future generation . . . ." Vande Linctum claimed that "the repair of fences annually calls for the destruction of nearly 100,000 acres of timber, which, when taken in connection with other depletions of forest in the next half century, will leave the entire country destitute of timber." Moreover, since railroads both used wood for ties and made it possible to sell timber in a larger market-place, the expansion of the rail network made lumber more valuable than it had been when the

upcountry was isolated and self–sufficient. As "Ripples" remarked, "If I owned the timber of Carroll County I would not want any bigger fortune. The way to save your timber is adopt the stock law."[58] Although the Georgia General Assembly of 1879 allowed barbed wire to be classed a legal fence, the wire was relatively expensive, and reformers believed, probably correctly, that upcountry farmers would continue to build more wooden fences for some time.[59]

The Changing Pattern of Voting on the Stock Law

Voting returns from militia districts in Carroll and Jackson Counties translated the attitudes expressed in the fence debate into actual behavior. From 1881 to 1890, Carroll County held five countywide elections — in January, 1882; September, 1882; July, 1885; July, 1887; and July, 1890. Jackson County held two countywide elections, one in July, 1881, and another in September, 1883. In addition, many of the militia districts held local–option elections, which were sporadically and incompletely reported in the newspapers. We there-fore focus primarily on the returns from the countywide referenda, which we report in Tables 2.2 and 2.3.

Although the fence side consistently attracted a majority of those casting ballots in both counties, there are two important trends in the data, only the first of which has been stressed by previous historians. The fence law progressively lost support throughout the 1880s. As the time series of turnout figures demonstrates, however, this decline was oversha-dowed by the dramatic decrease in participation on both sides of the issue. The much more numerous elections in Carroll show the rise and fall of the fence debate's fury most clearly. An increase in voter turnout by almost 17 percent between January and September, 1882, is certainly an indication of the intense competition between the fence and stock law factions.

As the editor of the Carroll County *Times* remarked after the second ballot in his county: "No election for a long time has excited more interest than the election last Saturday on the fence question. Exciting the interest it did, of course, there was a full vote polled — larger, we believe, than any we have had in a long time."[60] By 1885 the intensity on both sides began to wane, as almost 20 percent fewer eligible voters cast ballots, with the stock law making marginal gains as a result of the diminished interest.

Although proponents of the stock law were able to increase their relative share of the electorate over time, their base of support, at least in Carroll, was quite unstable. Table 2.4 displays the transition matrices between the first and second elections in Carroll and Jackson Counties, and between the second and third election in Carroll. The transition matrices contain estimates of the probability that voters who supported one side in one election continued supporting that position, switched to the other side, or abstained from voting in a subsequent contest. Because some estimates calculated by ordinary least squares fell outside the logical 0–100 percent bounds, we have estimated the equations underlying these tables in logit form.[61] While an estimated 92.0 percent of the fence law voters in Carroll's first election voted for the status quo again in election two, only 67.1 percent of the stock law voters continued their support to the second election. Moreover, of those who voted for the stock law in election one, 29.3 percent of them simply did not vote the second time. This is surprising, since the interval between the two elections was only eight months, and since overall turnout rose by 17 percent from the first to the second contest. It is interesting to note that almost 29 percent of the non–voters in the first election supported the fence law in election two, while about 20 percent of the newly mobilized cast their franchises for the stock law position.

Surprisingly, Panel B, which summarizes the transition from election two to three, shows an even greater pattern of volatility, especially on the stock law side. Of those who

voted for the new institution in election two, only half remained faithful through the next election, and almost half abstained. Stock law proponents attracted 59 percent of the non-voters of election two; otherwise, the stock law's showing in the third election would certainly have been even more meager. Conversely, the fence law faction was able to maintain approximately three-fourths of its support over this period, with most of the remainder abstaining in the later election. In sum, Carroll County's stock law coalition did not vote with the vigor that we would expect from "landlords, merchants, and business interests," and, contrary to Hahn's claim, stock law opponents *were* apparently able to "develop an organizational apparatus to mobilize their ranks and inspire confidence in their numerical strength."[62]

Panel C of Table 2.4 shows that Jackson County's stock law coalition was extremely cohesive between 1881 and 1883. The fence law retained two-thirds of its backers over the same period, and gained about 28 percent of those who had abstained at first. Although the stock law was able to hold its support in Jackson County through 1882, the basic fact is that the law's proponents were continuously overpowered by the fence law advocates' numerical strength. Carroll County's stock law men, by contrast, were too few and too fickle to prevail at the county level.

Frustrated by their repeated countywide defeats, stock law supporters began to concentrate their attention on adopting the law at the militia district level. By the 1887 countywide election in Carroll, eight of the fifteen districts had adopted the stock law in district referenda. In four of these eight districts, however, the fence law had originally been declared the victor, but after being contested on the ground of ballot fraud, the county ordinary (judge) overturned the results and declared the districts stock law areas. The precise wording of the law, no doubt, created confusion among voters as the county election ballots were required to read either "fence" or "no fence," the latter meaning the stock law. The district election

ballots, on the other hand, had to be either "for fence" or for the "stock law." The election in

Carroll's Bowdon district was particulary "muddled" as the precinct managers certified the

result in favor of the fence law 102 to 73. However, the actual vote cast was 73 for "stock

law," 68 "for fence," 30 for "fence," 2 for "a fence," and 2 for "the fence." The county ordi-

nary, after hearing arguments from both sides, threw out the 34 votes not cast "for fence," thus

leaving a majority of 73 to 68 for the "stock law."[63] In the remaining four districts, the stock

law won with slight majorities.[64] Therefore, by taking advantage of legal changes and ambi-

guities and by concentrating their attention on the much smaller districts, stock law supporters

were able to close the open range of Carroll and Jackson Counties little by little. (A much

more detailed discussion of the implementation of the stock law at the militia district level is

provided in Chapter 3.)

Since more than half of Carroll County's districts were already under the stock law

rule, it is not surprising that only about half of the eligible voters cast ballots in the 1887

county election. Within the next three years, five more districts imposed the stock law, and

turnout in that year's contest plummeted to 19 percent, the decrease being most dramatic in

the stock law districts.[65] Figure 2.4 shows Carroll County's voter turnout and election results

for three types of districts, labelled A, B, and C, respectively: those that adopted the stock law

by the 1887 countywide election, those that adopted after the 1887 election, but before the

1890 contest, and, finally, those districts that never adopted the law until after 1890. The

graphs in Figure 2.4 track voter activity from 1885 to 1890, including the district referendum

in which the stock law prevailed (if relevant). What is apparent from Panel A of Figure 2.4 is

that once districts adopted the stock law, many voters apparently felt that the costs of casting a

ballot for either option were too high to justify a trip to the polls.[66]

While Group A districts sent about 60 percent of their eligible voters to the polls in 1885 and in the local referenda, after these districts adopted the stock law turnout fell to 41.6 percent in 1887 and to a low of 12.9 percent in 1890. Group B districts followed the same general pattern described above, with turnout near 65 percent in 1885, 1887, and in their district elections, but only 23.8 percent in the 1890 countywide ballot. It is important to note that in regions where the open range continued to be argued actively, voters continued to go to the polls in large numbers. Group C districts, those that retained the open range through the 1890 election, sent 59 percent of their voters to the polls in the last election, whereas their stock law counterparts sent only 12.9 to 23.8 percent of theirs. And as Panel B of the Figure shows, these districts voted faithfully for the fence law throughout the election process.

Tables 2.2 through 2.4 and Figure 2.4 cloud Hahn's image of helpless partisans of common rights overwhelmed by a juggernaut of merchants and rich farmers who represented the impersonal free market.[67] Fence law partisans won all seven countywide elections in the two counties from 1881 to 1890; and their pattern of support was, on the whole, much less volatile than that of their opponents. Even more serious for Hahn's thesis, after adopting their preferred arrangement in their own districts, most stock law supporters abstained in subsequent countywide referenda, rather than seeking to impose their views on open range areas. Contemporaries explicitly recognized this practice. A correspondent of the pro–stock law *Carroll Free Press* thought it "wrong for the county to pass on the question as to whether they should have the stock law in his district as the policy has been heretofore to let the districts act upon this matter for themselves. We agree with the Squire, let each district work out its own salvation, but dont force it on a district whether they are willing or not."[68]

On the same day in 1890 that Carroll County stock law supporters abstained in droves, the same voters decided another issue in a local referendum. The object of bitter

contention for years, the proposal to issue bonds to erect a new county courthouse attracted

1530 ballots in districts that had adopted the stock law, while only 679 of the same voters who

had already assumed the cost of going to the polls in the two issue election bothered to

express their opinions on the fence question. In the districts that still had the open range, there

were 178 ballots cast in the bond election and 179 cast in the stock law election.[69] This spe-

cial "allegiance to local control"[70] displayed in the 1890 election is a clear indication that

fence reformers were not engaged in any sweeping plan to restructure the social or cultural

basis of their economy. Their goal, instead, was to restructure property rights in specific geo-

graphic areas where economic efficiencies could be captured through a redefinition of the tort

liability regarding animals and fences.

Who Favored the Stock Law?

The time–series analysis of the voting presented above, while uncovering the chang-

ing mood and incentives of the voters on each side of the struggle, ignores the underlying rea-

sons voters aligned with either side. Did men vote for the fence law as a means of voicing

their objections to the encroaching capitalist market, as Hahn contends? Was the fence law

conflict, as both Flynn and Hahn assert, a manifestation of the class distinctions of this agri-

cultural society? Or do the voting patterns suggest a more complex pattern of divisions? The

aforementioned historians of the fence debate have grouped the contending parties in the

debate into laborers and tenants of both races, along with "very small farmers, the poorer end

of the landowning class," on one side, and richer white landowners, on the other.[71] Or, as

Hahn puts it, "the mass of Upcountry yeomen, tenants, and laborers," fought against "land-

lords, merchants, and business interests throughout the state."[72] With the 100 percent sample

of the population and agricultural schedules that we have compiled, we are able to include the

laborer and tenant population percentages as independent variables in the regression analysis of the voting returns.

To test for the possibility that fence law voters cast their ballots to demonstrate their opposition to the encroachment of capitalist markets, we use two variables: per capita cotton production and the percentage of farms achieving self–sufficiency in grain.[73] Since cotton was unequivocally a cash crop, growing it plainly involved farmers in the international market. Furthermore, relatively more self–sufficient farms within a district meant that less reliance on the wider market, and, if Hahn is correct, a higher likelihood that the district would oppose a law that symbolized the intrusion of outside economic forces.

With the rich data that we have collected from the manuscript census returns for individual farms, we are able to estimate whether a farm expected to benefit or lose if the stock law had been instantaneously put into force in 1880. The details of the calculation are discussed in Appendix A. For the regression analysis, we calculated the percentage of farms in each district that would have received a positive net return from the stock law's adoption. As the percentage of farms that could be expected to profit increased, a self–interest model would predict that a higher percentage of voters would support the stock law, *ceteris paribus*.

We also included variables that tapped the percentage of the district's acreage that was wooded, per capita wealth, and population density. A higher proportion of woodlands meant easier foraging for animals and cheaper wood for fences, and, consequently, less support for the stock law. The higher the population per square mile, the greater the likelihood that one person's roaming animals would destroy another's crops, or, in small towns, another's garden plots. Recognizing the special circumstances of such hamlets, the General Assembly gave many incorporated town councils the right to pass local ordinances forbidding animals from running at large.[74] The town of Carrollton passed her own local ordinance in

March, 1886, making it unlawful for animals to be allowed "willfully or negligently" to run at

large within the corporate limits of the town.[75] Thus, higher population density should corre-

late with greater support for the stock law.

Per capita wealth is included among the independent variables to test how material

wealth affected voting behavior across districts. The Hahn and Flynn contention is that the

"poor," as a class, voted to keep the open range, while the "rich" fought for the enforcement of

private property rights. If this hypothesis is correct, per capita wealth should be negatively

correlated with the fence law vote and the opposite for the stock law.

As shown above, the adoption of the stock law at the militia district level markedly

changed the behavior of voters in subsequent countywide elections. Therefore, in order to

control for the effect of a district's adoption of the stock law, we created a variable interacting

a dummy variable for the 1887 Carroll election and a dummy taking the value of 1 if the dis-

trict had already passed the stock law by the time of the 1887 general countywide election,

and 0 otherwise. A similar interaction variable captures how those districts that adopted the

stock law by 1890 behaved in the last Carroll referendum. As our discussion above implies,

the fact that a district had already closed the range should have had a negative effect on both

stock law and fence law voting, and a positive effect on voter abstention. These effects should

be more pronounced for the 1890 election.

Before proceeding to the multivariate statistical analysis, we present in Table 2.5 the

matrix of bivariate correlation coefficients between our dependent and independent variables.

The dependent variables of the analysis are the percentage of the eligible voters voting for the

fence law, the stock law, or not voting at all. The data for most of the independent variables

were obtained from the manuscript agricultural and population schedules of the 1880 census.

The data were aggregated up to the militia district level, using a 100 percent sample of farms

and households within both counties. Information on wealth and the number of eligible voters was found in the counties' original property tax digests. See Appendix B for a discussion of our data.

Contrary to the historians' cultural and class conflict models, the data tentatively support a much simpler explanation of the voting — self–interested behavior. The variables describing the economic environment agents faced, such as amount of forest available, population density, and expected profitability of the stock law separately seem to explain the voting trends well. The hypothesis that tenants and laborers strongly favored the fence law is clearly rejected on the basis of the bivariate analysis. Moreover, as the Table shows, neither cotton production nor self–sufficiency in grain significantly affected voting behavior. The Bonner and Hahn observation that wealth was a significant factor in a district's voting calculus is substantiated, but what must be noted is wealth's strong correlation with many other variables that also affected voting behavior. Therefore, in order to create a clear, more complete picture of the voting dynamics, we must abandon Bonner and Hahn's use of bivariate analysis for a more rigorous test of the contending hypotheses surrounding the fence debate.

Ordinary least squares estimates of the three share equations are reported in Table 2.6[76]. The two variables directly testing Hahn's "rebellion" thesis, self–sufficiency in grain and per capita cotton production, are insignificantly different from zero in all three equations. In other words, the hypothesis that fence law supporters were men protesting their involvement in the capitalist economy and communicating their desire for a return to a "moral economy," is rejected by the data.

The regression results show that Hahn's and Flynn's sharp categorization of the contending parties in the stock law controversy is somewhat exaggerated. Tenants display no statistical signs of favoring one side over the other, as the coefficients in all three equations are

insignificant. Nor are laborers disproportionately represented in the fence law coalition, as Hahn asserted. Relatively more laborers in a district corresponded to lower relative support for the fence law. It seems that laborers were more likely to abstain than to vote for either the fence or stock law. Note that laborers' abstentions did not significantly reduce the stock law's support, which suggests that laborers were not vehemently against the fencing–in of animals.[77]

The variables tapping the economic incentives facing voters, for the most part, operate as expected. The percent forest coefficient is of the right sign in the first two equations, but never significant at conventional levels. Furthermore, population density affected voting in the expected direction, but is marginally significant only in the first equation. Our variable estimating the percentage of farms expecting to benefit from the stock law seems to be an accurate description of the relative benefits anticipated from the stock law. Particularly important in a voter's decision calculus was whether or not his income would rise or fall after the stock law's adoption. As the regressions clearly display, voters seem to have been well aware of the monetary implications of changing the fence law and to have sided with the option that promised to maximize their net benefits over time.

Per capita wealth was strongly and positively (negatively) correlated with a district's voting for the stock law (fence law). Even after we control for the expected benefits of the proposed law, wealth plays an important role. Clearly, the other variables we include in the estimation, which tend to be (weakly) correlated with wealth, are not perfect proxies for the stock law's expected profitability. Presumably, some of the economic benefits accruing to the relatively wealthy town districts are not captured by our measure of expected benefits to farms or sufficiently well by the population density variable. The olfactory benefits of banning marauding cows and pigs from small towns, as well as the more tangible ones of keeping them out of one's garden are as difficult to compute a century later as they were to ignore in the

1880s. Moreover, in areas where land was relatively valuable, the fence law inhibited the clearing of land by forcing farmers to divert resources away from land improvement and into defensive activities. Thus, with the stock law district with fertile land could expand cultivated acreage. Since the savings calculation does not pick up this important element of the stock law's potential profitability, it is likely that per capita wealth is doing so.

Finally, the coefficients of the dummy variables proxying the behavioral change of individual districts that adopted the stock law at the sub–county level by the 1887 and 1890 Carroll elections have the expected signs. The fence law was the hardest hit once individual districts no longer had a stake in the countywide election process. The status quo lost 20.4 percent of its electoral support in 1887 and an additional 12 percent by the 1890 poll, holding all else constant. While the stock law's supporters continued to vote for their choice in 1887, by 1890 the new institution lost almost eight percent of the electorate. Since the stock law supporters were outnumbered by their opponents between two and three to one before 1887, the dropoff in turnout hurt them nearly as much as it did the fence partisans, who easily carried all seven elections in both counties.[78]

A Conflict of Cultures or a Conflict of Interests?

The fence law question was of considerable concern to many Southern farmers and, hence, received much attention in the postbellum South. A thorough investigation of the arguments put forward by participants of the debate shows that contemporaries were well aware of the economic benefits and problems associated with the stock law. They understood the economic consequences of their actions and addressed issues familiar to neoclassical economic historians, such as private property rights, the redistribution of income, Pareto optimality, and fairness.

Recently, historians have addressed the fence debate, portraying it primarily as a conflict between the rich and the poor, the "haves" and the "have–nots." Clearly, this explanation is too simple. Both qualitative and quantitative evidence suggests that the fence issue was more than a struggle between the landed and the landless — it represented an opportunity for at least some members of these two groups to forge a political coalition in order to capture the economic advantages of a new, more efficient institution.

A simple two–class conflict model fits the data from Carroll and Jackson Counties poorly because group interests did not divide neatly into two parts. As our investigation of the election returns has shown, tenants (as a group) were indifferent between the fence law and the stock law and laborers were more likely to abstain from voting than to cast their ballots for the fence law. The relationship between voting patterns and variables designed to reflect the economic incentives facing voters, such as the percentage of farms expecting to profit from the law, unimproved or forest acreage, and population density imply that farmers were lined up according to the divergent economic interests of the areas in which they resided. As we point out above, per capita wealth also proxies the anticipated benefits that voters expected to receive if the stock law were enacted. Hahn's contention that fence voters cast their ballots in rebellion against the "values of the free market" is rejected by our more comprehensive analysis of the data. Neither market integration nor market isolation played a significant role in a district's decision to vote for the stock law or fence law.

This brings us back to the start of our paper: are the views of economists and historians who explain the process of institutional change as a calculated attempt to capture economic efficiencies at odds with those who couch their explanations of political and economic struggles, such as the fence debate, in terms of a predetermined conflict between classes? As our analysis shows, the stock law clearly created an opportunity for progressive

farmers to capture the efficiency gains from enclosing animals. The benefits, however, did not accrue to wealthy farmers alone — the expected profitability was spread across class lines, as tenants and laborers might have expected to benefit from the stock law as well.

The more serious front on which debaters of the fence issue fought concerned the distribution of costs and benefits. Small farm owners who relied on the open range as a food source certainly had no desire to keep their animals penned up, for that meant reducing their herd sizes, shifting cultivated acreage out of crop production and into pasturage for the remaining animals, and taking land out of cotton production in order to feed their livestock. These farmers, who made up a large percentage of the populations of Carroll and Jackson Counties, seem to have been motivated by the same force that drove their stock law counterparts, the desire to protect their economic well–being. Both qualitative and quantitative evidence drawn from the same counties as Hahn and Bonner studied convinces us that the bitter conflict over the fence law had its roots not in a struggle to preserve a cooperative "moral economy," but in the straightforwardly materialistic goals shared in common by those who expected to win and those who expected to lose by this institutional change. It was a conflict not of cultures or classes, but of interests.

FOOTNOTES

1. Coase's words eerily echo those of an 1878 Sparta, Georgia, farmer: "A. owns a tract of land and wishes to plant it in various crops. B. owns a tract of land joining it and wishes to raise stock. A's crop will not leave his land to go on B's land to injure B's stock; but B's stock will go on A's land and destroy his crop. Now which is in fault, A's crop or B's stock? Certainly B's stock, and B should be forced to fence his stock, and be made liable for damages. . . ." David Dickson, in *Southern Cultivator*, 36 (December 1878), p. 451.

2. Lance E. Davis and Douglass C. North, *Institutional Change and American Economic Growth* (Cambridge: Cambridge University Press, 1971).

3. McCloskey, *The Rhetoric of Economics* (Madison, WI: University of Wisconsin Press, 1985). Economists' mathematical models and statistical tests, McCloskey claims, are only "figures of speech" (p. xvii). "Economics is a collection of literary forms, not a science." (p. 55) While denying that he favors "irrationalism," the ever provocative McCloskey avers that "there is no reason to search for a general quality called Truth. . . .Truth is a fifth wheel. . ." (pp. 48–49)

4. Steven Hahn, *The Roots of Southern Populism: Yeoman Farmers and the Transformation of the Georgia Upcountry, 1850–1890* (New York: Oxford University Press, 1983), pp. 60–63, pp. 239–268.

5. GA Session Laws 1872, No. 329, pp. 34–36. In 1881, militia districts were permitted to hold fence elections. See GA Session Laws, 1881, No. 401, pp. 79–81. In certain cases, throughout the late nineteenth century, the stock law was imposed by the state

legislature, without referenda.

6. Hahn, *Roots*, pp. 240–253.

7. Charles L. Flynn, Jr., *White Land, Black Labor: Caste and Class in Late Nineteenth Century Georgia* (Baton Rouge, LA: Louisiana State University Press, 1983), p. 128.

8. *Ibid.*, p. 131.

9. *Ibid.*, pp. 115–149.

10. J. Crawford King, Jr., "The Closing of the Southern Range: An Exploratory Study," *Journal of Southern History*, 48 (February 1982), pp. 53 –70.

11. *Ibid.*, pp. 63–70.

12. *Ibid.*, p. 68.

13. James C. Bonner, *Georgia's Last Frontier: The Development of Carroll County* (Athens, GA: University of Georgia Press, 1971), p. 143.

14. *Ibid.*, p. 139.

15. Ronald Coase, "The Problem of Social Cost," *Journal of Law and Economics*, 3 (October 1960), pp. 1–44. Transactions costs include the costs of bargaining, information, supervision, enforcement, measurement, and political action. See Elizabeth Hoffman and Matthew L. Spitzer, "The Coase Theorem: Some Experimental Results," *Journal of Law and Economics*, 25 (April 1982), p. 73, for an extensive list of Coase's assumptions.

16. A contract is Pareto–efficient if it specifies the actions of all agents and any redistribution of income and there exists no other contract which will make everyone at least as well off (in utility terms) and at least one agent strictly better off. Therefore, if C is the status quo contract, C' is Pareto–improving if it makes at least one person strictly better off without making anyone else worse off.

17.   H. Scott Gordon, "The Economic Theory of a Common Property Resource: The Fishery," *Journal of Political Economy*, 62 (April 1954), pp. 124–142.

18.   For our purposes a "socially optimal" use of a resource occurs when agents completely take into account the social costs and benefits of their actions. If individuals do not consider the externality that they impose on others, for example, those being adversely affected might be willing to pay the perpetrators to cease their harmful actions. In this case, a social optimum results from a reallocation of resources such that Pareto efficiency is achieved.

19.   See, for example, George J. Stigler, "The Theory of Economic Regulation," *Bell Journal Economics and Management Science*, 2 (Spring 1971), pp. 3–21; Sam Peltzman, "Toward a More General Theory of Regulation," *Journal of Law and Economics*, 19 (August 1976), pp. 211–248; Gary Becker, "A Theory of Competition Among Pressure Groups for Political Influence," *Quarterly Journal of Economics*, 98 (August 1983), pp. 371–400.

20.   For simplicity suppose that individuals, $1,...,n$, have utility functions (u_i) with respect to one good, a property right, p. In deciding on the appropriate distribution of property rights, society will seek to maximize a social welfare function $W(u_1(p),u_2(p),...,u_n(p))$. If we assume that p^* solves max $W(u_1(p),u_2(p),...,u_n(p))$, then p^* is Pareto efficient. However, with governmental intervention, the government may, for political purposes, maximize social welfare for only a subset of the population. Clearly the p' which maximizes $W(u_1(p),u_2(p),...,u_i(p))$, $i < n$, may not be the same as p^* and most likely will not be Pareto efficient.

21.   Davis and North, *Institutional Change*, Chapters 1–4.

22.   Assume that an economic change involves benefits which accrue to individuals, but

involves costs which must be borne by the society at large. If there is no mechanism

for policing agents, a self–interested individual who believes that his fellow citizens

will bear all of the costs realizes that he can enjoy all of the benefits of the economic

change without paying his share of the costs. An individual who attempts to appropri-

ate the benefits while shifting the costs onto others is known as a "free rider."

23.   This will be true even if there are no transactions costs.

24.   We must be cautious in our discussion of common rights. Although people were free

to allow their animals to roam the countryside, this does not imply that they had a

lawful "common title" to unenclosed land. In *Wright H. Harrell* v. *Hanum and Cole-

man* (55 Georgia 508 (1876)), it was decided that a cattle farmer did not have a com-

mon right to pasture in the woods, or upon the unenclosed land of others. The Court

argued that the cattle farmer "does not set forth any contract, prescription or other

lawful basis for the right he claims. What belongs to the world at large is no man's in

particular. . . ."

25.   For the alleged contrast between English and "Celtic" fencing practices, see Grady

McWhiney and Forrest McDonald, "Celtic Origins of Southern Herding Practices,"

Journal of Southern History, 51 (May 1985), pp. 165–182. For a masterful critique,

see Rowland Berthoff, "Celtic Mist Over the South," *ibid.*, 52 (November 1986), pp.

523–546.

26.   Washburn and Moen Manufacturing Co., *The Fence Question in the Southern States

as Related to General Husbandry and Sheep Raising, with the History of Fence Cus-

toms, and Laws Pertaining Thereto: And a View of the New Farm System of the*

South, as Shown in the Census of 1880, (Worcester, MA: Snow, Woodman & Co., 1881), pp. 10–11.

27.   *Ibid.*, p. 11. Italics in original.

28.   Hahn, *Roots*, pp. 60–1. The Georgia General Assembly, in the early nineteenth century, did reduce the legal height of fences by a foot, however.

29.   *Hamilton* v. *Howard*, 68 Georgia Reports 288 (1881).

30.   *Tumlin* v. *Parrott*, 82 GA Reports 732 (1889).

31.   *Jackson Herald*, August 3, 1883; *Carroll County Times*, June 7, 1878; *Carroll Free Press*, May 15, 1885. For a summary right–based arguments for the stock law, see *Southern Cultivator*, 39 (January 1881), pp. 15–16.

32.   Instead of wearying the reader with repeated *sics* for spelling or grammer, we will henceforward print the letters from the newspapers as they appeared, inserting bracketed phrases or puntuation for clarity when appropriate.

33.   *Carroll County Times*, May 31, 1878; *Carroll Free Press*, May 1, 1885; *Carroll Free Press*, April 17, 1885; *Carroll Free Press*, May 1, 1885. The editor of the Athens, Georgia, *Southern Cultivator*, 36 (January 1878), pp. 8–9, stated the rights claim and the contradiction succinctly: "If one holds a *fee simple* to land, he is entitled to all the fruits and benefits of it, including pasturage. His neighbors have no right to pasture their stock on it. . . .If your neighbors should fence in *all* their lands, your stock would be confined to your own land for support; but you could not complain, for it is fully admitted they have a right to enclose every acre they own."

34.   *Carroll Free Press*, May 15, 1885; *Carroll Free Press*, June 19, 1885; *Carroll Free Press*, June 26, 1885; *Carroll County Times*, August 25, 1882; *Carroll County Times*, September 8, 1882; *Carroll Free Press*, June 5, 1885.

35.   *Carroll Free Press*, June 26, 1885; *Carroll Free Press*, June 26, 1885.

36.   Quoted in Flynn, *White Land, Black Labor*, p. 131.

37.   *Carroll County Times*, May 3, 1878; *Carroll County Times*, June 7, 1878.

38.   Georgia Department of Agriculture, *Annual Report of Thomas P. Janes, Commissioner of Agriculture of the State of Georgia for the Year 1875* (Atlanta: J.H. Estill, 1876), p. 66.

39.   *Carroll County Times*, May 17, 1878; *Carroll County Times*, June 21, 1878; *Carroll County Times*, June 21, 1878.

40.   Washburn and Moen, *The Fence Question*, p. 16.

41.   Quoted in Hahn, *Roots*, p. 62.

42.   *Carroll County Times*, September 1, 1882; *Carroll Free Press*, May 1, 1885; *Jefferson Forest News*, April 23, 1880; *Newnan (Georgia) Herald*, June 30, 1881. See also *Carroll Free Press*, April 17, 1885 and May 1, 1885.

43.   *Carroll County Times*, September 1, 1882; *Jackson Herald*, August 3, 1883; *Carroll County Times*, September 8, 1882; *Jefferson Forest News*, June 17, 1882.

44.   Quoted in Flynn, *White Land, Black Labor*, p. 131.

45.   *Carroll Free Press*, June 19, 1885; *Jefferson Forest News*, June 24, 1881.

46.   *Jefferson Forest News*, April 23, 1880; *Carroll Free Press*, May 1, 1885; *Carroll County Times*, May 3, 1878.

47.   *Carroll Free Press*, May 1, 1885; *Jefferson Forest News*, April 23, 1880; *Carroll Free Press*, April 17, 1885; *Jefferson Forest News*, December 24, 1880.

48.   *Carroll County Times*, September 1, 1882; *Jefferson Forest News*, June 17, 1881; *Jefferson Forest News*, September 5, 1879; *Jefferson Forest News*, April 23, 1880; *Jefferson Forest News*, January 14, 1881. Similarly, see a report from Chatham

County, Georgia, in *Southern Cultivator*, 34 (June 1876), p. 220.

49. *Carroll Free Press*, April 17, 1885; *Carroll Free Press*, April 17, 1885; *Carroll Free Press*, May 1, 1885.

50. *Carroll Free Press*, April 17, 1885; *Jefferson Forest News*, December 24, 1880.

51. Consider the equation $\frac{P_{it}}{P_{Bt}} = \beta_0 + \beta_1 t + \varepsilon_t$, where P is the price of commodity i (corn

or cotton) at time t and P_{Bt} is the price of bacon sides at time t. β_0 is the intercept, β_1 is the time trend coefficient, and ε is an error term. Regressions of yearly price data from 1870 to 1890, inclusive, collected from the Atlanta *Constitution* yield

$$\frac{P_{COTt}}{P_{Bt}} = \underset{(9.525)}{1.239} + \underset{(0.443)}{0.005t}, N=20, R^2=0.01, \text{ and } \frac{P_{CORNt}}{P_{Bt}} = \underset{(15.348)}{7.756} + \underset{(1.417)}{0.057t}, N=20, R^2=0.10,$$

t-statistics in parentheses. In the corn equation, if we leave out the outlying year 1876, we find that the rate of increase was still insignificantly different from zero. The sampling procedure for collecting the commodity prices data set is described in Section 3 of Appendix A; the yearly prices used in the regressions above are an average of the year's monthly prices.

52. *Jackson Herald*, July 20, 1883.

53. Bonner, *Georgia's Last Frontier*, pp. 95–99. That farmers were able to get to and to return from a city 45 miles away in one day was a major technological breakthrough. When the trip had to be made by wagon, an 80 mile round trip would take three days and two nights. See the untitled autobiography of J. C. Wilkes, of Montgomery County, Georgia, pp. 4–5, in the Wilkes Family Papers, mf 515, ac 77–408, Georgia Department of Archives and History.

54. *Jefferson Forest News*, April 23, 1880 and May 7, 1880.

55. *Poor's Manual of Railroad in the United States*, v. 17, 1884, p. 451.

56. Bonner, *Georgia's Last Frontier*, p. 99.

57. See Hahn, *Roots*, pp. 145–52 and David F. Weiman, "The Economic Emancipation of the Non–Slaveholding Class: Upcountry Farmers in the Georgia Cotton Economy," *Journal of Economic History*, 45 (March 1985), pp. 71–93.

58. *Carroll Free Press*, May 1, 1885 and June 12, 1885; *Jefferson Forest News*, June 17, 1881; *Carroll County Times*, September 8, 1882.

59. GA Session Laws, 1878–79, no. 304, p. 165. The specifications of the legal barbed wire fence were revised in GA Session Laws, 1882–3, no. 440, p. 139. It was not only the relative cost of barbed wire that bothered farmers, but the wire was thought to have injured animals as they ran against it. For evidence that farmers were cautious with respect to wire fences, see *Southern Cultivator*, 39 (October 1881), p. 376 and (December 1881), p. 444.

60. *Carroll County Times*, September 15, 1882.

61. For a discussion of the use of the logit transformation in ecological regression, see J. Morgan Kousser, "Making Separate Equal: Integration of Black and White School Funds in Kentucky," *Journal of Interdisciplinary History*, 10 (Winter 1980), pp. 399–428. In order to calculate the transition probabilities between elections t and $t+1$ found in Table 2.4, we assume that the random disturbance term is distributed according to the logistic cumulative distribution. The probability of voting for option j at $t+1$, then, is given by

$$P_{j(t+1)} = \frac{e^{\beta_j' X_t}}{e^{\beta_0' X_t} + e^{\beta_1' X_t} + e^{\beta_2' X_t}}, \tag{1}$$

where X_t is the matrix of voting percentages from election t, β_j' is the vector of coefficients, $j = \{0, 1, 2\}$, that indexes the voters' possible actions — voting for the fence law, the stock law, or not voting, respectively, and $\sum_{j=0}^{2} P_{j(t+1)} = 1$. In the log–odds model, one probability is used as the denominator or reference point, so we will be estimating two equations. Using P_0 as our base and dividing P_1 by P_0 reduces to

$$\frac{P_1}{P_0} = \frac{e^{\beta_1 X_t}}{e^{\beta_0 X_t}}. \tag{2}$$

Dividing P_2 by P_0 yields

$$\frac{P_2}{P_0} = \frac{e^{\beta_2 X_t}}{e^{\beta_0 X_t}}. \tag{3}$$

Taking the log of $\dfrac{P_1}{P_0}$ and $\dfrac{P_2}{P_0}$ gives us

$$\log\left[\frac{P_1}{P_0}\right] = \beta_1' X_t - \beta_0' X_t = (\beta_1' - \beta_0')X_t, \tag{4}$$

$$\log\left[\frac{P_2}{P_0}\right] = \beta_2' X_t - \beta_0' X_t = (\beta_2' - \beta_0')X_t. \tag{5}$$

It is equations 4 and 5 that will be estimated using ordinary least squares.

Once we have estimated $(\beta_1' - \beta_0')$ and $(\beta_2' - \beta_0')$, call them $\bar{\beta}_1$ and $\bar{\beta}_2$ respectively, we are able to derive the probability estimates. Algebraically manipulating equations 4 and 5, we derive the estimated probabilities of voting for the fence law $(\hat{P}_0)$, the stock law $(\hat{P}_1)$, and not voting $(\hat{P}_2 = 1 - \hat{P}_0 - \hat{P}_1)$ at election $t+1$, given what we know about voters' behavior at election t. The respective probabilities are:

$$\hat{P}_0 = \frac{1}{1 + e^{\bar{\beta}_1 \bar{X}_t} + e^{\bar{\beta}_2 \bar{X}_t}}, \tag{6}$$

$$\hat{P}_1 = \frac{e^{\bar{\beta}_1 \bar{X}_t}}{1 + e^{\bar{\beta}_1 \bar{X}_t} + e^{\bar{\beta}_2 \bar{X}_t}}, \tag{7}$$

and

$$\hat{P}_2 = 1 - \hat{P}_0 - \hat{P}_1. \tag{8}$$

Finally, in order to determine the probability estimates, the $\bar{X}_t$ matrix must be specified.

To find the probabilities in the first column of Table 2.4 we use equation 6 above. The top left cell is computed using equation 6, the estimated regression coefficients, and an $\bar{X}_t$ matrix that sets the fence law voting in election t at 100 percent. Intuitively, setting $\bar{X}_t$ at 100 percent allows us to determine how a district voted in the second election if it had voted unanimously for, say, the fence law in the first election. To find the probability that stock law voters at time t switched to the fence law at $t+1$, we again use equation 6 and set the percent stock law component of $\bar{X}_t$ to 100. All of the other cells are computed analogously, using equations 7 and 8 to find the transition probabilities of voting for the stock law or abstaining in election $t+1$, respectively.

62.   Hahn, *Roots*, p. 267.

63.   *Carroll Free Press*, March 18, 1887; *Carroll Free Press*, March 25, 1887.

64.   The rules governing the district and county elections diverged in more ways than in the wording of the ballots. In particular, the law stated that if a district adopted the stock law, landowners employing tenant farmers were required to furnish them enough pasture for one cow and calf, provided the tenant did his share of the fencing. See Chapter 3 for a discussion of the importance of this provision in the adoption of the stock law at the district level.

65. See *Carroll Free Press*, July 18, 1890 and Bonner, *Georgia's Last Frontier*, p. 143.

66. See Anthony Downs, *An Economic Theory of Democracy* (New York: Harper & Row, 1957), chapter 14 for a discussion of the voter's cost–benefit calculus.

67. Hahn, *Roots*, pp. 262 and 267.

68. *Carroll Free Press*, June 27, 1890.

69. *Carroll Free Press*, June 4, 1890. As their correspondent "Martin," of Smithfield, noted after the 1890 election, "We got it [the stock law] by district election and we did not believe it was right to force it on those districts who did not have a majority to get themselves. So our motto was fence and no bonds." *Carroll Free Press*, July 18, 1890.

70. Bonner, *Georgia's Last Frontier*, p. 143.

71 Flynn, *White Land, Black Labor*, p. 145.

72. Hahn, *Roots*, pp. 248 and 262.

73. To compute the percentage of farms achieving self–sufficiency in grain, we followed the Ransom and Sutch procedure detailed in Appendix E of *One Kind of Freedom: The Economic Consequences of Emancipation* (New York: Cambridge University Press, 1977).

74. See, for example, Georgia Session Laws, 1871, O. no. 209, p. 109 and O. no. 190, p. 128.

75. *Carroll Free Press*, March 26, 1886.

76. Since we are, in essence, estimating probabilities, it might be argued that a logit model would be more appropriate since OLS does not necessarily give probability estimates between 0 and 1. The logit results we obtained are similar to those reported below and, thus, we do not include them here.

As the discussion above indicates, voter behavior within areas that adopted the stock law at the district level changed dramatically in subsequent countywide elections. It was therefore necessary to run tests to determine whether pooling the different elections across counties was statistically appropriate. In fact, for all three equations that we estimate, we could reject the hypothesis that pooling the cross–sectional time–series data was inappropriate at the 5 percent significance level.

77. As will be shown in the next chapter, when voter abstention is held constant (i.e., when abstention is included as an independent variable instead of as a dependent one), laborers actually favored (in a statistical sense) the fence law.

78. We were surprised that the woodlands coefficient was not significant in the three equations and that the density variable was only marginally significant in one of the equations (the fence law equation). Since the two might be acting in tandem and dampening each other's effect, we reran the equations leaving out one. For the most part, the original results of the paper are robust to this specification change. However, when density is left out of the equations, the only changes that occur are that the laborer variable loses some of its significance in the fence and abstain regressions (they drop to below the 5 percent level, but better than 10 percent). All of the other variables keep the same signs and significance levels as reported in Table 2.4. When the forest variable is removed, the only change is that density becomes significant in the fence equation (with a negative sign). All of the other variables of Table 2.4 retain their same signs and significance levels.

TABLE 2.1

PERCENT CHANGE IN GEORGIA POPULATION BY RACE, BY REGION, 1850 – 1890

REGION	1850-60 WHITE	1850-60 BLACK	1860-70 WHITE	1860-70 BLACK	1870-80 WHITE	1870-80 BLACK	1880-90 WHITE	1880-90 BLACK
PLANTATION BELT	−1.17	17.64	5.20	15.92	14.63	22.72	10.93	11.99
UPCOUNTRY	23.43	43.42	9.93	25.64	29.64	35.19	22.22	23.46
WIREGRASS	81.85	126.53	22.66	36.74	24.43	33.71	42.17	73.84
PINE BARRENS	26.70	32.15	11.00	3.63	36.29	38.77	42.01	57.87
COAST	41.29	−2.84	9.62	23.31	13.19	13.83	33.13	25.92
MOUNTAIN	20.85	41.80	4.75	−16.17	20.41	21.88	16.63	−1.05
STATE	13.42	21.08	8.01	17.06	21.78	24.82	19.77	18.46
CARROLL CO.	22.59	69.68	3.53	−30.19	28.22	43.33	26.45	66.71
JACKSON CO.	6.48	13.38	3.06	10.55	32.93	28.06	23.71	4.63

Sources: U. S. Census Office, Ninth Census, 1870, *The Statistics of the Population of the United States* (Washington: GPO, 1872), pp. 20–22; U. S. Census Office, Tenth Census, 1880, *Compendium of the Tenth Census* (Washington: GPO, 1883), pp. 341–343; U. S. Census Office, Eleventh Census, 1890, *Compendium of the Eleventh Census* (Washington: GPO, 1894), pp. 12–13 & 590–595.

TABLE 2.2

Carroll County Fence Election Returns

District	January 1882		September 1882		July 1885		July 1887		July 1890	
	Fence	Stock	Fence	Stock	Fence	Stock	Fence	Stock	Fence	Stock
Carrollton	225	257	343	295	295	220	233	223	105	120
Whitesburg	181	31	207	51	108	40	90	60	46	43
Temple	121	92	167	106	155	97	55	25	$-^c$	$-^c$
Kansas	90	14	92	21	92	21	67	30	20	19
Turkey Creek	93	20	95	34	66	25	57	39	$-^c$	$-^c$
Bowdon	158	28	168	47	146	45	91	46	49	55
Smithfield	138	3	183	18	123	3	130	4	44	5
Shiloh[a]	—	—	—	—	72	20	58	39	$-^c$	$-^c$
Flint Corner[b]	—	—	—	—	—	—	—	—	24	5
New Mexico	88	14	116	12	74	13	92	21	52	12^e
Lowell	135	8	146	20	120	30	121	26	89	26
Cross Plains	87	13	122	25	128	28	118	39	39	8
County Line	42	14	60	36	37	33	33	37	$-^d$	$-^d$
Fairplay	115	35	147	37	52	67	42	43	5	13
Villa Rica	56	69	71	70	47	101	55	61	$-^c$	$-^c$
Roopville	86	22	104	50	56	42	98	52	55	24
Total	1615	620	2021	822	1571	785	1340	745	528	332
Percentages	72.3	27.7	71.1	28.9	66.7	33.3	64.3	35.7	61.4	38.6
Turnout	62.3		79.2		59.9		50.2		19.1	

TABLE 2.2 (continued)

Notes: [a] Shiloh was, for the most part, created from parts of Carrollton and Smithfield. See Appendix B for a discussion of our handling of newly created districts.

[b] Flint Corner was created from parts of Smithfield and Shiloh. See Appendix B for a discussion of our handling of newly created districts.

[c] No fence election held.

[d] No data reported.

[e] The stock law vote reported in our original source is 2 votes. However, analysis of the time-series data showed that this number was an extreme outlier and caused abnormal results in our computation of transition probabilities. Given our suspicion of the number reported in the contemporary newspaper, we assumed that the stock law vote decreased at the same rate as the fence law vote between 1887 and 1890.

Sources: *Carroll County Times*, January 13, 1882; *Carroll County Times*, September 15, 1882; *Carroll Free Press*, July 3, 1885; *Carroll Free Press*, July 8, 1887; *Carroll Free Press*, July 4, 1890.

TABLE 2.3

Jackson County Fence Election Returns

District	July 1881		September 1883	
	Fence	Stock	Fence	Stock
Jefferson	317	128	124	83
Harrisburg[a]	–	–	101	115
Harmony Grove	149	101	131	102
Newtown	179	31	170	46
Clarkesboro	89	17	121	66
Santa Fe	58	4	66	5
Chandler	174	4	119	11
House	84	46	93	33
Randolph	132	18	190	32
Miller	34	13	53	33
Cunningham	77	75	83	84
Wilson	86	41	67	31
Total	1379	478	1318	641
Percentages	74.3	25.7	67.3	32.7
Turnout	54.5		57.5	

Notes: [a] Harrisburg was reported as part of Jefferson in 1881. Therefore, in the statistical analyses the districts are considered a single district for 1881.

Sources: *Jackson Herald*, July 8, 1881; *Jackson Herald*, September 14, 1883.

TABLE 2.4

TRANSITION MATRICES — CARROLL AND JACKSON

Panel A: Carroll County — Election 1 to Election 2

		ELECTION 2			
		% Fence	% Stock	% Abstain	Mean of Row
	% Fence	0.920	0.052	0.028	0.496
ELECTION 1	% Stock	0.036	0.671	0.293	0.135
	% Abstain	0.286	0.196	0.518	0.369
	Mean of Column	0.603	0.197	0.200	

TABLE 2.4 (continued)

TRANSITION MATRICES — CARROLL AND JACKSON

Panel B: Carroll County — Election 2 to Election 3

ELECTION 3

	% Fence	% Stock	% Abstain	Mean of Row
% Fence	0.764	0.034	0.202	0.603
% Stock	0.015	0.500	0.485	0.197
% Abstain	0.178	0.590	0.233	0.200
Mean of Column	0.430	0.181	0.390	

ELECTION 2 (row label for the % Fence, % Stock, % Abstain rows)

TABLE 2.4 (continued)

TRANSITION MATRICES — CARROLL AND JACKSON

Panel C: Jackson County — Election 1 to Election 2

		ELECTION 2			
		% Fence	% Stock	% Abstain	Mean of Row
	% Fence	0.660	0.023	0.317	0.400
ELECTION 1	% Stock	0.002	0.994	0.004	0.139
	% Abstain	0.283	0.107	0.610	0.461
	Mean of Column	0.383	0.181	0.436	

TABLE 2.5

CORRELATION BETWEEN VARIABLES

Variable	Percent Forest	Density	Percent Tenants	Percent Labor	Per Cap. Cotton	Self-Sufficiency	Per Cap. Wealth	Stock Law Profitability	Percent Fence	Percent Stock	Percent Abstain
Forest	—										
Density	-0.21^a	—									
Tenants	0.24^a	-0.21^a	—								
Labor	-0.52^b	-0.02	-0.76^b	—							
Cotton	-0.31^b	-0.45^b	0.34^b	0.09	—						
Self—Suf.	0.06	0.26^a	-0.47^b	0.28^b	-0.14	—					
Wealth	-0.13	0.33^b	-0.08	$-0.13\#$	-0.38^b	0.08	—				
Profit	-0.24^a	$--0.00$	0.11	0.10	0.36^b	0.06	0.02	—			
Fence	0.28^b	-0.48^b	0.07	-0.14	0.03	-0.10	-0.18	-0.31^b	—		
Stock	-0.17	0.10	0.07	-0.03	-0.03	-0.08	0.46^b	0.28^b	-0.24^a	—	
Abstain	-0.19	0.42^b	-0.10	0.15	-0.02	0.14	-0.05	0.17	-0.88^b	-0.24^a	—

Notes: [a] Significant at the 5 percent level.
           [b] Significant at the 1 percent level.

Sources: See Appendix B.

TABLE 2.6

REGRESSIONS OF FENCE VOTING PERCENTAGES, ORDINARY LEAST SQUARES

VARIABLES	% FENCE LAW	% STOCK LAW	% ABSTAINING
CONSTANT	101.458 (3.949)	−7.431 (−0.485)	5.973 (0.234)
% FOREST	0.043 (0.221)	−0.001 (−0.008)	−0.042 (−0.218)
POPULATION DENSITY	−0.316 (−1.842)	0.094 (0.917)	0.222 (1.306)
% TENANT FARMS	−0.199 (−0.866)	0.167 (1.218)	0.032 (0.142)
% LABORERS	−0.462 (−2.281)	0.110 (0.910)	0.352 (1.752)
PER CAPITA COTTON	−15.590 (−1.016)	−5.828 (−0.637)	21.417 (1.408)
% SELF-SUFFICIENT	0.127 (0.849)	−0.063 (−0.710)	−0.064 (−0.429)
PER CAPITA WEALTH	−0.122 (−2.283)	0.120 (3.785)	0.001 (0.026)
% FARMS PROFITING FROM STOCK LAW	−0.408 (−2.887)	0.194 (2.305)	0.214 (1.525)
STOCK LAW DISTRICTS, 1887	−21.002 (−4.184)	1.067 (0.356)	19.935 (4.003)
STOCK LAW DISTRICTS, 1890	−32.922 (−5.961)	−8.562 (−2.601)	41.484 (7.572)
N	92	92	92
R^2	0.579	0.369	0.586
$\bar{R}^2$	0.528	0.291	0.535

TABLE 2.6 (continued)

Notes: t-statistics in parentheses. Appendix B gives more detailed description of variables and data.

Sources: See Appendix B.

FIGURE 2.1

Overinvestment in Livestock

**When Animals Can Graze on All Unfenced Land, Owners Will
Increase the Sizes of Their Herds More Than They Would
If They Had to Pay for All of the Animals' Food and Water**
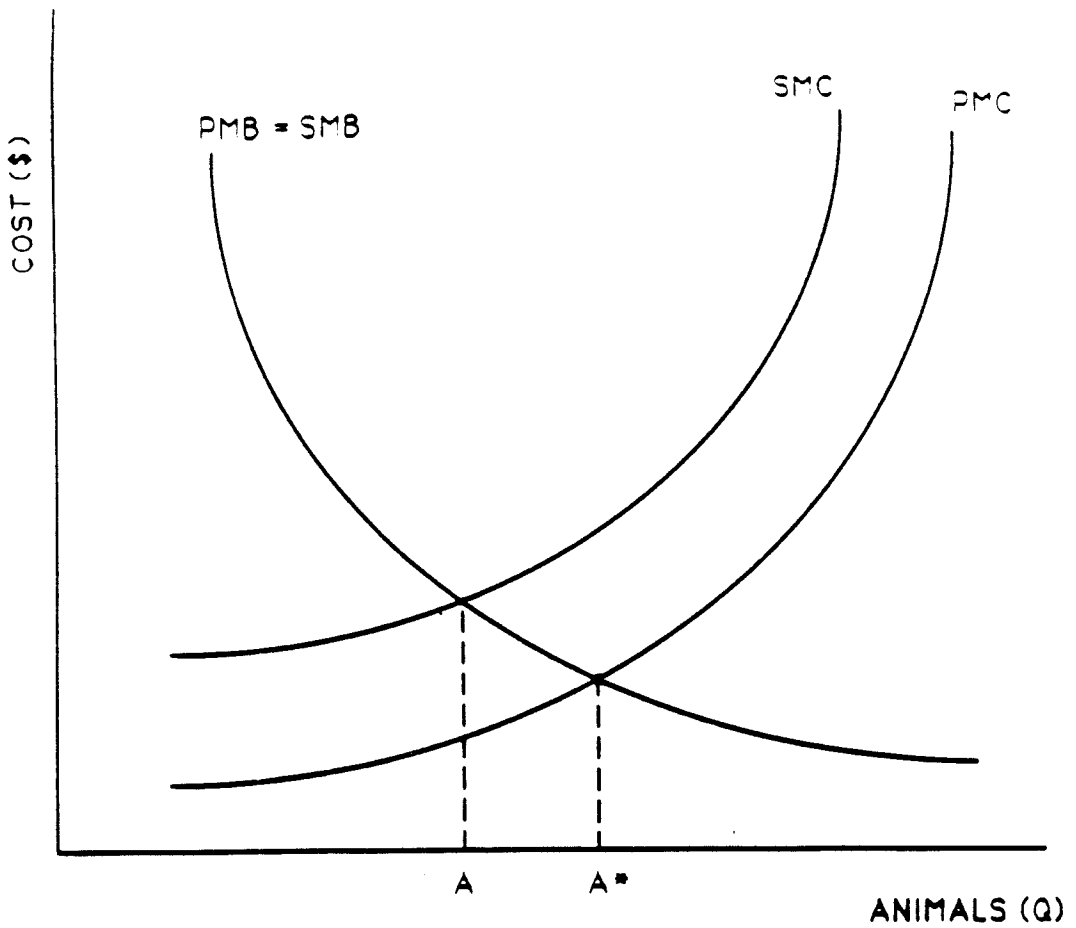
Legend:

SMC = Social Marginal Cost
PMC = Private Marginal Cost
SMB = Social Marginal Benefit
PMB = Private Marginal Benefit

FIGURE 2.2

Underinvestment in Land Improvements

**Farmers Forced to Fence Out Animals Will Invest Less in Land
and Other Improvements Than They Would Under a Stock Law**
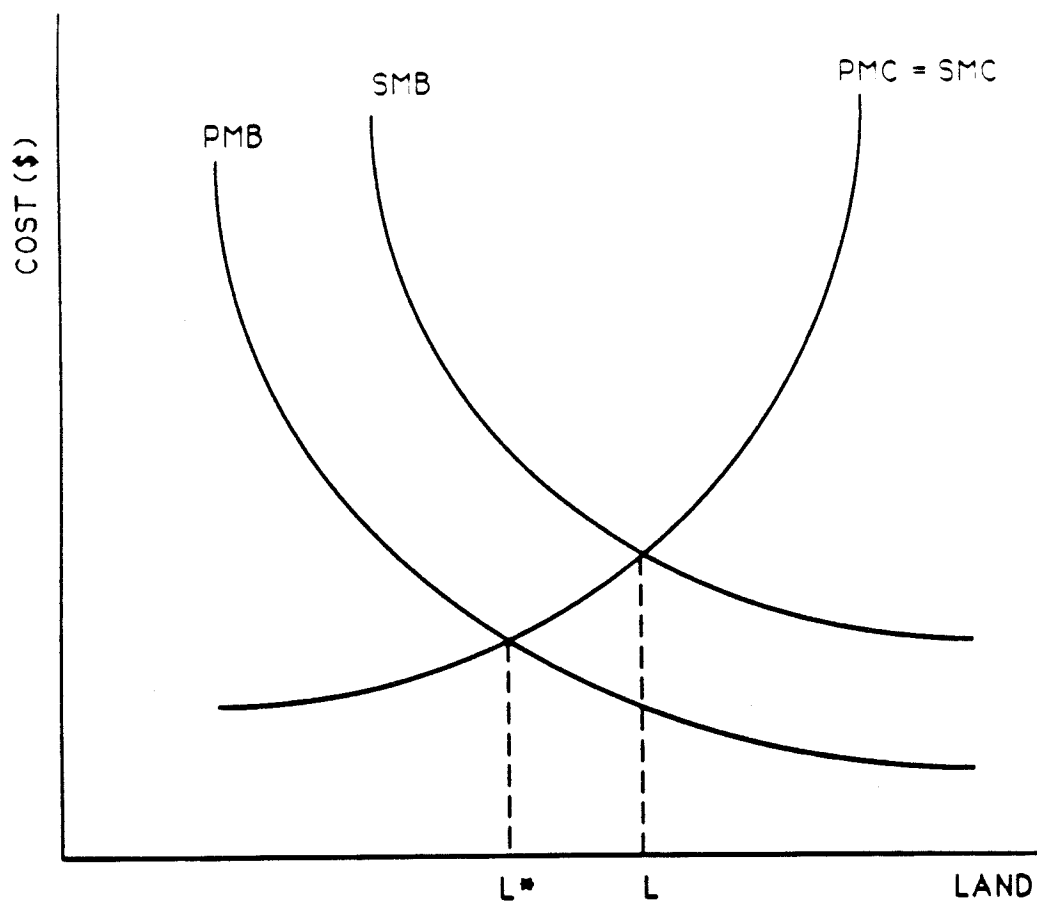
Legend:

SMC = Social Marginal Cost
PMC = Private Marginal Cost
SMB = Social Marginal Benefit
PMB = Private Marginal Benefit

FIGURE 2.3

RELATIVE PRICES OF COTTON AND CORN TO BACON SIDES
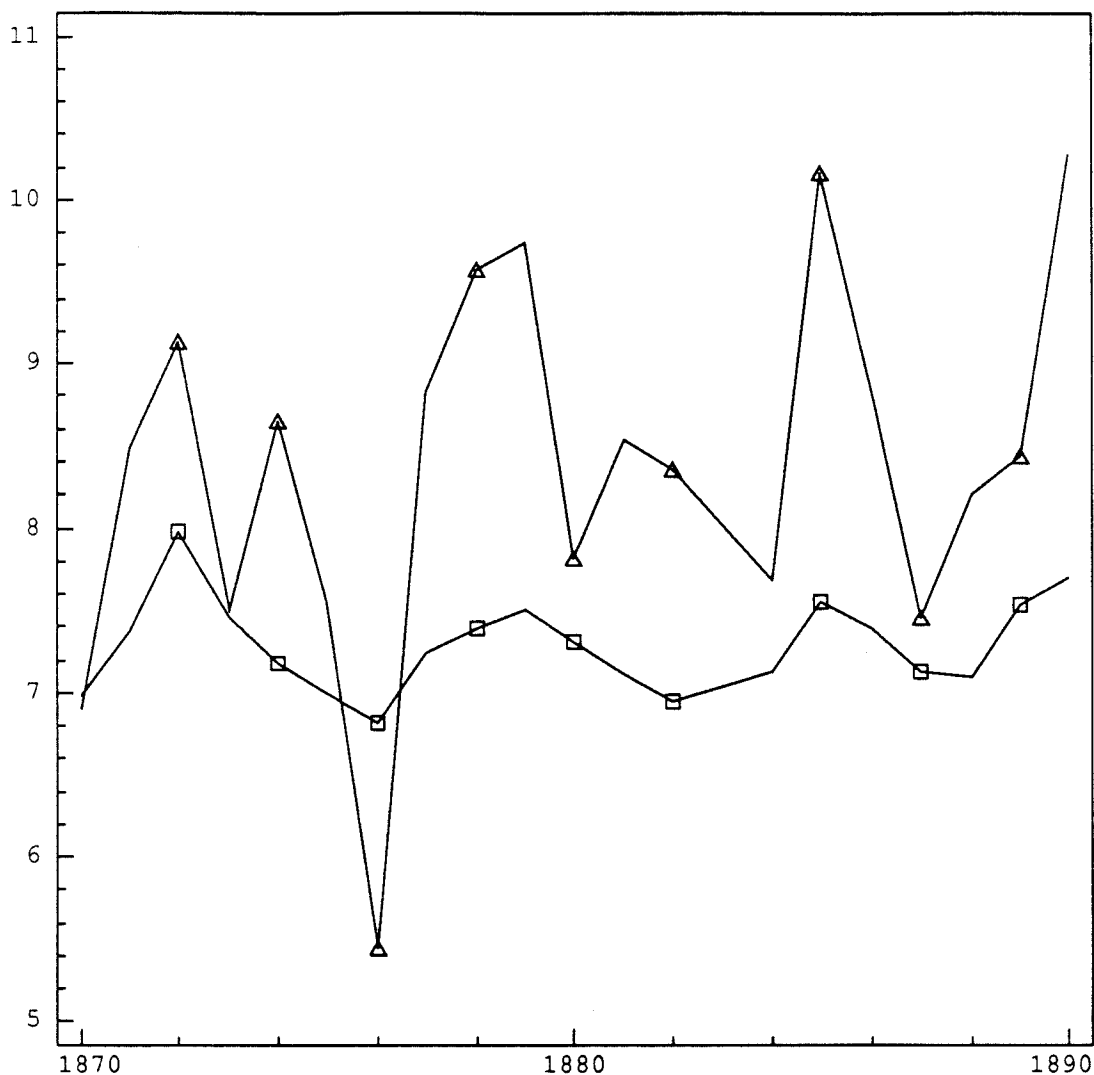
Notes: The squares correspond to the relative cotton price series and the triangles to the relative corn price series. The cotton series has been inflated by 6 so that both series could be put on one graph.

Sources: *Atlanta Constitution*, 1870–1890. See Appendix A, section 3 for a discussion of our sampling procedure.

FIGURE 2.4

Panel A: Voter Turnout by Group
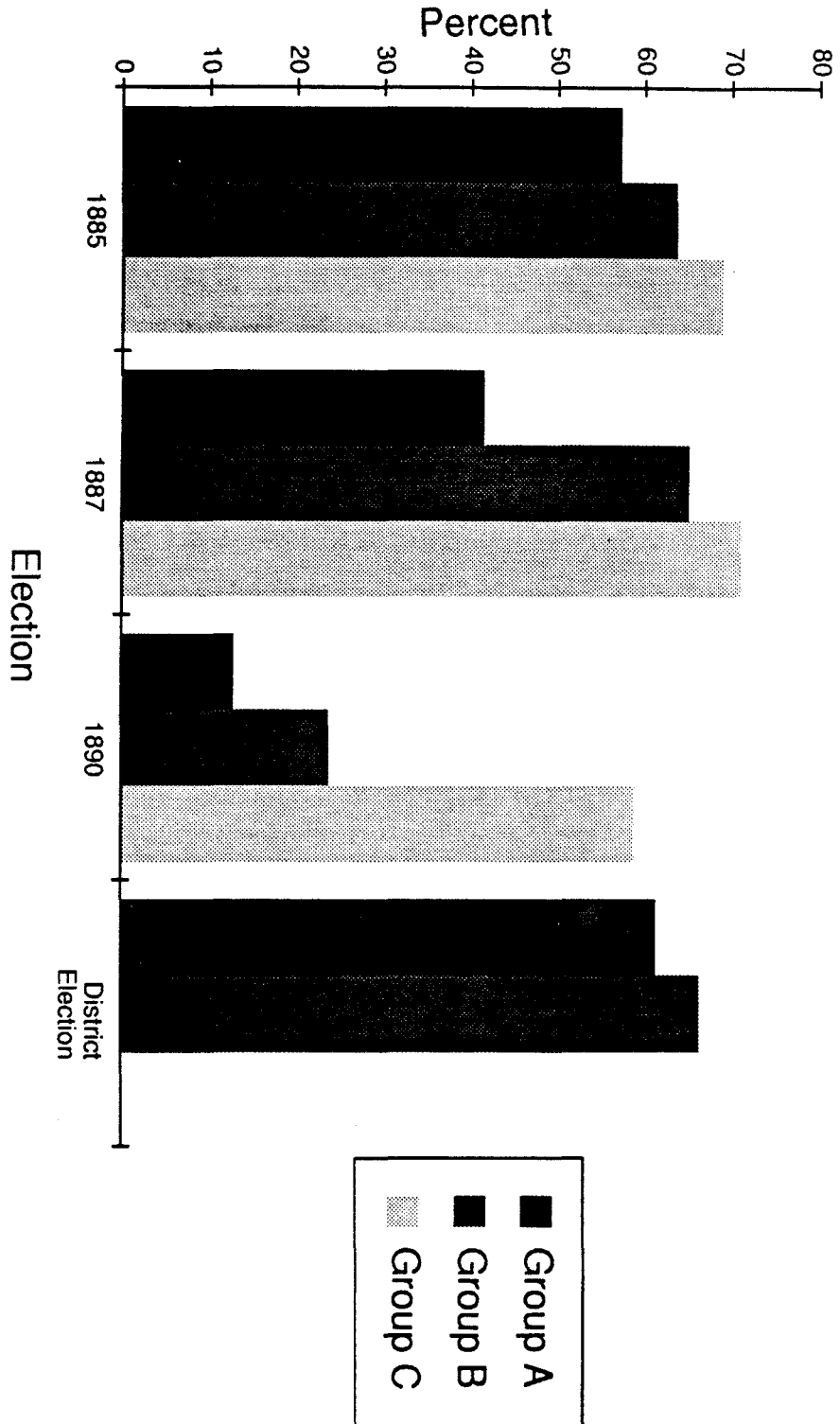
FIGURE 2.4 (continued)

Panel B: Percent for Fence by Group
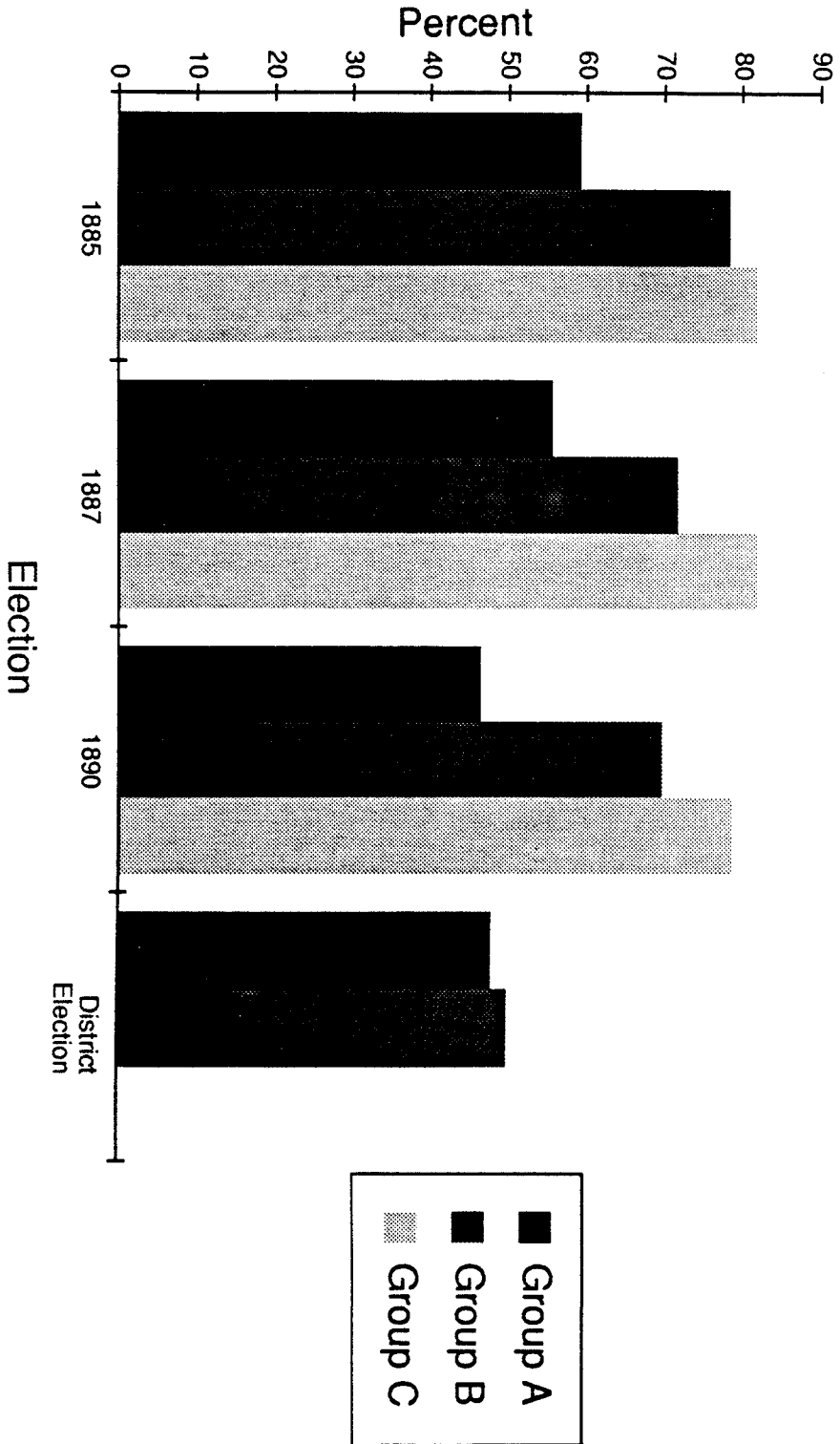
FIGURE 2.4 (continued)

Notes: Group A districts are those that adopted the stock law at the district level by the time of the 1887 countywide election. Group B districts adopted the stock law after the 1887 election, but before the 1890 poll. Finally, those districts in Group C did not adopt the new law until after 1890.

Sources: See Table 2.4. Appendix B contains a discussion of our estimation of the size of the electorate.

CHAPTER 3

RAZORBACKS, TICKY COWS, AND THE CLOSING OF THE GEORGIA OPEN RANGE:
THE DYNAMICS OF INSTITUTIONAL CHANGE UNCOVERED

Why do individuals or groups seek alterations in their institutional environment? "Radical" historians, for example, claim that change is always rooted in class conflict in which economic elites use their (political) power to impose institutions that enable them to extract the "labor surplus" more easily. This view sharply conflicts with many economists' notion that exogenous shocks, such as relative price changes or discoveries of new opportunities for gain, create an incentive for society, or a subset thereof, to adopt a different institutional regime that promises to promote economic development. While both approaches claim to identify the conditions necessary to set the process of institutional change into motion, neither theory explicitly models or seriously discusses the transition from status quo to terminus. Whether economic change stems from a motivation to capture potential efficiency gains or from the machinations of a dominant class bent on expropriating the labor surplus, it is remiss to ignore the *process* of such a change.

"New institutional economists" have emphasized the significant role that institutional change plays in determining economic prosperity, but, at the same time, they have paid little attention to the nuances that surround the transformation. Claiming that "the emergence of new property rights takes place in response to the desires of the interacting persons for adjustments to new benefit–cost possibilities"[1] does not explain how the change is ultimately realized. As if operating within a market system, individuals, Coase asserts, will realize potential efficiency gains and adopt the new, more efficient institutional regime that, presumably, will lead society toward economic expansion.[2] As Douglass North asserts: "Competition in the face of ubiquitous scarcity dictates that the more efficient institution, policy, or individual

action will survive and the inefficient ones perish."[3] The process of change, however, is portrayed as a "black box." We know that within the box there is a labyrinth that might impede the way of efficient institutional change and economic growth, but this subtlety has been relegated to a position of secondary importance in the study of institutional change.

When an income–enhancing institutional change has been obstructed, economists often blame transaction costs for blocking the movement. Realizing that a new institution would be more valuable than the old one is quite different from actually adopting the better regime. As individuals who would be adversely affected by the change seek a priori contracts for compensation, those who anticipate net benefits must decide how much to pay, who should pay, and who should receive their payments. If distributional conflicts must be resolved in the private sector, problems such as free riding, strategic bargaining, or expensive monitoring and enforcement of contracts can block voluntary agreements and prohibit society from adopting a new institutional structure that promised to increase social wealth.[4] Often, at the behest of the benefitting group, the government is called in to implement the new, income–generating institutional arrangement. But as the political power of the competing groups differs, nothing guarantees that the political solution adopted will be the one that captures the entire expected efficiency gain or that resolves the distributional conflicts that ultimately prevented a voluntary, free market solution.[5] Therefore, in studying the dynamics of institutional change, it is important to address the question of how the government influences the process of institutional and economic development. Moreover, how does the political solution differ from the one that would have emerged from a market environment where transaction costs were negligible?

In an attempt to tackle these questions, this paper focuses on the changing of a property rights institution that was actively debated throughout the postbellum South – the

closing of the open range. In particular, the paper concentrates on the closing of the Georgia range from 1872 through 1890. The traditional agricultural practice in Georgia was to allow animals to roam the countryside freely and to force farmers to erect fences around their growing crops. In other words, all unfenced land was common pasture that could be used by anyone. After the Civil War, however, there was a concerted effort to eradicate the open range policy and to enforce strict property rights to all land — fenced or unfenced, improved or unimproved.

Georgia is a particularly interesting state to focus upon because it was extremely diverse geographically. As the state varied from the Appalachian mountains in the northern section to the fertile argillaceous loam of the middle section to the expansive tracts of pine trees and wiregrass in the southeast, differing economic interests developed concerning the closing of the range.[6] Map 3.1 shows the state broken down into six traditional regions.[7] Counties in the Plantation and Upcountry regions, along with many counties in the Mountain region, were best suited for agricultural production, as the soil and climate made cotton production, in particular, profitable. In these highly improved counties, improved acreage ranged from as low as 22 percent to as high as 58 percent of the total land mass. Conversely, the average share of improved acreage in the Wiregrass, Pine Barrens, and Coastal regions amounted to only about 12 percent.

According to estimates presented in the paper, the closed range would have generated net benefits for many counties in the state, especially in the Plantation Belt and Upcountry, but most of these counties maintained the status quo. While the net benefits may have been positive, the transaction costs and distributional conflicts associated with voluntarily redefining access rights to unfenced land were prohibitive. Empirical evidence shows that the Georgia legislature's role in facilitating the institutional change was crucial. The Georgia legislature

allowed county and, later, sub–county referenda on the fence question that reduced the transaction costs that prevented a voluntary agreement to dispense with the open range. Most importantly, the legislature promised to enforce sidepayments between expected winners and losers once the new law was adopted at the local level. The voting returns of the county and sub–county referenda show that voters cast their ballots for the option (the closed range or the status quo) that would maximize their expected net benefits. Furthermore, when compensation for a subset of the expected losers was guaranteed by the legislature, the data show that these voters responded as might be expected — they switched their votes from the status quo to the new institution. Although society was unable to achieve a Pareto superior solution to the fence problem in postbellum Georgia, this paper demonstrates the important function that the Georgia legislature played in facilitating the closing of the range which, in turn, led to more rapid agricultural development in postbellum Georgia.

The Georgia Open Range and the Call for Reform

From colonial times until after the Civil War, Georgia law permitted citizens to allow their animals to graze on any land that was unfenced. As English emigrants arrived in America to find sparse population density and large tracts of unimproved land between farms, they found it desirable and economical to allow their animals to roam the countryside freely. It should be noted, however, that English common law did not require a man to fence his land against the intrusion of his neighbors' beasts. Rather, English common law viewed an individual's property as private and, thus, if a man's animals strayed onto the enclosed or unenclosed land of his neighbor, the animals were to be considered trespassers.[8] If a trespassing animal were destroying a farmer's crops, common law permitted him to impound or even kill the intruding animal, if necessary. Moreover, if the trespassing animal happened to dam-

age any of the farmer's crops, under common law the farmer was permitted to sue the animal's owner for damages.[9] Upon arriving in America, however, colonists found the laws of their homeland too restrictive. Not only was it difficult and expensive to provide their animals with the proper pasturage, but it was impossible to watch them constantly as they foraged through nearby forests. The problems associated with allowing animals to rove the terrain freely were quickly realized — it was impossible to prevent livestock from trampling and eating the growing crops. The decision, therefore, was to require farmers to fence *in* their crops. Put another way, laws were created that forced farmers to fence *out* the animals.[10]

In 1655, for example, the Newbury, Massachusetts town council "ordered that all fences . . . be mayde so sufficient as to keep out all manner of swyne and other cattle, great or small, and at whose fence or part of fence any swyne or other cattle shall breake through, the party owning the fence shall not only bear and suffer all damages, but shall further pay for each rod so insufficient, the somme of two shillings."[11] But Newbury was not the only community to force farmers to erect and to maintain "lawful" fences around their crops, or else forgo any chance for compensation for damages caused by another's marauding animals. In fact, "in every state of the Union, from the earliest times, it ha[d] been made compulsory for landowners to maintain good fences for the protection of crops; to fence animals *out*, rather than to fence them *in*."[12] Georgia's first fence law, passed in 1759, explicitly required that:

> all fences or enclosures . . . that shall be made around or about any garden, orchard, rice ground, indigo field, plantation or settlement in this province, shall be six feet high from the ground when staked or ridered and from the ground to the height of three feet of every such fence or enclosure, the rails thereof shall not be more than four inches distant from each other; and that all fences or enclosures that shall consist of paling shall likewise be six feet from the ground and the pales thereof not more than two inches asunder: *Provided always*, that where any fence or enclosure shall be made with a ditch or trench, the same shall be four feet wide, and in that case the fence shall be six feet high from the bottom of the ditch.[13]

Those whose fences did not adhere precisely to the letter of the fence law were subject to treble damages if they killed or injured an animal straying upon ill–fenced land. In the 1881 decision of *Hamilton* v. *Howard*, the Georgia Supreme Court declared that a lawful fence had to rise five feet from the ground everywhere, rather than merely averaging that height.[14] Furthermore, an 1889 decision ruled that an agreement to dispense with a partition fence (one between two neighbors) was not the equivalent of a legal fence. Unless an actual fence were broken — not merely a contract or agreement to dispense with a fence or an agreement to treat a dividing line as a fence — it was illegal for a farmer to harm a stray.[15] The Court's message throughout was clear: a legal fence was defined absolutely and no room for variations and exceptions existed.

Whereas the open range seemed to have been an economical response to the antebellum demography and geography of America, the late antebellum and postbellum eras brought a new attitude toward the profitability of fencing out animals and fencing in crops. "Excessive Fencing is peculiarly an American abuse, which urgently cries for reform," clamored Horace Greeley, who was certainly not alone in blasting the fence law as "needless and indefensible."[16] Farmers — southern farmers in particular — were told to ask themselves: "Are we an agricultural or stockraising people . . . ?"[17] As the editor of the Jackson County (Georgia) newspaper succinctly noted: "it is sad evidence of old fogyism, general ignorance and backwardness of agriculture in the South that such a law as that now in force can exist."[18] Given the destruction caused by the Civil War, agricultural "progressives" argued that it was time for innovation. It was time to rethink age–old policies that no longer encouraged maximum agricultural efficiency. With confidence, reformers claimed that a "stock law," or the fencing in of animals instead of crops, would be the first step toward bringing southern farmers out of relative poverty and toward agricultural prosperity.[19]

What would cause people to seek a change in the open range policy that was accepted practice for well over a century? Harold Demsetz, for example, argues that "property rights develop to internalize externalities when the gains of internalization become larger than the cost of internalization."[20] Similarly, Lance Davis and Douglass North theorize that institutional change tends to come about when the net present value of a new regime of property rights exceeds that of the traditional set of rights.[21] As an economy progresses through time, the costs and benefits of each feasible institutional arrangement continuosly change, causing individuals and groups constantly to update their decisions concerning the appropriate arrangement for society. As late nineteenth century farmers in the South, in particular, witnessed the tangible and increasing loss of land, labor, and capital caused by the fence requirement, many began to argue that the traditional practice of allowing animals to forage freely was no longer compatible with maximum agricultural efficiency. Reformers believed that conditions had sufficiently changed to make it economical for farmers to fence in their own livestock, instead of forcing their neighbors to fence them out. When "the subject [was] . . . reduced to dollars and cents," fence reformers were convinced that agricultural prosperity — in fact, overall economic growth — depended on their innovation.[22]

The open range, reformers argued, was an anachronism. They acknowledged that allowing animals to roam at will was once a tenable policy when farms were far between and population density was low. But as economic and demographic changes were developing in the postbellum period, many believed that the traditional fence law had outlived its purpose. As population expanded throughout the South, as blacks took advantage of their freedom to move, and as the growth of the railroad network made it possible to market crops from previously isolated areas, the population density in many regions began to swell. Increased population density simultaneously increased the proportion of land under till and increased the

number of animals freely roaming the countryside. Together, these effects of population growth increased the probability that one person's roving animals would destroy another's crops. Certainly, a farmer could sue if an animal destroyed his crops, but he had to have evidence of the trespass and it was also impossible for him to watch his fields constantly. Therefore, holding everything else constant, increased population density led to an increase in the relative costs of maintaining the open range policy and made fencing animals a more attractive option.

The expansion of the railroad network in Georgia also increased the relative benefits associated with fence reform. Since railroad right of ways were not required to be fenced under Georgia law, trains often hit wandering animals. As railroad tracks increasingly began to lace the South and as demographic changes created a larger supply of animals roaming the countryside, the result was not surprising — many animals were destroyed, railroad cars were damaged, and passengers were injured. Throughout the late nineteenth century the Georgia Supreme Court was called upon to resolve the legal and economic problems created when livestock and train "contend for the same place at the same instant."[23] The Court decided that as long as the railroad could show that it exercised "ordinary and reasonable diligence" in its attempt to avoid killing a wandering animal, then it could escape liability. In any case, whether the railroad was guilty or not, the killing of animals and the physical damage done to trains and passengers was a cost of maintaining the open range that grew over time.

Figure 3.1 plots the time series of the length of railroad track in Georgia from 1860 to 1889, inclusive. After a 73 percent increase from the end of the Civil War to 1880, railroad coverage in Georgia expanded rapidly in the 1880s. That decade experienced another 73 percent increase in track mileage, from 2,459 miles in 1880 to 4,268 miles in 1889. The contemporary annual reports of railroad companies give some idea of the magnitude of the benefits

that the railroad industry could have captured if the closed range had been instituted in 1880. A sample of six annual reports in the postbellum period from three companies suggests that railroads were forced to pay, on average, approximately $19.90 (in 1880 dollars) per track mile for livestock that was killed because of the railroad's negligence.[24] According to these data, if the closed range policy were instituted throughout Georgia in 1880, the railroad industry would have realized a net benefit of approximately one million dollars.[25] Note that this figure does not consider the dollar amount spent on repairing damage to trains that hit livestock, the monetary value of medical attention given to injured passengers, and lawyers' fees. In addition, it does not include the value of livestock killed in situations when the railroad was not deemed negligent. The expansion of the railroad in the latter part of the nineteenth century certainly raised the cost of keeping the open range relative to the closed range.

When railroads arrived in areas previously without a connection, the opportunity cost associated with the fence law intensified, making the closed range more profitable, all else constant. Relatively inexpensive transportation enabled farmers to import fertilizers that tremendously increased cotton yields per acre. Moreover, the railroad provided a relatively efficient and inexpensive method for sending the fertilizer–stimulated surplus to major marketing centers.[26] In many areas of Georgia, the expansion of the population and of the railroad network, together, created a new problem for farmers — how to use the available productive land more efficiently. With animals fenced in, advocates of reform predicted that improved acreage could be expanded.

Supporters of the policy change saw two sources of unimproved land that could be brought into cultivation so as to expand production — the wasted land used as fence rows and the patches of fertile ground too small to justify the expenditure for a lawful fence. Contemporaries believed that the largest potential efficiency gain from the stock law would be

captured by breaking down the fences that surrounded their crops and by bringing into cultivation that land that was being used as fence rows and the small fertile patches not currently under till. In addition, farmers expected to save resources and time when expensive annual fence repairs could be eradicated.[27] Nineteenth century southern farmers, for the most part, used "worm" fences to enclose their crops, and used pale fences for their gardens and homes. Because the worm fence is constructed by laying the ends of the rails on top of one another in a zigzag fashion, a length of seven to eight feet of productive land was wasted as a fence row.[28] Stock law champions spoke of the fence requirement as an additional tax upon their land, and a regressive one at that. Assume that worm fences spanned seven feet and that crops were grown in perfectly square plots of land. Then, since the average amount of tilled acreage on Georgia farms was 55.3 ($\sigma = 24.2$), it is reasonable to argue that, at a minimum, between 1.5 and 2.4 percent, or 115,354 to 184,567 acres, of the productive land in Georgia was wasted in the form of fence rows.[29] Of course, this estimate does not represent all of the productive land that could be brought into cultivation if the closed range policy were enacted. The calculation ignores all of the small fertile patches of land that were not profitable enough to justify a fence expenditure. Certainly there were benefits associated with enclosing animals, but the important question from a social income maximization point of view was: would the benefits of fence reform have exceeded the costs of changing to a closed range policy?

The Profitability of Reform

Using the data in the 1880 Agricultural Census, it is possible to provide an approximation of the expected profit or loss that each county in Georgia would have realized if the stock law had been instantaneously implemented in 1880. (Specific details of the calculation are given in Appendix A, but outlined below.) This theoretical calculation implicitly assumes that farmers immediately adjusted to the incentives created by the new law.

I begin by assuming hypothetically that the stock law was instituted instantaneously throughout Georgia. In other words, all animals would be enclosed, enabling farmers to remove the fences surrounding their crops of cotton and grains. For the calculation, I choose the low estimate of wasted acreage of 1.5 percent. For simplicity, I assume that farmers grew two crops with their newfound land; cotton would be grown on the previously wasted fence rows of the cotton crops, while the wasted land from the corn, wheat, rye, and oat fields is assumed to have been planted in corn, peas, and fodder.[30] Animals in this agricultural society pose somewhat of a problem for the calculation because some were already kept in pastures, while others were roaming the open range. Therefore, after assigning livestock to available pasturage that existed before the hypothetical institutional change, a feed allowance is made for those animals that presumably were previously unenclosed and would afterwards be put behind fences. Since some animal owners were probably overinvesting in livestock under the open range policy and the calculation considers all of the animals reported by the Census, too much grain will be allocated to feeding the previously non–pastured animals.[31] This will bias the profitability estimate downward, and therefore only strengthens the final result. Of course, a subtraction is made for the cost of producing the crops, including the rent associated with the land used and capital needed to produce the extra crops. Finally, the net profit from grow-ing the extra cotton, corn, peas, and fodder is the total value of the crops produced, minus the cost of feeding the previously non–pastured animals, minus the cost of producing the crops.

In many parts of the state, farmers also would have saved time and resources as fewer fences would need to be maintained under a closed range situation. The assumption I make is that after the closed range were enacted, farmers would have put their animals into pastures and supplemented their diets with other grains. Under this assumption, the average farmer would have found fencing a pasture for several animals much cheaper than fencing in his 55

acre farm. In regions such as the Wiregrass or Pine Barrens where animal husbandry took pre-

cedence over farming, "ranchers" may have found it more profitable to fence large sections of

unimproved land (similar to the Western ranges) and to allow the animals to feed themselves

in these large open pastures. If this were the case, then the estimated net benefits of the policy

change for these particular regions will be biased downward. Since it is my goal to use

assumptions that bias the profitability estimate against being positive, I will maintain the

assumption that after the institutional change, all Georgia farmers pastured their animals and

supplemented their diets with grain.

In order to approximate the savings from maintaining fewer fences, I estimate the

value of the difference in the depreciation of crop fences before the stock law and of the

fences needed to enclose the previously non–pastured animals after the stock law. (Note that

in largely unimproved counties with many animals, a closed range probably required more

fencing than was previously needed for the protection of the small amount of tilled acreage.)

Also taken into account in the calculation is the fact that farmers would bear an additional

one–time cost of building fences around the newly created pasture. Conceivably, they could

have moved the fences from around their crops to another location and used the old wood to

build fences around pastures. However, I assume that farmers had to build their animals'

fences at the maximum cost of building a new one, $1.90 per acre. Again, this assumption

will bias the results against finding net benefits. Thus, the final profitability measure amounts

to the net profit earned from the various crops grown on the new land brought into cultivation,

plus the depreciation amount saved by maintaining fewer fences, minus the cost of building

fences for animals previously unenclosed.

The results of the calculation are presented in Table 3.1 and represent the net present

value of the social (un)profitability of the stock law using 1880 data and a discount rate of

seven percent. The results are broken down to show the weighted average and per capita (dis)savings for the six conventional regions of Georgia. The profit measure is also shown as a percentage of the total value of farm produce grown within the region in 1880. In order to test the robustness of the estimates, I varied several of the key assumptions of the calculation and recomputed the net profitability. The results of these sensitivity tests, reported in Table 3.A1, confirm that the estimates reported in Table 3.1 tend to be robust to specification changes. Finally, the results in Table 3.1 should be viewed as minimum values. In other words, the net present value calculation does not allow farmers to adjust their amount of improved acreage, their crop mix, or the size of their livestock herds over time. Those regions expecting to receive a loss from the stock law would adjust quickly to the law and certainly would not have realized the full effect of the loss as reported in the Table. Similarly, those areas with a positive expected value would actually have had larger "real" savings.

The results in Table 3.1 tend to substantiate a priori expectations. The regions with large tracts of unimproved land that were used as natural pasture would have been hurt by the imposition of the stock law, while areas with relatively more improved acreage would have benefitted. As shown in the Table, the unimproved Wiregrass, Pine Barrens, Coastal, and, to a lesser extent, Mountain regions expected to lose if property rights to all land were strictly enforced. While the average loss for a Pine Barrens, Wiregrass, or Coastal county would have been between $82,000 and $101,000, in relative terms, this loss would have represented approximately 30 to 40 percent of the value of produce grown in the county in 1880. The average Mountain county expected a loss from the closed range of nearly $13,000, or seven percent of the value of its agricultural production. The greatest benefits would have accrued to the most improved counties which made up the Plantation Belt and Upcountry regions. As Table 3.1 shows, an average county in the Upcountry could have captured about $109,000 in

net benefits from the closed range, while Plantation Belt counties expected average net benefits on the order of $167,000. For Upcountry and Plantation Belt counties, the expected net benefits, in relative terms, were 16 percent and 21 percent of the value of agricultural production, respectively. For the state as a whole it is interesting to note that the expected savings was, on average, $69,474 per county. The net sum of the profits across all counties in the state would have amounted to $8,007,500. If we include the expected savings from the railroad industry, this eight million dollar savings would have risen by another one million dollars, as pointed out above.

An encouraging result of the profitability calculation presented in Table 3.1 is the average expected savings for those counties that actually had passed the stock law by 1882.[32] This group of counties, on average, expected to receive about $122,000 more than the state mean. This observation lends credence to the Davis and North hypothesis that institutional change tends to come about when the net present value of a new institutional arrangement exceeds that of the status quo. However, net profitability was not a sufficient condition for the change to take place. Table 3.2 shows the distribution of expected profits and losses broken down by region, with counties that adopted the law by 1882 denoted by a star (or dagger, see Table). In the Plantation Belt there were nine counties with an expected gain greater than $100,000 that had implemented the stock law, but 30 counties with the same magnitude of savings had not yet adopted the law. And in the Upcountry, fifteen counties with a profit estimate greater than $100,000 did not follow the lead of two others that had adopted the law, but had an expected gain of less than $100,000.[33] Why did these 45 counties, and those in the same position in the Mountain region, not adopt the relatively profitable law? Attributing the failure to transaction costs alone is much too simple, for there is no reason to believe that transaction costs were lower in the counties that adopted the stock law than in those that did not.

In order to find the reason that most of the counties that expected a net gain from the stock law failed to adopt it in the early 1880s, it is necessary to explore the rules that governed institutional choice.

Beginning in 1872 and continuing throughout the late nineteenth century, the Georgia legislature manipulated the voting mechanism that determined how the stock law could be implemented in the state. Given the nature of the rule changes that narrowed the fence issue to smaller and smaller geographic regions, it is important to concentrate on very specific politico–geographic areas. Because the data requirements of this endeavor tend to be quite extensive, I focus my attention on the two Upcountry counties that have received the most attention in the historical literature — Carroll and Jackson Counties. As the data in Table 3.1 and 3.2 show, Carroll's expected savings was near the top of the distribution for the Upcountry, while Jackson's expected savings was clearly greater than almost all counties in the Upcountry.[34] In terms of net profitability relative to the state as a whole, Carroll ranked in the seventh decile, while Jackson ranked in the top of the ninth.

The analysis of the fence law transformation in Carroll and Jackson is not meant to serve as a general model for or statement on the state or the South as a whole. Each geographic region throughout Georgia, and consequently the South, was unique — with different ratios of improved acreage and cotton production, different numbers and kinds of livestock, and diverse racial compositions.[35] Carroll and Jackson Counties, however, offer a rigorous test of the theory that institutional change tends to come about as the relative benefits become positive. Although the expected gains were high for these counties, contrary to the theory, they did not adopt the new institution right away. What is presented in the remainder of the paper is a microscopic look at the dynamics of institutional change. If distributional conflicts and excessive transaction costs prohibit society from adopting an income–enhancing

institutional change, historically then, how have these difficulties been overcome? For the case of two upcountry Georgia counties, this paper emphasizes the crucial role that the political process plays as a mechanism to facilitate institutional and economic development.

Mechanism Design and Stock Law Implementation

When animals were free to roam the open range and there was no legal way to force animal owners to enclose their livestock, what prevented citizens from voluntarily internalizing the externality, as Coase suggests? Since animal owners had a legal right to allow their animals to roam the countryside, advocates of the stock law could have compensated, or bribed, their neighbors to fence in their stock. In theory, however, this type of negotiated settlement would very rarely occur and, if it did, would probably be quite unstable.

First, it would be difficult for individuals to determine precisely the dollar amount that others expected to gain or lose if the closed range policy were enacted. Furthermore, it is clear that each person would have an incentive to misrepresent his true expected value — losers would overreport their expected losses and winners would underreport their anticipated gains. In order for the negotiated "stock law" to operate properly and before anyone growing crops decided to take down his fences, all animal owners would have to agree to forgo their common right to the open range and to enclose their animals. In this case, each animal owner became a monopolist who could hold out until he captured the entire net expected social gain for himself. Certainly, the costs associated with achieving the unanimous consent of all residents of a county or a smaller geographical district would skyrocket, quickly becoming greater than any of the benefits that would have been realized under the new institution.[36]

Even if, say, a small group of farmers were able to negotiate a contract restricting each other from using the open range, the stability of such an agreement is questionable. The Georgia Supreme Court did recognize these Coase type agreements between neighbors. In

Winters v. Jacobs the Court affirmed that "If adjacent owners agree to dispense with the partition fence and to inclose their land in common, it is the same as if they are jointly bound to maintain a division fence. The agreement is the fence, and each of the parties is bound at his peril to keep his cattle on his own land."[37] These gentlemanly accords, however, could easily sour if one party became lax in his commitment to abide by the contract's terms. The bitter dispute between neighbors George H. Tumlin and Charles C. Parrott of Bartow County became the source of the Georgia high court's deliberations. Allegedly, Tumlin "wilfully, recklessly and unnecessarily [shot] and kill[ed] three [of Parrott's] cattle" with a Winchester rifle. Witnesses at Tumlin's trial testified that the two neighbors "had made an agreement not to have any dividing fence as they were scarce of timber, and that neither one of them was to pasture their lands adjoining each other." And there was no dispute that the surrounding fence for the two plantations was legal.[38]

The problem arose when Parrott's cattle strayed onto Tumlin's land, eating the latter's crops. Tumlin frequently had to drive the cattle back over to their home, requesting Parrott and his workers to keep the animals off his – Tumlin's – property. Soon, the cattle were back eating Tumlin's crops, so he shot the animals, killing $240 worth of livestock and maiming another $30 worth. Tumlin did not recompense his neighbor. Parrott sued for treble damages, as allowed by law, arguing that his neighbor did not try to drive the cattle back home and that Tumlin's land was not enclosed by a legal fence.[39] In the end, Tumlin lost his case. The Court decided that in order to kill animals without responsibility, an actual legal fence had to be broken, not merely the agreement to dispense with it.[40]

Of course, there probably were harmonious agreements between two, and possibly more, neighbors that enabled them to capture some of the efficiency gains associated with enclosing livestock. However, as George Tumlin learned, even neighbors could not be

completely trusted to abide by a simple agreement to remove a dividing fence and to keep

animals under control. The last resort for men in Tumlin's position certainly was not to kill

the trespassing animals, it was to enclose their improved acreage — in total. Robert Frost was

indeed correct — "'good fences make good neighbors.'"[41] The seriousness of the fence law,

reinforced by decisions of the Georgia Supreme Court, forced farmers to think twice about

growing crops without the protection of a tangible fence, on all sides.

In 1872 the Georgia General Assembly eased the burden of fence law reformers by

allowing individual counties to decide whether to fence crops or livestock. Whereas before

1872 a single animal owner anywhere in Georgia could, theoretically at least, force every

farmer to erect fences to keep his animals out, after 1872 it took a majority of voters who

turned out at an election within a county to do so. To bring about a fence election, 50 free-

holders were required to file a petition with the county's ordinary (county chief executive),

whose job it was to advertise their desire for an election. The movement could be quashed,

however, if 50 additional freeholders presented the ordinary with a counter–petition to call off

the impending election. If, after the filing of the counter–petition, 25 more landowners added

their names to the original petition, the ordinary was forced to hold an election on the first

Monday in July. The 1872 act decreed that a county could not have more than one fence elec-

tion per two year period.[42] While only freeholders could call for or call off an election, the

important feature of this legislation was that all eligible voters were permitted to vote in the

referendum.[43]

The 1872 legislation was a major victory for stock law supporters in Georgia. As

Table 3.1 demonstrates, the costs and benefits were dramatically different across the state,

making a statewide stock law politically unattainable. At their 1878 spring meeting in Amer-

icus, Georgia, "A Member" of the Georgia State Agricultural Society acknowledged that, ". . .

there are some parts of Georgia where the [stock] law would work very well. Again, there are other parts of Georgia where, I am convinced, it [stock law] would work injuriously."[44] J.T. Henderson, the Commissioner of Agriculture, in his 1881 report confirmed that "It is not expected that the stock law will be adopted in the wire–grass counties of the State, where the larger area is in [open range] pasture. In that section of the State and in some of the counties of North Georgia the proposed law would be as great a hardship as the old law, requiring crops to be fenced, is in farming and planting sections."[45] Fence reformers realized that a statewide stock law, such as the one hypothetically assumed in the last section, would be difficult legislation to push through the General Assembly. Henderson concluded, "The interests and industries of different sections of the State are too varied to admit of a general law applicable to all sections."[46] The commissioner's predecessor, Thomas P. Janes, con-curred, "This law [county option] is a wise one, and perhaps as much as can be reasonably demanded by the advocates of a *no fence* law. Georgia is a large state, and the circumstances differ greatly in the several sections of the State . . . . Any law on this subject, involving a material change in the system of fencing, should be submitted to a vote of the people of each county for adoption or rejection."[47] In Georgia at least, the fence's fate was to be determined by direct local democracy.[48]

The act "relating to fences and stock, and for the protection of crops," as it was officially called, was quite resistent to change throughout the 1870s. The General Assembly, on the whole, agreed with the more moderate stock law supporters that enclosing animals was a necessary step toward agricultural prosperity. But the decision to fence or not had to be set-tled at the local level — the legislature was not *yet* prepared to preempt "a vote of the people." Efforts to repeal a county's right to change its fence laws were futile. An 1873 Senate bill to repeal the act relating to fences and stock was returned from the Committee on Agriculture

with an adverse recommendation. Given that the committee was dominated (4–3) by Plantation Belt senators whose counties, according to the previously reported estimates for 1880, expected to profit from the stock law, it is not surprising that the bill was quashed in committee.[49] An 1875 attempt at repeal in the House faced the same fate.[50] While political sentiment throughout the 1870s leaned toward reform, implementation at the county level was far from spirited. By 1882 only 8.8 percent (12 of 137) of all Georgia counties had voluntarily adopted the stock law and two counties had the law imposed on them by the state legislature. Of those counties that expected a net benefit in 1880, only 15.9 percent (14 of 88) had the stock law by 1882, ten years after the legislature allowed a vote on the issue. The main question, however, is what prevented the other counties whose adoption would have been profitable from following the same course of action? A close examination of the data from Carroll and Jackson Counties, which are both about 40 miles upcountry of Atlanta, will reveal that while the stock law may have been income–enhancing from a social point of view, the median voter was against fence reform. The ultimate reason for the stock law's defeat at the county level can be traced to the mechanism that governed institutional choice.

To see why the 1872 law, generally, was an inadequate mechanism for promoting the adoption of the closed range, it is best to identify how various coalitions sided on the fence debate. In order to distinguish the bases of support for the stock law, the natural way to divide the agricultural communities of Carroll and Jackson is into six coalitions – landowners (expected winners and losers from the stock law), tenants (winners and losers), wage laborers, and townspeople. With the 100 percent matched sample of the manuscript agricultural and population schedules of the 1880 census that I have compiled, I am able to determine precisely the sizes of the six coalitions defined above. In particular, since I have very detailed information on individual farms, I am able to perform the same calculation as detailed in

Appendix A so as to determine which owner–operated or tenant farms expected a net loss or benefit if the closed range were instituted in 1880. The results of the calculation for Carroll and Jackson farms are presented in Tables 3.3 and 3.4. The tables show the sizes and average expected benefits or losses for the various farm coalitions, as well as summary statistics describing the farms in each coalition.

Before proceeding to an analysis of the results, it is important to discuss a problem that arises in the calculation of the net benefits for individual farms. When the individual expected benefits and losses are summed across all farms within a county, the sum turns out to be much less than the savings estimate obtained using the county's aggregated data, as reported in Table 3.1 — i.e., $f(\sum_{i=1}^{N} x_i) > \sum_{i=1}^{N} f_i(x_i)$, where x_i represents the vector of data for farm i and f is the expected savings function. The discrepancy arises because some farmers were already putting their animals in fenced pastures, even while the open range policy was still in force. According to my estimates which are based on contemporary agricultural practices (see Appendix A, section 5), most of these farmers provided their animals with more pasture than they actually needed. The "excess" pasture amounts to 3726 acres in Carroll and 3513 acres in Jackson. In the countywide calculations described above and presented in Table 3.1, the "excess" pasture is hypothetically consumed by others because it is as if a "social planner" allocated other farmers' animals to the extra pasture land. However, when I calculate the individual farmer's net benefit, I have to assume that the excess pasture is wasted because the user (if anyone) of the abundant land cannot be identified because of the data's limitations. If farmers, who had no pasture of their own, were renting the excess pasturage, then this might result in an overestimate of the number of expected losers and the value of their losses. Unfortunately, there is no way to infer rental patterns from the census data. Thus, the results

reported in Tables 3.3 and 3.4 are based on the individual level data as reported in the census and I maintain the somewhat unrealistic assumption that the excess pasture is wasted.

What is immediately apparent from the results in Tables 3.3 and 3.4 is that the stock law would have been most profitable for those farmers already pasturing their animals before the hypothetical institutional change. Landowners in Carroll who expected a net gain used eight acres of pasture, while their losing counterparts had, on average, only one-tenth of an acre in pasture. A similar observation holds for Carroll's tenants. Tenants who would have profitted from the stock law received from their landlords about one and a half acres of pasture, while their counterparts expecting a loss were allocated virtually no pasture space. If farmers were already enclosing their animals in pastures, then they were receiving no benefits from the open range. In fact, the fence law imposed a cost on these farmers by forcing them to fence in the tilled areas of their farms. If these farmers were legally permitted to take down their fences, they would have realized a savings in the form of expanded acreage and diminished annual fence repairs.

Even if a farmer had no pasture, he still might have been able to benefit from a closing of the range. If he were cultivating a piece of land and had very few animals, then it is quite plausible that the savings the farmer would have received from expanding his acreage and lowering his fencing costs would have exceeded the costs of building a pasture for his few animals and feeding them homegrown or purchased grain. This point is made in the comparison of livestock holdings between expected winners and losers. Expected beneficiaries (comparing landowners and tenants separately) always have fewer animals, on average, than expected losers. Thus, there seem to be two important forces that determined a farmer's monetary interest in the closed range — whether he was already pasturing his livestock and the size of his herd.

Some historians of the fence debate in the postbellum South argue that coalitions split along very well–defined lines. Laborers and tenants of both races, along with "very small farmers, the poorer end of the landowning class," formed a coalition against reform, while richer white landowners pushed for fence reform.[51] Or, as Steven Hahn puts it, "the mass of Upcountry yeomen, tenants, and laborers" fought against "landlords, merchants, and business interests throughout the state."[52] However, if the data in Tables 3.3 and 3.4 offer some indication as to how individuals sided in the conflict, these historians' claims are somewhat clouded. On the surface, it seems likely that small, relatively poor landowners who relied on the open range to feed their animals would have been solidly against any redefinition of property rights to the unenclosed land around them. Conversely, wealthier landowners who could afford to provide pasturage for their animals and who expected to profit from enclosure were probably the champions of reform. However, as argued above, farm size alone did not determine how a farmer would fare if the laws governing unfenced land were changed. No doubt some small farmers had very few animals and stood to gain from enclosing livestock, while some very large landowners had little or no pasture lands along with a large herd size. It is interesting to note that of Carroll's 438 landowners (hypothetically) expecting a net gain from the closed range policy, 253 had less than 45 tilled acres, 178 of the 438 had less than 35 acres, and 82 had less than 25 acres. Similarly, of the 378 winning landowners in Jackson, 139 had less than 45 acres in production, 87 of 378 had less than 35 acres, and 40 had less than 25 acres. Moreover, there were many relatively large farms that stood to lose if the closed range were imposed. Of the 983 losing landowners in Carroll, 190 had over 60 acres under till, 136 had more than 70 acres, and 35 had more than 100 acres. Of the 751 landowners in Jackson predicted to lose, 86 had more than 100 acres in production. Thus, contrary to Hahn's claims, it is not clear that "very small farmers" or yeomen and relatively wealthy

landowners (in terms of farm size) would have split so easily against or in favor of fence reform. The forces that determined a farmer's financial interest in the matter, as shown above, are more complicated than a simple "haves" versus "have nots" model would suggest.

Given the profitability estimates presented in Tables 3.3 and 3.4, tenants as a class cannot be so easily placed in the fence law camp. Certainly there was a quality distribution of tenants, the better ones presumably receiving a higher renumeration for their services. Not only was the "good" tenant rewarded because he was more productive, but also because it was in the landowner's interest to retain a high quality tenant who gave more careful attention to the owner's land and livestock. In other words, good tenants may have been able to collect rents because of their scarce, and highly desirable, position among landless laborers. One way to compensate high quality tenants may have been to provide them with pasture on the landowner's farm. Pasture, of course, meant that the tenant did not have to turn his animals out into the forest to nourish themselves. Enclosing animals not only saved valuable time that could be spent on the farm, but it also corresponded to higher quality meat and dairy products because the animals' food intake could be controlled. According to the manuscript agricultural schedules, 40 tenants were able to secure pasture land in Carroll and 46 were able to do the same in Jackson. Although these tenants had pasture, they still had the option to let some of their animals roam the countryside. According to contemporary evidence (see section 5, Appendix A) and the data in Tables 3.3 and 3.4, these tenants were given enough pasture to enclose all of their livestock.

From the tenant's point of view, pasture was an item that the landowner and tenant had to negotiate. In the rental contract between James Willbanks and C.M. Wood, a landlord from Harmony Grove, Jackson County, for example, the subject of pasturage was made quite explicit. Not only was Willbanks "to take care of said farm as it was his own," but it was

stated also that "there is to be noe pastureing on the land of said place that are in cultivation."[sic][53] If the rental contract forbade pasturing on cultivated acreage, and provided no formal pasture or unimproved land for animals to forage[54], a tenant then had three options: he could keep no animals, as 6.1 percent of Carroll and Jackson tenants decided; he could pen his animals and feed them purchased grain or fodder grown on his small farm or, similarly, he could rent a plot of pasture; or he could send his livestock out into the forest to find food for themselves. Presumably, most poor tenants chose the latter alternative, but would they all have been hurt by the stock law? As the results underlying Tables 3.3 and 3.4 indicate, there were very many tenants who would have benefitted from the stock law, even though they had no pasture. Because so many tenants had so few animals to begin with, the benefits associated with expanding acreage and eliminating large-scale fence maintenance would have exceeded the costs of enclosing and feeding them. In total, about 47 percent of the tenants in Carroll and 30 percent in Jackson stood to gain from fencing animals in, instead of fencing them out.

For those tenants expecting a loss from the stock law, the financial injury would have been somewhat tempered by the competitive market for labor.[55] We can think of the tenant's wage as being composed of two parts. There was an explicit contract with the landlord that determined how much land the tenant could use, how much of the crop he could keep, or, how much rent he would have to pay (depending on the type of contract), and, for example, how much pasture he was permitted. The tenant's total real wage also included an implicit value attached to the option of letting his animals run the countryside. If the latter component were eliminated, then the tenant's real wage would clearly decrease. But the tenant could always move to a county where the open range was still in force. Therefore, if the county that decided to close its range was "small" relative to the surrounding area that retained the open range and tenants could move costlessly, then landowners who wished to adopt the stock law

would have to compensate their tenants fully for the losses associated with inaccesibility to the open range.[56] This scenario is one in which the supply of labor is completely elastic. If there were some elasticity in supply, however, losing tenants would not have been completely compensated and they still would have expected a net loss from the institutional change.

Since there were some costs of moving, it is unlikely that losing tenants would have been compensated enough to make them completely indifferent between the two institutions. But the power of the competitive market was certainly discussed in the contemporary debate. Jackson County's "Progress," for example, contended that the stock law would make both landowners

and their tenants better off. "The income of tenants and wages of hirelings will be regulated by the profits of the land owners . . . . Renters now demand houses for their families, and why not demand, under the new law, pasturage for their stock with the same propriety? This they will do and receive it at far less cost to the owner than is required to repair fences." Similarly, the *Jefferson Forest News* editorialized:

> It is currently reported that the great majority of the colored people in this county
> are opposed to it [stock law] upon the idea that most of them are tenants, and that
> if the stock law is passed they cannot keep any stock on their own account....It is
> pure fallacy to say that the laborer or tenant, or, as the demagogues have it, the
> poor man, will suffer by it. The man who will have the burden to bear will be the
> man who owns the land. He will be compelled to furnish pasturage for his tenants
> or not get them, and it is impossible for him to do without help.

Richard Baldwin, a black Morgan County resident, speaking in Monroe, Walton County, admitted that he had been opposed to the stock law at first, but upon seeing how the stock law operated in his home county, soon changed his mind and averred that all other blacks had also. Baldwin affirmed that "I know of no man in Morgan county who charges his tenants for pastures. If there was such a man the darkeys wouldn't live with him to save his life." "Tenant" had the same faith in the stock law, believing it to be in " . . . the interest of the tenant fully as

much or more than the land–holder, from the fact that whoever furnishes the best pastures will certainly get the best tenants, as it is all bosh about the land–holder being more independent than the tenant, for what is his land worth to him without labor?" In Rockdale County, which was one of the first to pass the stock law, the editor of the county newspaper observed that "landlords see who can arrange the best pastures to secure the best tenants."[57] Thus, not only do the expected benefit estimates mar Hahn's suggestion that tenants were unanimously in favor of the status quo, so do the predictions of economic theory and the statements of contemporaries about the competitive market.

Arguing that wage laborers, as a group, whole–heartedly supported the fence law may also be uncertain. There is a trace (quite literally) of evidence from the manuscript agricultural schedules that wage laborers kept animals, although they had no land for them.[58] Having taken advantage of the open range situation, these laborers would certainly experience a decrease in income if a stock law were imposed. Specifically, they would either have to rent the necessary pasture and purchase feed or sell the animals. Alternatively, there were laborers who had no animals and, thus, were probably indifferent between the two laws, at least in the short run. If these individuals expected to own a cow or pig one day, then their interests would lean toward the status quo. However, the competitive market for wage laborers would have offered some compensation for those who expected a decrease in income from the stock law. Because the data on livestock holding for laborers is very incomplete, it is difficult to predict accurately how they should have fared under a closed range situation. For the 524 farm laborers in Carroll and the 1499 in Jackson, a theoretical prediction as to how they sided on the fence question would be tenuous. In the empirical analysis of the voting returns presented in the next section, I will be able to determine more precisely how this pivotal coalition aligned.

There is one final coalition of likely beneficiaries of the new institution that must be considered, townspeople. Keeping small gardens and very few animals, town residents had an incentive to keep animals, usually swine, from roaming through their relatively densely populated hamlets. The General Assembly, in fact, gave many incorporating towns' mayors and aldermen the right to pass local ordinances forbidding animals from running at large.[59] The town of Carrollton, the county seat of Carroll, passed its own local ordinance in March, 1886, making it unlawful for animals allowed "willfully and negligently" to run at large within the corporate limits of the town.[60] As town populations grew with increased industrial activity in the postbellum era, the costs of maintaining the open range (health costs, for example) grew rapidly, creating an incentive to rectify the problem through legislation. The town coalition, however, was quite small, amounting to only 381 (household heads) in Carroll and 206 in Jackson. For the most part, it seems reasonable to hypothesize that the small coalition of town voters would have advocated fence reform, along with landowners and tenants who expected to profit from enclosing livestock.

A glance at the data in Tables 3.3 and 3.4 suggests that the coalition of beneficiaries — landowners, tenants, and townspeople — was clearly outnumbered by the losing coalition of landowners and tenants. In Carroll, for example, the expected beneficiaries numbered 1250, including 438 landowners, 431 tenants, and 381 townspeople. The expected losers numbered 983 landowners and 479 tenants. In Jackson there were 688 total expected beneficiaries, including 378 landowners, 104 tenants, and 206 townspeople. These 688 net winners were clearly outnumbered by 751 landowners and 240 tenants who expected to lose if the new institution had been imposed. It is doubtful that laborers in either county would have voted for the stock law with such intensity so as to produce a victory. In fact, each time Carroll and Jackson voters went to the polls, stock law supporters were never able to garner more

than 27 to 38 percent of the total votes cast.[61] The median voter was clearly in favor of the

status quo. The only chance that the minority coalition had was to bribe, or compensate, those

individuals who expected a utility loss from the proposed law. In theory, bribing might have

offered a solution to the problem. Realistically though, negotiating for the votes of approxi-

mately 1,000 people was probably close to impossible.

The nature of the relationship between relatively wealthy landowners and their tenants

and wage laborers could have made transfer payments flow easily. Because landowners and

laborers were periodically bargaining with one another to determine the rent or wage, a con-

tingency clause could have been included in the contract, providing the tenant or laborer with

the appropriately sized sidepayment to compensate for any expected loss. There are three

basic problems with arguing that this type of negotiated settlement would emerge. First, the

bargaining was likely to become very expensive. The time needed for both laborer and lan-

downer to determine the appropriate amount of compensation and then to agree on it could

easily outweigh any of the benefits associated with the institutional change. Second, there is

the issue of whether or not this type of contractual agreement was credible. Many laborers, no

doubt, would have questioned the sincerity of their employer's willingness to pay for their

votes after the election was already won. Finally, the problem that would have caused the

most damage to a settlement was free riding. Assume that all members of the bribing coali-

tion agreed that each one would "purchase" the votes of his own laborers. Without a mechan-

ism to enforce this pact, each member had an incentive to free ride, enjoying the full benefits

of the institutional change without paying his share of the cost. Given that there was no

mechanism to keep landowners from defecting, it is not surprising that many counties that

could have profited from the stock law, failed to achieve the change. As long as the median

voter was against change and sidepayments could not be effected, the status quo, no matter

how socially inefficient, would persevere.

There were two obvious solutions to this problem — either voters who had the most to lose by the institutional change could be disfranchised, thereby shifting the median voter toward being a net winner, or a formal mechanism could be created that would eliminate free riding and put the force of law behind the flow of sidepayments. Stock law supporters were able to identify those voters who, in their opinion, blocked the institutional change. "The non land owning class have no right to vote on this subject [fence question]," argued one Carroll County reformer. Another asserted that "there should be a property qualification to every vote cast — own so much property to be allowed to vote . . . . It does seem sensible, dont you think, to allow the landholders to say whether they shall fence their lands or not."[62] According to this plan, landless tenants and laborers, who comprised a large majority of the opposition, could be excluded from voting. Thomas P. Janes, the Georgia Commissioner of Agriculture, in his 1875 annual report made clear his position on the fence question:

> Even the present Act, which leaves the question of "fencing stock" or "fencing crops" to the *voters* of the several counties is unjust, since it allows non–freeholders, who generally consist a majority of the voters of every county, to decide a question of policy and economy in which they have no interest. The most equitable way of disposing of the question which, under the present labor system, is a vital one, is by legislative enactment leaving its decision to the *freeholders* of each county.[63]

Surely, non–freeholders had an "interest" in the matter. It was just the wrong one, from the reformers' perspective. Fence supporters blasted the call for disfranchisement, saying that "such sentiments as these are tyranical and we are opposed to them from the fact that we live in an independent government by the people."[64] And the legislature agreed, no special restrictions were ever enacted that eliminated the franchise of specific coalitions of stock law opponents or supporters.[65]

If disfranchisement was not an option, it was possible to manipulate the rules that governed choice in an attempt to create an advantage for the reform movement. In 1881 the Georgia General Assembly dramatically changed the rules of fence elections. Whereas the 1872 act only allowed county voters to decide on the issue once biennially, an 1881 amendment completely removed this restriction. Now, the ordinary, after the petition sequence, could call for an election at any time, instead of requiring it to be held on the first Monday in July.[66] Henceforth, that official could set the election date, for instance, during harvest time, when most small farmers, tenants, and laborers were busy with their work. In addition, a county could now hold elections again and again, inevitably dampening turnout, which reduced the number of votes that stock law advocates had to win. This advantage only lasted for two years though, when in 1883 the legislature restricted a county's vote to once per year, the first Wednesday in July.[67]

The most significant legislative change in 1881 permitted referenda on the fence issue at the sub–county militia district level. Similar in spirit to the 1872 act, the militia district law required fifteen freeholders or a majority of the freeholders to file a petition calling for a district election with the county ordinary. After advertising it in a local newspaper for 20 days, the ordinary was required to hold an election as early as possible, although no more than one election could be held in a district every twelve months. There was no counter–petition option provided in this act.[68] The wording of the ballots also was changed for the district elections. Instead of voting for "no fence" (stock law) or "fence" (status quo) as it was in a countywide referendum, the district election required the ballots to read either "stock law" or "for fence." Although this may appear to be a subtle nuance, its significance will be discussed later. Once a district passed the stock law, it would go into effect six months after the election, and it was the district's responsibility to erect "good and substantial" fences around its

circumference in order to prevent strays from other places from entering into the closed range area.[69] This requirement, at the time, made the cost of adopting the stock law quite high, but it was struck down by the Georgia Supreme Court in 1885. The Court said later in an 1888 case that "The erection of a fence is simply a means for the better carrying out of the law, and not a necessary condition to its going into effect." [70]

The most remarkable feature of the 1881 legislation was that it required the owners or proprietors of land in militia districts that adopted the stock law to provide pasturage for at least one cow and calf for the family of each tenant. This provision came into force if the tenant did his proportionate share of the fencing of the pasture. Indeed, this pasture require-ment, which did not pertain to countywide elections, acted as a contingency contract, promis-ing to compensate, at least partially, tenants for their losses after the stock law was adopted. According to contemporary estimates (see Appendix A, section 5), one acre would have been sufficient to pasture a cow and a calf. Given this assumption, the profitability estimates can be recomputed to see if any significant changes would have occured. If a tenant already had pas-ture before the institutional change, his estimate would remain the same. However, for tenants who reported no pasture in the 1880 census, I added one acre of pasture to their data and reran the calculation, leaving everything else constant. The results are rather significant. For Carroll County, whereas 47.4 percent of the tenants expected a non–negative net benefit from the stock law even though there was no the pasture allowance, 80.0 percent would have benefitted if the landowner was required to provide an acre of pasture. In Jackson County, the results show the same steep trend, rising from 30.2 percent if no pasture was provided to 71.4 percent with a pasture allotment.[71]

The 1881 law allowing district referenda on the fence problem, in effect, made the bargaining between landowners and tenants almost trivial. The pasture sidepayment to

tenants that was required by law would have made the law profitable for an additional 32 percent of the tenants in Carroll and an additional 41 percent in Jackson. Since the law required all landowners hiring tenants to make the transfer payment, free riding off of the bribes of others was impossible. Not only was the possibility of defecting from the cooperative solution eliminated, but the 1881 law also made the compensation scheme a reality.

The 1872 law, along with the 1881 amendments, vastly reduced the power of holdouts against the stock law. Before 1872, a single owner of animals could force every farmer to erect fences to keep his animals out. After 1872, it took a majority in a county. After 1881, a majority in a militia district, a much smaller unit, could, in effect, compel neighboring farmers, as well as fence law supporters within the district, to enclose their stock. At the county level and then the district level, fence law advocates had to win every time; whereas, stock law men had to carry only a single contest. In 1896 the Georgia Supreme Court ruled that once passed, the stock law was irrevocable. "[T]he plain meaning of all the legislative declarations upon the subject," the Court declared, "is, that 'no fence' or the 'stock law,' when once established, shall be permanent and not thereafter subject to change."[72] The legislature's actions, consistently buttressed by favorable judicial rulings, had biased the rules in favor of reform.

An Empirical Look

The hypothesis advanced in the previous section is that Georgia counties that expected a positive benefit from the stock law were unable to adopt it because the rules governing choice made the cooperative solution, which depended on transfer payments, virtually impossible to achieve. In other words, there was no mechanism to reduce the transactions costs associated with voluntarily bargaining to adopt the more efficient institution. In most cases, the 1872 law did not produce the results that policy makers had probably hoped for —

that is, the implementation of the closed range where it would be most profitable. However, the 1881 legislation allowing for militia district referenda changed the rules of the game, creating an opportunity for a landowner/tenant/town coalition to adopt the new institution. This section tests empirically whether the legislature's manipulation of the voting mechanism influenced the outcome.

After three frustrating defeats at the countywide level in Carroll and two in Jackson, stock law supporters began to concentrate their attention on adopting the law at the militia district level. By July 1887, eight of the fifteen districts in Carroll had adopted the stock law in district referenda. In four of these eight districts, however, the fence law had originally been declared the victor, but after being contested on the ground of ballot fraud, the county ordinary overturned the results and declared the districts stock law areas. The precise wording of the law, no doubt, created confusion among voters as the county election ballots were required to read either "fence" or "no fence," the latter meaning the stock law. However, as stated previously, the district election ballots had to be either "for fence" or for the "stock law." The election in Carroll's Bowdon district was particularly "muddled" as the precinct managers certified the result in favor of the fence law 102 to 73. However, the actual vote cast was 73 for "stock law," 68 "for fence," 30 for "fence," 2 for "a fence," and 2 for "the fence." The county ordinary, after hearing arguments from both sides, threw out the 34 votes not cast "for fence," thus leaving a majority of 73 to 68 for the "stock law."[73] And in the remaining four districts that adopted the stock law through legal balloting, the law won with very slight majorities. Therefore, by taking advantage of legal ambiguities and by concentrating their attention on the much smaller districts, stock law supporters were able to close the open range of Carroll and Jackson Counties little by little.

As individual districts forced the enclosure of their own animals, they increased the cost to neighboring communities of maintaining the open range. When a district passed the stock law, it meant that neither indigenous nor foreign animals were permitted to roam freely within its borders. Therefore, another coalition of supporters emerged as neighboring areas opted for the institutional change. A person living in an open range district, but next to a stock law district or county was doubly burdened by the fence law in his own community. Not only did the "liner," as they called themselves, have to fence in his own farm from neighbors' roving animals, but he also had to enclose his own livestock so that they would not stray into an adjacent stock law area. I.H.P. Beck, a stock law supporter, understood the consequences of keeping the fence law in the midst of reform: "If Bowdon district gets the stock law, what are we poor fellows in Shiloh to do, situated as we will be between two districts that have adopted it. I reckon we will have to 'huddle up' in the middle of the district." In fact, as the date of Shiloh's district election approached, Beck conjectured: "It seems to me that if liners would vote for their interest success would be inevitable."[74] Voters in Shiloh rejected the arguments and maintained the status quo, 47 to 27.[75]

While voter confusion and "cross–over" effects may explain some of the transition to the stock law, to what extent did the pasture requirement of the 1881 law offer sufficient compensation to convert would–be losers into stock law voters? To answer this question, I will analyze the aggregate voting behavior of individual districts within Carroll and Jackson Counties. From 1881 to 1890, Carroll County held five countywide fence elections — in January, 1882; September, 1882; July, 1885; July, 1887; and July, 1890. Jackson County held two countywide elections, one in July, 1881, and another in September, 1883. In addition, many of the militia districts held local–option elections, which were sporadically and incompletely reported in the newspapers. I was, however, able to collect the election returns from fourteen

of these district elections. As mentioned above, the county ordinary overturned the results of many district elections. Therefore, in the data analysis, I use the figures that were reported by the precinct managers and not the results that emerged from litigation. The vote reported out of the district represents the "true" sentiment of the voters; by using the final result determined by the ordinary, I would be misrepresenting the actual intention of the voters.

Two sets of hypotheses will be tested: (1) In countywide elections, various coalitions voted for the option (stock law or status quo) that promised to maximize their net returns. In other words, did landowners and tenants who, if my assumptions are accurate, would have expected a non–negative profit from the stock law actually translate this belief into votes for the new institution? Alternatively, did those farmers who anticipated a loss, support the open range with vigor? Did town dwellers vote for the closed range as might be predicted? Finally, which alternative did wage laborers support? (2) The second hypothesis is that the 1881 rule changes governing district elections offered enough incentive to "buy" the votes of tenants who previously had no pasture and would have, under the pre–1881 structure, expected a net loss from the closed range policy.

The dependent variable in the empirical analysis is voting behavior. Exactly how this will be operationalized is discussed below. The independent variables for the test are the percentages of the population (of household heads) that fall into one of seven coalitions – winning landowners (WL), losing landowners (LL), winning tenants (WT), losing tenants (LT), townspeople (TOWN), rural laborers (LABOR), and other workers (OTH) not living in towns or working in agriculture (e.g., blacksmiths or artisans). With my 100 percent matched sample of the population and agricultural schedules of Carroll and Jackson, I am able to determine precisely the values of the independent variables for each district in the two counties. The final independent variable used is the percentage of the eligible electorate not voting

(ABSTAIN). When an individual district adopted the stock law, this did not prohibit it from voting in forthcoming countywide elections. As Kousser and I show in "Common Sense or Commonwealth," once a district adopted the stock law, its voters subsequently abstained in great numbers.[76] Therefore, in the regressions that follow, ABSTAIN is included as an independent variable so as to hold turnout constant.

A minimum logit chi–squared model is used for the econometric estimation of voting behavior. The derivation of the model is detailed in Appendix C. The basic equation being estimated, however, is:

$$\log\left[\frac{P_{STK(it)}}{1 - P_{STK}(it)}\right] = \alpha + \beta X_{it} + \varepsilon_{it},$$

where $P_{STK(it)}$ is the percentage of the ballots cast for the stock law in district i at election time t, X_{it} is the matrix of independent variables, and ε_{it} is a randomly distributed error term. Since, by construction, the error term is heteroskedastic, the estimation must include a correction for this problem. The correction is done by multiplying both sides of the above equation by the square root of N, the number of eligible voters.

The first goal is to determine how the various coalitions voted during the countywide elections. The results reported in column (1) of Table 3.5 are based on a cross–section time–series regression of all districts in the two counties for all seven countywide elections that took place. The numbers in column (1) show how a change of one standard deviation from the mean of the particular variable (holding all else constant) affected the probability of voting for the stock law. The data for this estimation includes only the countywide elections and none of the local–option district elections. Note that the estimated probability of voting for the stock law when all variables are set at their means is 0.248.

The hypothesis that voters clashed according to material self–interest is very much

supported by the data. As the results in column (1) indicate, an increase (by one standard deviation) in the percentage of landowners who expected a loss from the stock law meant that the stock law would lose four percentage points. The proposed law's support was bolstered by 6.4 points when there were relatively more tenants who expected a net gain and by 8.7 percent when there was a higher proportion of the voters living in towns. These three results are statistically significant at conventional levels ($\leq 5\%$ level). Unfortunately, the coefficients for landowning winners and tenant losers were not significantly different from zero in the regression. Moreover, the data confirm that laborers were solidly against the stock law in countywide referenda. Increasing the share of laborers in a district by one standard deviation decreased the stock law's vote by 11 percentage points. Finally, higher voter abstention corresponded to greater relative support for the institutional change. As mentioned above, once districts adopted the stock law, voters began to abstain in large numbers. When the closed range was voted in, the decision was final, and there really was no reason to vote in a countywide election. Kousser and I show that instead of imposing their views on districts that retained the open range, fence law and stock law partisans followed a strategy of "allegiance to local control." That is, they decided to leave the fence question to those who had a direct interest in the matter. The regression results show that this decreased political activity was stronger among fence law partisans. An increase in the percent of the electorate abstaining corresponded to a significant increase (4.8) in the percent voting for the stock law. Thus, the data refute the historians' hypothesis that poor landowners, tenants, and laborers were uniformly against the stock law policy. Instead, as the profitability estimates predicted and as the voting analysis now confirms, there was a group of tenants who united with their landowners and their town neighbors in an attempt to capture the efficiency gains associated with a closed range.

The next objective is to determine how the changing rules that governed choice affected voting behavior. If the theory presented in the previous section is accurate, then many tenants expecting a loss should have voted for the stock law in district elections, as they would have received about an acre of pasture if the law were passed. In order to capture the effects of the rule change, I pool the countywide and districtwide voting returns. Because not all districts held elections and because some districts' elections returns were not recorded in the county newspapers, the number of observations in the analysis drops substantially. Since the goal is to distinguish the voting behavior of specific coalitions under both voting regimes, the only way to obtain unbiased estimates of the behavioral change is to analyze districts for which countywide and districtwide election data exist. Since only thirteen of 29 districts in Carroll and Jackson are represented in the study, it is very difficult to say confidently that the results offer a general picture of the voting behavior in every district of the two counties. Therefore, the results should be approached somewhat cautiously.

Since the 1881 law's pasture requirement was directed at tenants, and at laborers who were working their way toward becoming tenants, three new independent variables are created to test whether tenants (expected winners and loser) and laborers voted any differently in district referenda. The additional variables are interaction terms between each of the tenant coalitions and the laborer coalition and a dummy variable that takes the value of 1 if the observation is a district election (1881 rules), and 0 if it is a countywide election (1872 rules). The interaction variables are denoted "WT*DISTRICT," "LT*DISTRICT," and "LABOR*DISTRICT" in Table 3.5.

Column (2) in Table 3.5 reports the results of including the interaction terms in the estimation. The increased support for the stock law at the district level is difficult to pin down precisely. Surprisingly, winning tenants decreased their support for the closed range policy in

district elections, lowering the stock law's probability of success by 0.032 (relative to a countywide election). This result is not statistically significant at conventional levels, however. According to the computations in column (2), the coalition of losing tenants dramatically increased the probability of adopting the stock law in a district election by 13.1 percentage points (again, relative to a countywide election). Note, however, that because of the relatively small number of districts involved, this estimate is not significant at conventional levels. What is statistically significant is the increase in support by laborers voting in district elections. They boosted the stock law's share of the ballots an additional 12.4 percentage points over the countywide probability. One explanation for this result might be that many laborers anticipated a relatively quick move into tenancy, where they would be guaranteed pasture by law. An alternative hypothesis might be that the laborers' strong support was the result of vigorous canvassing by stock law supporters. Since the district election involved many fewer people and a smaller geographic region, it is possible that the transaction costs associated with bribing laborers were reduced enough to enable stock law supporters to create a winning coalition that included labor acquiescence (compensated, of course).

It is clear that with the changed election rules, stock law supporters were able to enhance the size of their coalition just enough to carry the fence election at the district level. The estimation predicts that the stock law could garner 53.2 percent of the ballots cast in district elections. In a democracy, 50 percent is a treshhold — the 1881 district option law was truly successful in building a minimum winning coalition.

Illuminating the Black Box

Throughout the mid–1880s, Carroll County slowly adopted the stock law district by district and by 1891 practically the whole county was under the closed range policy. Figure 3.2 plots the sequence of adoption as a function of the expected net savings in each district. A

regression line fitted through the data reveals the strong correlation between the net benefits that the institutional change promised to generate and the sequence of implementation. In general, this pattern provides evidence for the theory that institutional change comes about as the discounted stream of expected net benefits exceeds zero. But is positive profitability a necessary and sufficient condition for change to take place?

Net profitability of a proposed institutional change is hardly a sufficient condition for the transformation to occur. Before the Georgia General Assembly began to legislate on the fence question, transaction costs made a voluntary, large–scale closing of the range virtually impossible. A voluntary solution required the unanimous consent of all animal owners to enclose their livestock, and a single person could hold up reform. Under the 1872 law allowing majority rule at the county level, however, it took more than half of the eligible voters in a county to maintain the status quo. With the median voter against reform, sidepayments, or bribes, had to be paid to compensate losers (at least a coalition of them) for their expected losses in utility if access to the open range were cut off. But again, transaction costs associated with overcoming free riding among the beneficiaries and the actual process of paying bribes most likely made the 1872 law ineffective. Finally, the legislature redesigned the rules of fence elections in 1881. The 1881 pasture requirement apparently was designed to compensate at least some of the expected losers. More importantly, the law forced all landlords to pay the bribe — free riding was no longer a feasible strategy.

The 1881 law did more than to provide a mechanism to overcome the compensation and free rider problems; it created an opportunity for fence reformers to use chicanery in their attempt to close the range. In five instances the Carroll County ordinary threw out invalid votes for the fence law, leaving a majority for the new institution. The five districts that had originally voted to keep the open range, but later had their votes overturned, are represented

by darkened circles in Figure 3.2. Note that three of the five expected net social losses if the stock law were imposed. Net benefits, therefore, need not be a necessary condition for institutional change to take place. The mechanism that governs choice can be manipulated in such a way that allows a subset of the population to profit at the expense of society as a whole.

In Jackson County five of thirteen districts and two townships were able to adopt the law in the mid 1880s, but the vast majority of the county maintained the status quo. Recall that Jackson would have benefited greatly from the stock law. Therefore, it should not be surprising that Jackson, along with many other counties in the same situation, experienced a third rule change — in 1889, by special legislative act, the General Assembly declared that Jackson County's range was closed.[77] It is particularly surprising that most Jackson districts, where the stock law would have generated large net benefits, did not even hold a district referendum. One possible hypothesis to explain the less than enthusiastic support for fence reform is that the predominant share of voters in Jackson were agricultural laborers, amounting to 35 percent of the white voters and 86 percent of the black. Conceivably, landowners who had the most to gain from fence reform did not push for a closing of the range, fearing that laborers would migrate to neighboring counties that kept the open range. Economic theory predicts that the competitive market for labor would have compensated laborers to the point where the income of staying with the new institution, plus the compensation, was equal to the utility of living in an open range area, less the cost of moving there. If moving costs were just about zero, then laborers could have expected their wages to increase enough to make them indifferent between staying or leaving. Whether laborers believed that they would actually get the wage compensation is certainly a debatable question. From the landowners' point of view, the probability of upsetting the equilibrium of the labor force in their district may have made the cost of adopting the stock law too great relative to the benefits it may have

brought. Therefore, the landowners' strategy to maintain the status quo, at least throughout the 1880s, may have been a calculated attempt to keep a steady labor force in Jackson County.

While Carroll and Jackson Counties expected to gain much from the stock law, their relative delay in adopting the law illustrates the arduous, dynamic process of institutional change. The potential for efficiency gains did not guarantee the replacement of an old by a new institutional arrangement. It seems ironic that the proponents of the "new institutional economics" have largely ignored the particular rules that are so crucial to the outcome in any specific case. Too often the process of change is relegated to a "black box" description which ignores the complex interaction between rules and economic outcomes. Future work on institutional change must ask: "What are the consequences of a particular set of decision rules? [And] how [do] those decision rules change over time and produce alterations in the property rights structure?"[78] In particular, when transaction costs and distributional conflicts hinder the adoption of a relatively profitable institutional arrangement, what type of mechanisms are likely to emerge in order to resolve the impasse? More attention needs to be paid to the precise arrangements that govern choice, for they will play a determining role in whether inefficient institutions persist or whether they are replaced by more efficient institutional arrangements.

150

FOOTNOTES

1. Harold Demsetz, "Toward a Theory of Property Rights," *American Economic Review*, 57 (May 1967), p. 350. For similar arguments see Lance E. Davis and Douglass C. North, *Institutional Change and American Economic Growth* (Cambridge, Eng.: Cambridge University Press, 1971); Douglass C. North and Robert Paul Thomas, *The Rise of the Western World: A New Economic History* (Cambridge, Eng.: Cambridge University Press, 1973); Terry L. Anderson and P.J. Hill, "The Evolution of Property Rights: A Study of the American West," *Journal of Law and Economics*, 18 (April 1975), pp. 163–179; and John R. Umbeck, *A Theory of Property Rights: With Application to the California Gold Rush* (Ames, IA: The Iowa State University Press, 1981).

2. Ronald Coase, "The Problem of Social Cost," *Journal of Law and Economics*, 3 (October 1960), pp. 1–44.

3. Douglass C. North, *Structure and Change in Economic History* (New York: Norton, 1981), p. 7 and pp. 42–43.

4. Several recent papers have dealt with the problem that imperfect information plays in the attainment of an efficient cooperative solution. George J. Mailath and Andrew Postlewaite, "Asymmetric Information Bargaining Problems with Many Agents," mimeo, University of Pennsylvania, June 1988, study a situation in which all members of a society must agree to the building of a public good. Furthermore, they assume that each individual has private information about his valuation of the proposed public good. Even if the project would generate net positive benefits, Mailath and Postlewaite show that as the group of decision makers approaches infinity, it is

impossible to devise a mechanism that will induce everyone to reveal their true

preferences. Therefore, the probability that a socially beneficial action will be taken

goes to zero under these seemingly innocent informational constraints. Raphael

Robb, "Pollution Claim Settlements Under Private Information," *Journal of Economic*

Theory, 47 (April 1989), pp. 307–333, suggests a framework in which a

pollution–generating firm and many potential victims have to decide whether or not to

build the factory. Since residents are injured by the pollution, both parties (victims

and firm) must bargain (in a Coasean sense) to an outcome. Robb shows that when

individuals have private information regarding their expected damage, inefficient out-

comes will likely emerge as equilibria. In fact, the inefficiencies can be quite substan-

tial when the number of bargainers is large. It could reach a point where a relatively

profitable factory, for example, would not be constructed because the firm believed

that its profits would be negative (reported damages exceed expected profits).

Vincent C. Crawford, "A Theory of Disagreement in Bargaining," *Econometrica*, 50

(May 1982), pp. 607–37, shows that voluntary movements away from a status quo

point can break down as one party in a bargaining situation precommits to carry out a

threat (such as to break off negotiations). Although the threat seems to be a good stra-

tegy for the bargainer (the strategy may be ex ante efficient), the broken negotiations

may prevent the adoption of relatively profitable institutions (the strategy in this case

is ex post inefficient).

5.   See, for example, George J. Stigler, "The Theory of Economic Regulation," *Bell Jour-*

nal of Economics and Management Science, 2 (Spring 1971), pp. 3–21; Sam Peltz-

man, "Toward a More General Theory of Regulation," *Journal of Law and Econom-*

ics, 19 (August 1976), pp. 211–248; Gary Becker, "A Theory of Competition Among

Pressure Groups for Political Influence," *Quarterly Journal of Economics*, 98 (August 1983), pp. 371–400.

6.   For a discussion of Georgia's geography, see R.H. Loughridge, "Report on the Cotton Production of the State of Georgia, with a Description of the General Agricultural Features of the State," U.S. Census Office, Tenth Census, 1880, volume 6, pp. 260–450 and Roland M. Harper, "The Natural Resources of Georgia," *Bulletin of the University of Georgia*, 30 (February 1930), pp. 7–29.

7.   Breaking the state into these six geographic regions follows Robert Preston Brooks, "The Agrarian Revolution in Georgia 1865–1912," *Bulletin of the University of Wisconsin*, History Series 3 (1914), pp. 393–524 and, later, Steven Hahn, *The Roots of Southern Populism: Yeoman Farmers and the Transformation of the Georgia Upcountry, 1850–1890* (New York: Oxford University Press, 1983), p. 7.

8.   Oliver Wendell Holmes, *The Common Law* (Cambridge, MA: Belknap Press, 1963), p. 22 and John H. Ingham, *The Law of Animals: A Treatise on Property in Animals Wild and Domestic and the Rights and Responsibilities Arising Therefrom* (Philadelphia: T. & J.W. Johnson & Co., 1900), p. 258.

9.   Holmes, *Common Law*, p. 22, note 64 and Ingham, *Law of Animals*, pp. 301–309.

10.   For a discussion of the development of the "fence law," or open range, policy in America see Washburn and Moen Manufacturing Co., *The Fence Question in the Southern States as Related to General Husbandry and Sheep Raising, with the History of Fence Customs, and Laws Pertaining Thereto: And a View of the New Farm System of the South, as Shown in the Census of 1880*, (Worcester, MA: Snow, Woodman & Co., 1881), 10–14. For a discussion of New England, in particular, see William Cronon, *Changes in the Land: Indians, Colonists, and the Ecology of New England* (New

York: Hill and Wang, 1983), chapter 7.

11.   Washburn and Moen, *Fence Question*, p. 44.

12.   *Ibid.*, p. 11. Italics in original.

13.   Hahn, *Roots*, pp. 60–61. The Georgia General Assembly, in the early nineteenth century, did reduce the legal height of fences by a foot, however.

14.   *Hamilton* v. *Howard*, 68 GA Reports 288 (1881).

15.   *Tumlin* v. *Parrott*, 82 GA Reports 732 (1889).

16.   Horace Greeley, *What I Know of Farming: A Series of Brief and Plain Expositions of Practical Agriculture as an Art Based Upon Science* (New York: Tribune Association, 1871), p. 219.

17.   "Fructus" in *Southern Cultivator*, 35 (August 1877), p. 299.

18.   *Jefferson Forest News*, April 23, 1880.

19.   The debate between fence law and stock law advocates is quite interesting and covers the gamut of economic, political, religious, and social issues. Since the debate has been covered in depth in previous works, I will not dwell on it here. See Shawn E. Kantor and J. Morgan Kousser, "Common Sense or Commonwealth? The Fence Law and Institutional Change in the Postbellum South," Social Science Working Paper 703, California Institute of Technology, July, 1989; Steven Hahn, *Roots*, pp. 239–254; Charles L. Flynn, Jr., *White Land, Black Labor: Caste and Class in Late Nineteenth-Century Georgia* (Baton Rouge: Louisiana State University Press, 1983), pp. 130–145; James C. Bonner, *Georgia's Last Frontier: The Development of Carroll County* (Athens, GA: University of Georgia Press, 1971), pp. 139–143.

20. Demsetz, "Toward a Theory," p. 350. See also Demsetz, "Some Aspects of Property Rights," *Journal of Law and Economics*, 9 (October 1966), pp. 61–70.

21. Davis and North, *Institutional Change*, chapters 1–4.

22. *Jackson Herald*, July 20, 1883. Georgia farmers understood well the importance of healthy agricultural development. Petitioning the state legislature for the establishment of more experimental farms, the Georgia State Agricultural Society conceded that "other pursuits may have more brilliant rewards, and other industries may claim more flattering recognition, but this truth underlies all our hopes of material prosperity, that with a languishing agriculture all other business enterprise and investment must suffer." "Report of the Georgia State Agricultural Society to Establish More Experimental Farms in the State: 1884–5," Georgia Department of Archives and History, Record Group 37, Sub–group 8, Series 4, Box 1, pp. 1–2.

23. See, for example, *The Georgia Railroad Company and Banking Company v. Neely*, 56 GA Reports 540 (1876); *The Central Railroad v. Hamilton*, 71 GA Reports 461 (1883); *The Georgia Railroad Company and Banking Company v. Walker*, 87 GA Reports 204 (1891); *The Central Railroad v. Summerford*, 87 GA Reports 626 (1891).

24. The amount of "stock damage — paid for cattle, horses, mules, hogs, etc., killed and injured" was obtained from the "Report of the Chief Engineers, President and Superintendents of the South–Western Railroad Company, of Georgia," 1861, 1866, and 1869; "Reports of the Directors, &c. of the Georgia Railroad and Banking Company to the Stockholders in Convention," 1877; and "Reports of the President and Superintendent of the Atlanta and West–Point Railroad Company, to the Stockholders in Convention," 1880 and 1884. From each report I determined the amount of livestock killed per mile of track operated. Then I converted the figure to 1880 dollars using the

Warren and Pearson Wholesale Price Index, Series E–12, *Historical Statistics of the United States, Colonial Times to 1957.* The results, in tabular form, are:

Year	$/mile (1880 $)
1861	$29.55
1866	13.82
1869	11.79
1877	29.21
1880	23.76
1884	11.28

The average is $19.90 per track mile, the amount used in the text for computational purposes.

25.   The $1,000,000 figure is the discounted net present value of the stream of estimated payments that Georgia railroads would have made to livestock owners after 1879. For the calculation, I assume that the railroad track mileage remained constant after 1889. This biases the estimate downward. The discount rate used is seven percent, following Ransom and Sutch, *One Kind of Freedom: The Economic Consequences of Emancipation* (New York: Cambridge University Press, 1977), p. 208.

26.   See Hahn, *Roots*, pp. 145–52 and David F. Weiman, "The Economic Emancipation of the Non–Slaveholding Class: Upcountry Farmers in the Georgia Cotton Economy," *Journal of Economic History*, 45 (March 1985), pp. 71–93.

27.   Contemporaries believed that fences depreciated at an annual rate of ten percent. See *Jefferson Forest News*, April 23, 1880. Also, see the "Extract from a lecture by Donald J. Mitchell, before Connecticut Board of Agriculture," *Southern Cultivator*, 34 (December 1876), p. 465, for annual depreciation estimates of between 11.1 and 18.2 percent.

28. In a letter to the *Southern Cultivator*, 36 (January 1878), p. 7, a "Subscriber" maintained that the fence occupied a total distance of seven feet across. It should be noted that "Subscriber" was a pro–fence advocate. Washburn and Moen, *The Fence Question*, p. 16, whose ultimate goal was to advertise the benefits of using barbed wire, claimed that eight feet of land was wasted by the worm fence. Therefore, since I want to bias my results against finding a net benefit, I will assume the lower wastage estimate of seven feet.

29. If worm fences spanned seven feet and crops were grown in perfectly square plots of land, with sides of length x feet, then the percentage of productive land wasted can be expressed as a function $l(x) = \frac{(28x - 196)}{x^2}$. I use feet, instead of acres or hectares, for simplicity. Assuming square plots of land, it is easy to convert acres into the length x feet. Note that one acre of land is 43,560 square feet. Therefore, if given the acreage, a, of a piece of land, the length of the sides $x = \sqrt{43,560a}$ feet.

30. See "Consolidated Reports of Crops, &c., Circular No. 21," in *Publications of the Georgia State Department of Agriculture from September, 1874, To January, 1878* (Atlanta: J.P. Harrison & Company, 1878). It seems reasonable to assume that corn, peas, and fodder were all planted together.

31. Assuming that individuals did not take into account the costs that they imposed on others, then in the "common pool" setting, they equated only their own private marginal benefits to the private marginal costs of grazing animals on unfenced land. With no exclusive property rights to the use of such "common" land, each person had an incentive to increase his herd size to higher levels than he would have if he had to provide his animals with his own pasturage. In other words, the fence law created an

157

incentive for animal owners to ignore the full social cost of keeping animals and to create an aggregate herd size greater than the one that would have been theoretically optimal for society.

32.   1882 is chosen as the date for comparison because (1) It is a decade after the Georgia legislature enacted a law allowing for county option of the fence issue (see below) and (2) The period from 1880 to 1882 saw the relatively quick adoption of the stock law at the county level which gives me the opportunity to pick out the salient features of these early stock law counties.

33.   Several probit estimations were attempted in order to determine the distinguishing features of the 1882 stock law counties. The only variable that is significant is the percentage of improved acreage. Variables such as black population percentage, percent of the farms owner occupied, or population density are never significant at conventional levels (0.05).

34.   It should be noted that Carroll and Jackson Counties were not chosen because of their stature as relatively high expected beneficiaries from the stock law. In fact, and fortunately, this happened as a matter of luck. The decision to collect the microdata (discussed below) for the two upcountry counties was made before the profitability estimates were computed. The Carroll and Jackson data was collected so as to test the hypotheses presented by Steven Hahn (*Roots of Southern Populism*), who focused on the two aforementioned counties. See Kantor and Kousser, "Common Sense or Commonwealth," for a theoretical and empirical challenge to Hahn's theses.

As it turns out, Hahn's choice of counties (again fortunately) allows me to pursue a related branch of research on the dynamics of institutional change. If the two counties had been net losers from the stock law, the range of interesting questions that could

have been asked would surely have been limited. Instead, an analysis of these two very profitable counties enables me to put theories of institutional change to rigorous empirical testing.

35.   On the socioeconomic diversity across the South and within states, see Louis Ferleger, "Self–Sufficiency and Rural Life on Southern Farms," *Agricultural History*, 58 (July 1984), pp. 314–329 and Jay Mandle, "The Plantation States as a Subregion of the Post–Bellum South," *Journal of Economic History*, 24 (September 1974), pp. 732–738.

36.   For a theoretical discussion of this type of bargaining breakdown, see James M. Buchanan and Gordon Tullock, *The Calculus of Consent* (Ann Arbor: University of Michigan Press, 1965), pp. 99, 106–109; Davis and North, *Institutional Change*, pp. 17–8; Kenneth J. Arrow, "The Property Rights Doctrine and Demand Revelation Under Incomplete Information," in Michael J. Boskin, ed., *Economics and Welfare: Essays in Honor of Tibor Scitovsky* (New York: Academic Press, 1979), pp. 23–39; William J. Samuelson, "A Comment on the Coase Theorem," in Alvin E. Roth, ed., *Game–Theoretic Models of Bargaining* (Cambridge, Eng.: Cambridge University Press, 1985), pp. 321–339; Mailath and Postlewaite, "Asymmetric Information" ; and Robb, "Pollution Claim Settlements." For a different type of bargaining breakdown see Crawford, "Theory of Disagreement." For historical discussions of costly bargaining situations similar in spirit to the stock law, see Donald N. McCloskey, "The Economics of Enclosure: A Market Analysis," in William N. Parker and Eric L. Jones, eds., *European Peasants and Their Markets*, pp. 132–133; Jean–Laurent Rosenthal, "The Fruits of Revolution; Property Rights, Litigation and French Agriculture 1700–1860," unpublished California Institute of Technology doctoral

dissertation, 1988, pp. 90–112; and Philip T. Hoffman, "Institutions and Agriculture in Old–Regime France," *Journal of Institutional and Theoretical Economics*, 145 (March 1989), pp. 166–181.

37.   *Winters v. Jacobs*, 29 GA Reports 115 (1859). [The information identifying the case is tentative at this point.]

38.   Georgia Supreme Court Case File of *George H. Tumlin vs. Charles C. Parrott*, Georgia Department of Archives and History, A–15581, box 246, location #247–01.

39.   *Ibid.*

40.   *Tumlin* v. *Parrott*, 82 GA Reports 732 (1889).

41.   Robert Frost, "Mending Wall," in Edward Connery Lathem, ed., *The Poerty of Robert Frost* (New York: Holt, Rinehart and Winston, 1969), p. 33.

42.   Georgia Session Laws, 1872, No. 329, pp. 34–36.

43.   This arrangement was upheld by the Georgia Supreme Court in *Tharpe v. Hardison*, 69 GA Reports 280 (1882). In addition, the Court declared that only freeholders could contest an election after it was held.

44.   Georgia State Agricultural Society, *Proceedings of the Georgia State Agricultural Society, from August, 1876 to February, 1878* (Atlanta: J.P. Harrison & Co., 1878), p. 417. In fact, most of the Agricultural Society's discussion concentrated on the diverse incentives for the stock law across the state.

45.   J.T. Henderson, *Report of the Commissioner of Agriculture of the State of Georgia, Embracing the Years 1881 and 1882* (Atlanta: J.P. Harrison & Co., 1882), p. 209.

46.   *Ibid.*

47. Thomas P. Janes, "June Crop Report — 1879," in *Publications of the Georgia State Department of Agriculture for the Year 1879* (Atlanta: J.P. Harrison & Co., 1880), p. 3.

48. There is evidence to *suggest* that at least some members of the legislature tried for the statewide version of the stock law. In the beginning of the 1872 session, Representative McWhorton introduced "A bill to create a stock law in the state." (See Georgia House *Journal*, 1872, p. 13.) Unfortunately, the Journal did not copy the text of the bills introduced, and the original copy of it is missing from the Archives. Given the title of the bill, however, it could be tentatively concluded that McWhorton wanted the stock law for the entire state.

49. Georgia Senate *Journal*, 1873, pp. 38, 50, and 86. The Committee on Agriculture is listed on p. 45.

50. Georgia House *Journal*, 1875, pp. 157, 259, and 484.

51. Flynn, *White Land, Black Labor*, p. 145.

52. Hahn, *Roots*, pp. 248 and 262.

53. "Day Book of C.M. Wood," in the A.D. O'Rear Collection, drawer 171, roll 46, Georgia Department of Archives and History.

54. In Carroll County 714 of 910 (78.5%) tenant farmers reported no pasture or unimproved land and in Jackson County 144 of 344 (41.9%) tenants were in the same situation according to my 100 percent sample of the Agricultural Manuscript Schedules.

55. The competitiveness of the postbellum southern labor market is discussed by Robert Higgs, *Competition and Coercion: Blacks in the American Economy, 1865–1914* (New York: Cambridge University Press, 1977); Stephen J. DeCanio, *Agriculture in*

the Postbellum South: The Economics of Production and Supply (Cambridge, MA: The MIT Press, 1974); and Joseph D. Reid, "Sharecropping as an Understandable Market Response: The Postbellum South," *Journal of Economic History*, 33 (March 1973), pp. 106–130.

56. By "small" I mean to imply that each individual county could not change the price of labor by upsetting the supply or demand. In other words, both buyers and sellers of labor in a single county take the wage as given.

57. *Jefferson Forest News*, June 24, 1881; *Jefferson Forest News*, June 10, 1881; *Jackson Herald*, July 20, 1883; *Jackson Herald*, September ?, 1885; *Jackson Herald*, August 24, 1883. Similarly, see A.R. Burch, in *Newnan Herald*, June 30, 1881.

58. See pages 3 and 5 of the 1880 Carroll County agricultural schedules for Oscar Entrekin and Jackson L. Price, respectively.

59. See Georgia Session Laws, 1871, O. no. 209, p. 109 and O. no. 190, p. 128.

60. *Carroll Free Press*, March 26, 1886.

61. *Carroll County Times*, January 13, 1882; *Carroll County Times*, September 15, 1882; *Carroll Free Press*, July 3, 1885; *Carroll Free Press*, July 8, 1887; *Carroll Free Press*, July 4, 1890. *Jackson Herald*, July 8, 1881; *Jackson Herald*, September 14, 1883.

62. *Carroll County Times*, May 3, 1878; *Carroll County Times*, June 7, 1878.

63. Georgia Department of Agriculture, *Annual Report of Thomas P. Janes, Commissioner of Agriculture of the State of Georgia for the Year 1875* (Atlanta: J.H. Estill, 1876), p. 66. Italics in original.

64. *Carroll County Times*, June 21, 1878.

65. From 1871, however, Georgia voters were required to pay a $1.00 cumulative poll tax. Black and poor white men were increasingly disfranchised because of their inability to pay the tax. Of course, stock law supporters could have paid the tax of poor men in return for their votes. Kousser and I, "Common Sense or Commonwealth," have thoroughly analyzed the public debate of the fence question in Carroll and Jackson Counties and have found no suggestion that stock law supporters paid the taxes of their poor neighbors. For a discussion of the effects of the poll tax, see J. Morgan Kousser, *The Shaping of Southern Politics: Suffrage Restriction and the Establishment of the One–Party South, 1880–1910* (New Haven: Yale University Press, 1974), chapter 3 and pp. 209–23.

66. Georgia Session Laws, 1881, No. 110, pp. 60–61.

67. Georgia Session Laws, 1883, No. 134, pp. 49–51.

68. This legislation was upheld in *Meadows v Taylor*, 82 GA Reports 738 (1889).

69. The law allowing militia district option is in Georgia Session Laws, 1881, No. 401, pp. 79–81. In *Jones v. Sligh* (75 GA Reports 7 (1885)) the Court declared that it was unconstitutional for the county ordinary to levy and to collect a tax upon the property of a militia district in order to build and to maintain a fence around a district that voted for the stock law. This virtually meant that the fence requirement was invalidated. Then in *Dover v. The State of Georgia* (80 GA Reports 781 (1888)), the Court was more direct. It ruled that the stock law would still go into effect in a milita district that voted for the law even though it did not have a fence surrounding its borders. See also *Holleman v. Kingery*, 81 GA Reports 624 (1888).

70. *Dover v. The State of Georgia* (80 GA Reports 781 (1888)), p. 784.

71. An alternative way to interpret the pasture law is to suppose that the landowner would give the tenant an acre of pasture, but, at the same time, would reduce the tenant's tilled acreage by an acre. Calculating the estimates according to this assumption does not change the results in any dramatic fashion. In Carroll, 76.1 percent (instead of 80.0) of the tenants would have favored the stock law and the sidepayment. In Jackson, 70.5 percent (instead of 71.4) would have been in favor of the closed range.

72. *Newton v. Ferrill*, 98 GA Reports 216 (1896).

73. *Carroll Free Press*, March 18, 1887; *Carroll Free Press*, March 25, 1887.

74. *Carroll Free Press*, March 11, 1887; *Carroll Free Press*, May 20, 1887. See also I.H.P. Beck's correspondence in *Carroll Free Press*, June 10, 1887 and an anonymous letter to the editor in *Carroll Free Press*, July 1, 1887.

75. *Carroll Free Press*, June 24, 1887.

76. Kantor and Kousser, "Common Sense," pp. 18–19.

77. Georgia Session Laws, 1889, No. 788, pp. 1278–1279.

78. Douglass C. North, "Government and the Cost of Exchange in History," *Journal of Economic History*, 44 (June 1984), p. 256.

TABLE 3.1

DISCOUNTED NET PRESENT VALUE OF EXPECTED PROFITABILITY
OF STOCK LAW, BY REGION

REGION	N	WEIGHTED MEAN[a]	PER CAPITA[b]	AS % OF VALUE OF PRODUCE[c]	IMPROVED ACREAGE (%)[d]
MOUNTAIN	17	$-12,895[e]	$-2.00[e]	-7.1%	24.3%
UPCOUNTRY	26	108,769	6.97	16.1	36.9
PLANTATION BELT	63	167,439	10.31	21.2	42.3
PINE BARRENS	9	-101,365	-14.96	-35.1	13.0
WIREGRASS	16	-81,708	-14.75	-39.2	12.0
COAST	6	-82,203	-6.34	-29.6	12.6
COUNTIES WITH LAW BY 1882[f]	14	191,195	11.91	21.7	46.8
STATE	137	69,474	5.19	11.9	31.4
CARROLL[g] COUNTY	1	119,116	7.05	14.8	36.2
JACKSON COUNTY	1	209,755	12.87	26.7	35.5

TABLE 3.1 (continued)

Notes: [a] Weighted by *total* acres in each county.

    [b] The per capita measure was computed according to the following formula:

$$\frac{\sum\limits_{i \in R_j} SS_i}{\sum\limits_{i \in R_j} POP_i},$$ where j indexes the respective region, i indexes the counties within

    a region, and "POP" is population.

    [c] The savings as a percentage of the value of produce measure was computed accord-

    ing to the following equation: $\dfrac{\sum\limits_{i \in R_j} SS_i}{\sum\limits_{i \in R_j} VPRD_i} * 100,$ where "VPRD" is the value of

    produce for the single year, 1879. To determine the savings as a percent of the net present value of the value of produce, multiply the percentage given in the Table by seven percent, the interest rate used in the calculation.

    [d] The column shows the weighted average of the percentage of improved acreage in each region. The weighting is by total acres in each county.

    [e] 1880 dollar values.

    [f] These counties are: Butts (1882), Campbell (1881), Clayton (1881), Coweta (1881), Henry (1882), Lincoln (1882), Meriwether (1881), Monroe† (1881), Morgan (1882), Pike (1882), Putnam† (1881), Rockdale (1882), Spaulding (1882), and Troup (1881). Number in parentheses is the year of adoption. A dagger means that the legislature imposed the stock law on the county without a popular vote.

    [g] Since I have a 100 percent sample of the census data from Carroll and Jackson Counties, I was able to check the aggregate sums presented in the Census with the sums of my individual level data. For the most part, the data are consistent. There was one variable, however, that was very different and is important for my calculation – the amount of pasture in Carroll. The Census aggregate amount reported is about double that calculated using the micro–data. Therefore, in the calculation here, I use the smaller estimate. If the Census number is used, the benefit rises to $237,667.

Sources: See Appendix A.

TABLE 3.2

DISTRIBUTION OF ESTIMATED BENEFITS AND LOSSES FROM STOCK LAW, BY REGION

RANGE OF BENEFIT/LOSS	MOUNTAIN	UPCOUNTRY	PLANTATION BELT	PINE BARRENS	WIRE-GRASS	COAST	TOTAL
-$250,000 – -$201,000	0	0	0	1	0	0	1
-$200,000 – -$151,000	1	0	0	1	3	0	5
-$150,000 – -$101,000	2	0	2	4	5	2	15
-$100,000 – -$51,000	5	3	0	1	3	3	15
-$50,000 – -$1	2	1	4	1	4	1	13
$0 – $49,000	2	3*	5*	1	0	0	11
$50,000 – $99,000	2	3*	13*	0	1	0	19
$100,000 – $149,000	1	10*	11**	0	0	0	22
$150,000 – $199,000	2	4	13**†	0	0	0	19
$200,000 – $249,000	0	1	8*†	0	0	0	9
$250,000 – $299,000	0	1	3*	0	0	0	4
$300,000 – $349,000	0	0	2*	0	0	0	2
$350,000 – $399,000	0	0	0	0	0	0	0
$400,000 – $449,000	0	0	1	0	0	0	1
$450,000 – $499,000	0	0	1	0	0	0	1

Notes: Each star represents a county that had adopted the stock law by 1882. A dagger indicates a county that had the stock law imposed by the state legislature.

Source: See Appendix A.

TABLE 3.3

CARROLL COUNTY — CHARACTERISTICS OF COALITIONS

VARIABLE	PS ≥ 0 & OWNER	PS < 0 & OWNER	ALL OWNER-OPERATED FARMS	PS ≥ 0 & TENANT	PS <0 & TENANT	ALL TENANT-OPERATED FARMS
N	438	983	1421	431	479	910
MEDIAN NET BENEFIT	$80.18	−$108.62	−$61.26	$75.44	−$77.72	−$9.25
TILLED ACREAGE	49.87	44.60	46.22	29.08	29.41	29.25
COTTON ACREAGE	11.66	9.73	10.33	9.52	8.06	8.75
PASTURAGE	8.02	0.10	2.54	1.40	0.03	0.67
FOREST	85.64	103.20	97.79	16.09	21.63	19.01
OTHER UNIMPR.	7.53	4.68	5.56	0.68	0.84	0.76
HORSE	0.46	0.71	0.63	0.15	0.54	0.35
MULE	0.62	0.87	0.79	0.17	0.56	0.37
OX	0.15	0.54	0.42	0.03	0.41	0.23
MILK COW	1.68	1.84	1.79	1.01	1.23	1.12
CATTLE	2.40	2.76	2.65	1.02	1.45	1.25
SWINE	8.18	9.17	8.86	3.31	5.08	4.24
SHEEP	2.76	5.71	4.80	0.53	2.30	1.46
PERCENTS	30.8	69.2	−	47.4	52.6	−

Notes and Sources: The data were collected from the Agricultural Manuscript Schedules, Carroll County (100% sample). The expected net benefit was computed using the procedure described in Appendix A. The data reported are means for the particular column heading.

TABLE 3.4

JACKSON COUNTY — CHARACTERISTICS OF COALITIONS

VARIABLE	PS ≥ 0 & OWNER	PS < 0 & OWNER	ALL OWNER–OPERATED FARMS	PS ≥ 0 & TENANT	PS <0 & TENANT	ALL TENANT–OPERATED FARMS
N	378	751	1129	104	240	344
MEDIAN NET BENEFIT	$116.38	−$120.31	−$58.21	$73.66	−$87.18	−$57.73
TILLED ACREAGE	68.68	54.34	59.14	34.48	32.62	33.18
COTTON ACREAGE	21.03	16.01	17.69	15.42	13.69	14.21
PASTURAGE	9.46	0.29	3.36	5.25	0.06	1.63
FOREST	101.43	77.97	85.82	58.64	44.37	48.68
OTHER UNIMPR.	38.62	36.64	37.30	19.56	22.61	21.69
HORSE	1.10	1.04	1.06	0.54	0.90	0.79
MULE	0.96	1.10	1.05	0.49	0.83	0.73
OX	0.13	0.28	0.23	0.08	0.12	0.11
MILK COW	2.08	1.95	1.99	1.52	1.62	1.59
CATTLE	3.10	2.75	2.87	2.04	1.90	1.94
SWINE	8.82	8.00	8.27	5.60	6.00	5.88
SHEEP	2.63	4.22	3.69	1.15	1.98	1.73
PERCENTS	33.5	66.5	—	30.2	69.8	—

Notes and Sources: The data were collected from the Agricultural Manuscript Schedules, Jackson County (100% sample). The expected net benefit was computed using the procedure described in Appendix A. The data reported are averages for the particular column heading.

TABLE 3.5

MARGINAL EFFECTS ON THE PROBABILITY
OF VOTING FOR THE STOCK LAW[a]

(Results are derived from a minimum logit chi–squared estimation)

VARIABLE	(1)	(2)
LABOR[b]	−0.111*	−0.087*
WL	0.034***	0.001
LL	−0.036***	−0.042**
WT	0.064*	0.074**
LT	0.000	−0.035
TOWN	0.085*	0.063*
ABSTAIN	0.048*	0.042**
WT*DISTRICT	–	−0.032
LT*DISTRICT	–	0.131
LABOR* DISTRICT	–	0.124**
$\hat{P}_1$ (county)[c]	0.255	0.306
$\hat{P}_1$ (district)	–	0.532
N	92	57
R^2	0.323	0.484
$\bar{R}^2$	0.275	0.385

TABLE 3.5 (continued)

Notes: * Significant at ≤0.01 level, two tailed test.

** Significant at ≤0.05, but >0.01 level, two tailed test.

***Significant at ≤0.10, but >0.05 level, two tailed test.

[a] The marginal effects reported are the result of increasing each independent variable by one standard deviation from its mean (holding everything else constant) and then determining how it changed the baseline probability (all variables set at their means).

[b] To determine the marginal effect that laborers had on the vote, I reran an equation using LABOR instead of TOWN and determined the marginal effect on that equation.

[c] This is the estimated probability of voting for the stock law in a countywide election, setting all of the independent variables at their means. The next row reports the predicted probability assuming a district election, governed by 1881 rules.

Sources: Countywide voting returns were collected from the *Carroll County Times*, January 13, 1882; *Carroll County Times*, September 15, 1882; *Carroll Free Press*, July 3, 1885; *Carroll Free Press*, July 8, 1887; *Carroll Free Press*, July 4, 1890. *Jackson Herald*, July 8, 1881; *Jackson Herald*, September 14, 1883. District referenda returns were collected from the *Carroll Free Press*, September 18, 1885; *Carroll Free Press*, March 11, 1887; *Carroll Free Press*, March 18, 1887; *Carroll Free Press*, April 1, 1887; *Carroll Free Press*, June 24, 1887; *Carroll Free Press*, July 8, 1887; *Carroll Free Press*, September 9, 1887; *Carroll Free Press*, December 16, 1887; *Carroll Free Press*, February 22, 1889; *Jackson Herald*, October 23, 1885; *Jackson Herald*, April 23, 1886; *Jackson Herald*, September 2, 1887; *Jackson Herald*, November 11, 1887. The landowner and tenant coalitions were determined using the procedure detailed in Appendix A. All of the coalitions were computed using a 100 percent matched sample of the agricultural and population manuscript schedules of Carroll and Jackson Counties.

TABLE 3.A1

MEAN DISCOUNTED NET PRESENT VALUE OF EXPECTED PROFITABILITY
OF STOCK LAW, BY REGION — SENSITIVITY ANALYSES

REGION	N	MODEL (see below)					
		A	B	C	D	E	F
MOUNTAIN	17	$-12,962	$-12,845	$-58,943	$-107,304	$-7,821	$-36,604
UPCOUNTRY	26	158,709	71,315	51,131	−35,099	119,289	51,171
PLANTATION BELT	63	240,455	112,678	145,254	90,239	156,193	84,220
PINE BARRENS	9	−128,527	−80,992	−161,844	−186,172	−221,549	−98,396
WIREGRASS	16	−103,818	−65,125	−103,014	−144,316	−106,084	−78,534
COAST	6	−106,653	−63,866	−99,943	−143,229	−138,405	−66,666
COUNTIES WITH LAW BY 1882	12	297,354	141,775	180,094	114,199	203,340	113,387
STATE	137	104,770	43,002	35,436	−18,546	48,633	20,438
CARROLL COUNTY	1	176,765	75,879	−4,547	−154,756	132,801	52,530
JACKSON COUNTY	1	301,077	141,263	103,813	−29,425	188,478	137,720

TABLE 3.A1 (continued)

LEGEND OF MODELS:

A   Discount rate set at 5 percent, instead of 7.

B   Discount rate set at 10 percent, instead of 7.

C   Reported available pasturage reduced by 25 percent.

D   Reported available pasturage reduced by 50 percent.

E   Prices of cotton and corn were determined by estimating a hedonic pricing model. That is, the value of produce grown in the county (reported in the Census) was regressed on the various amount of agricultural produce produced in a county. Individual regions were dummied out so as to determine differences in the prices of cotton and corn across regions. The calculation produced the following results (price for bale of cotton, price for bushel of corn): Mountain (37.55, 0.55); Upcountry (55.84, 0.39); Plantation Belt (44.15, 1.02); Pine Barrens (30.59, 1.48); Wiregrass (49.41, 0.90); Coast (30.59, 1.48). The prices used in the original calculation was (53.15, 0.67).

F   The cost of building new fences was assumed to be 0.95, one half the amount asumed in the original calculation.

FIGURE 3.1

LENGTH OF RAILROAD TRACK MILEAGE IN GEORGIA, 1860–1889

MILES
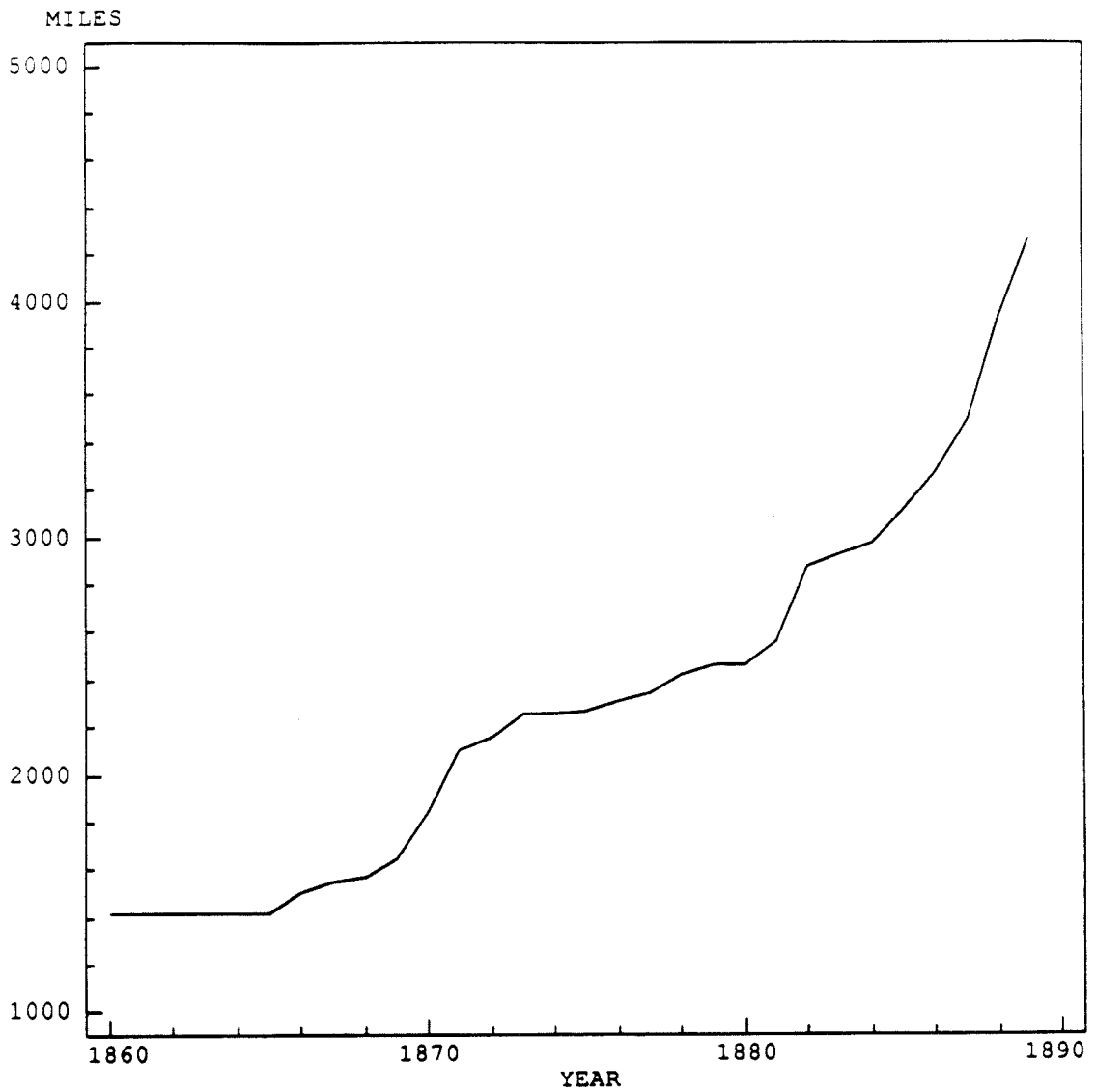
Sources: *Poor's Manual of Railroads of the United States for 1874–5* (New York: J.J. Little & Co., 1875), pp. xxviii–xxix; *Ibid.*, 1885, p. xiv; *Ibid.*, 1890, p. vi.

FIGURE 3.2

SEQUENCE OF ADOPTION BY EXPECTED SAVINGS, CARROLL COUNTY
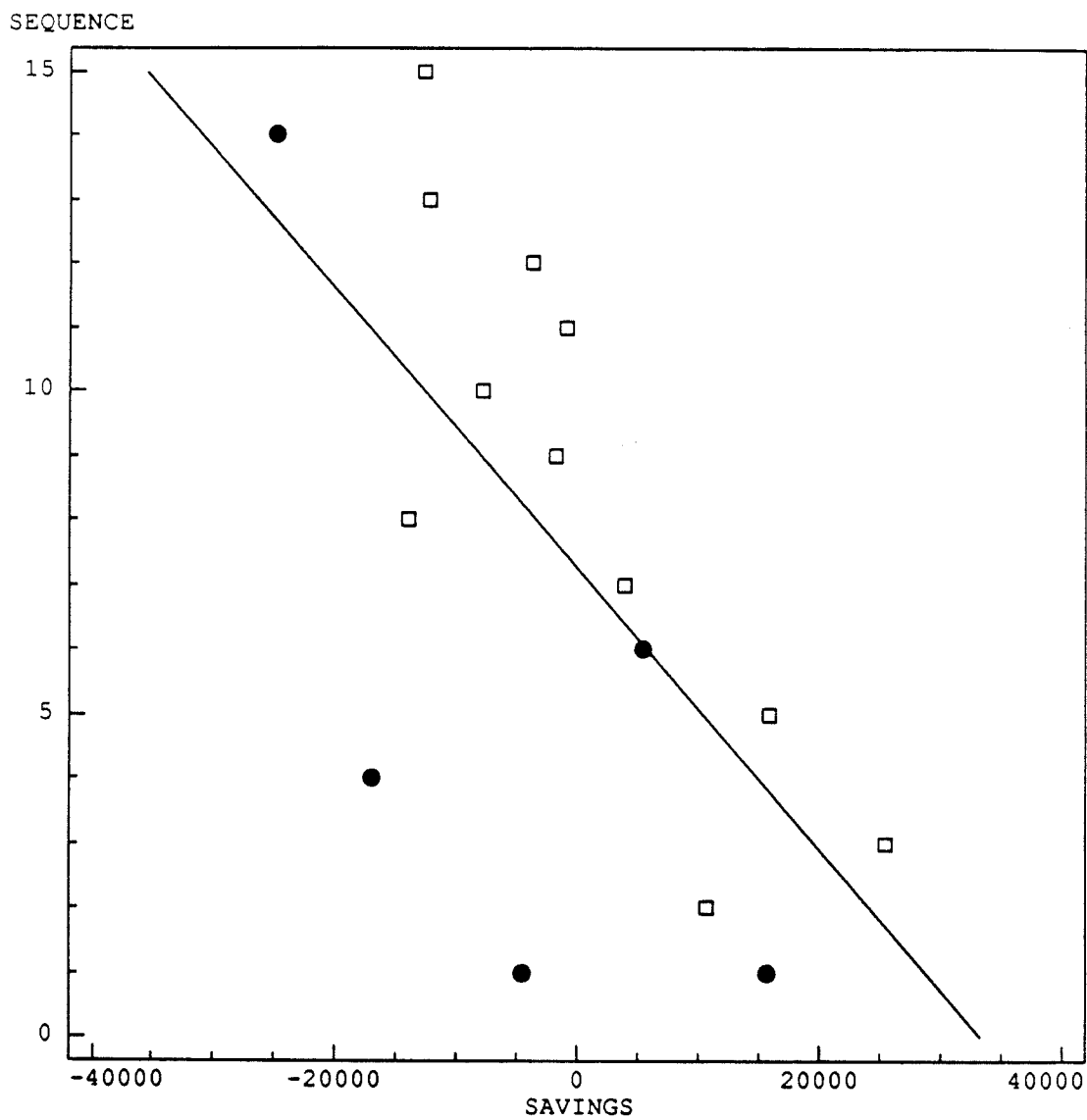
MAP 3.1

GEORGIA REGIONS
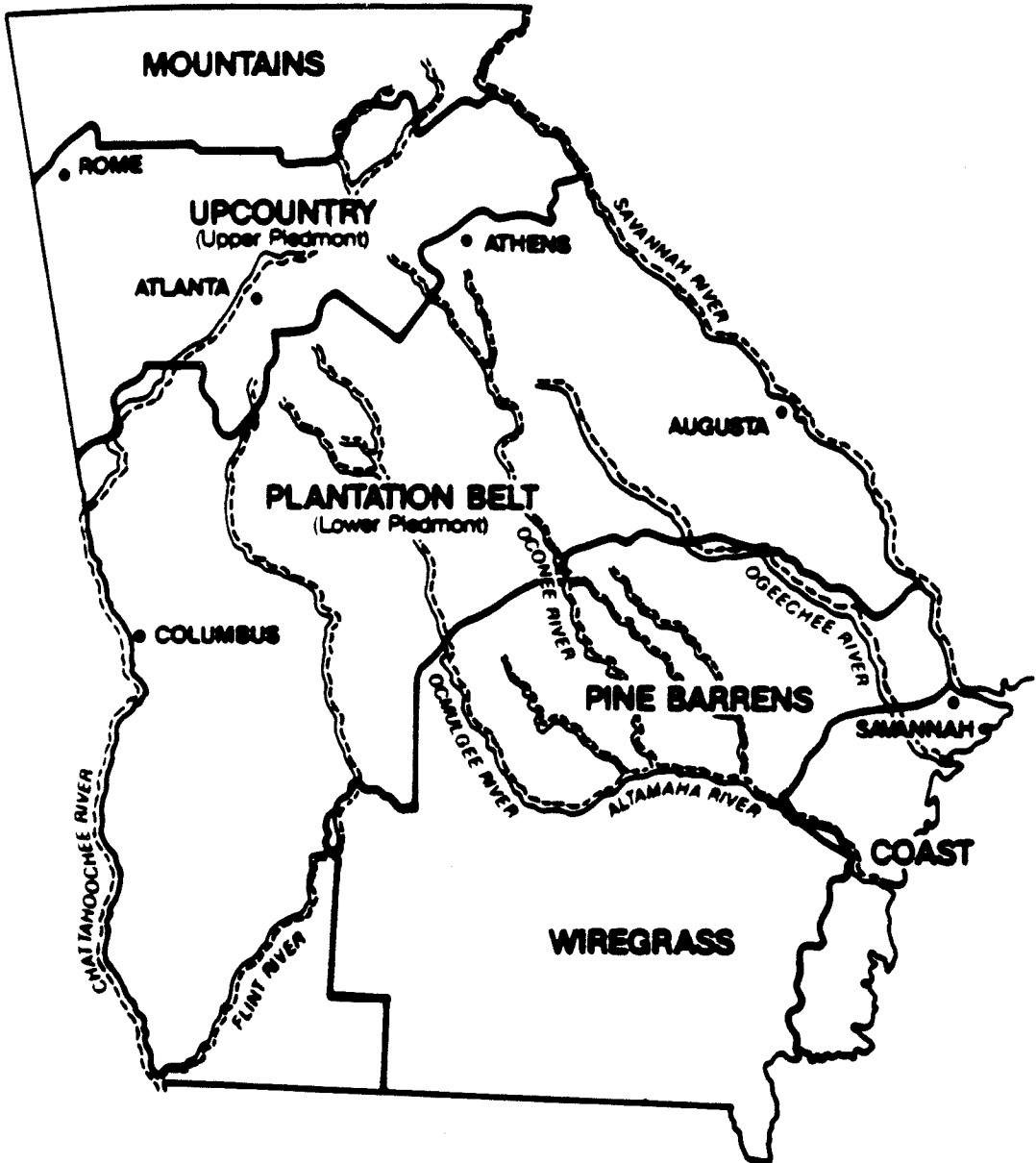
MOUNTAINS

ROME

UPCOUNTRY
(Upper Piedmont)

ATHENS

ATLANTA

SAVANNAH RIVER

AUGUSTA

PLANTATION BELT
(Lower Piedmont)

OCONEE RIVER

OGEECHEE RIVER

COLUMBUS

OCMULGEE RIVER

PINE BARRENS

SAVANNAH

ALTAMAHA RIVER

COAST

CHATTAHOOCHEE RIVER

FLINT RIVER

WIREGRASS

CHAPTER 4

PUBLIC POLICY FORMATION IN POSTBELLUM GEORGIA: LEGISLATING ON THE COMMONS

I.

The formal definition and enforcement of property rights play a determining role in promoting economic prosperity, as nonexistent or ill–enforced rights lead to suboptimal production and investment decisions.[1] Consider the extreme example of the common pool in which property rights to a particular resource are completely unassigned. In this situation individuals tend to ignore the full social costs of their production decisions and the resulting aggregate output exceeds the socially optimal level.[2] Furthermore, when strict property rights to a particular resource are lacking, individuals cannot insure that they will realize the returns from their investments and short term overexploitation of the common pool resource occurs. Finally, since control over resources in an open access environment is tenuous, labor and capital must be diverted away from production and into defense against possible predators. The prospect for sustained economic growth in such an economic setting is certainly bleak.

If a set of property rights were implemented that assigned exclusive ownership and use to the resource in question, then, at a maximum, society would be able to capture all of the efficiency losses associated with the common pool. Although the new property rights structure would generate net social gain, how easy would a voluntary transformation be? Since each feasible property rights arrangement is likely to produce a unique distribution of income, distributional issues are likely to play a crucial role in determining which arrangement society ultimately chooses. If the institutional change would make some parties better off at the expense of others, an important theoretical and empirical question arises: What type of mechanisms are likely to emerge in order to resolve these potentially burdensome

distributional problems?

Coase argues that private negotiations among the relevant parties, conducted within a framework of zero transaction costs, will resolve the distributional conflicts. More importantly, the set of property rights that emerges from the voluntary bargaining will lead to Pareto efficiency. Realistically, however, the idealized assumptions underlying Coase's result will seldom, if ever, be satisfied. Individuals will always possess private information and organizing people to negotiate a settlement will always involve some positive cost. Informational asymmetries lead to free riding and strategic bargaining, while effectively monitoring and enforcing private contracts is likely to require much effort. As these problems become tangible, the hope for a Coase–like private settlement collapses, making it impossible for society to capture the efficiency gains associated with a new regime of property rights. At this point it is usually the government that is called in to implement publically what individuals could not accomplish in the private sector.

When transaction costs become prohibitive, a governmental solution may offer the most efficient method for resolving the conflicts that a new set of property rights, along with its concomitant redistribution of income, is likely to cause. When disagreements arise as to how the aggregate benefits of an income–enhancing institutional change are to be allocated, competing interest groups are likely to petition the government to act as an arbiter. As Gary D. Libecap notes, "the heart of the contracting problem is devising politically–acceptable allocation mechanisms to assign the gains from institutional change, while maintaining its production advantage."[3] However, as the political strength of the competing interest groups differs and as politicians pursue their own objectives, there is nothing to guarantee that the solution that emerges from the political process will be the one that maximizes social income, that resolves the distributional conflicts, or that is most politically acceptable to all of the

relevant parties.

Explaining and predicting institutional change now becomes more difficult than simply identifying the pertinent economic forces, such as relative price changes or technological change, that set the process of change into motion. In order to understand more completely the dynamics of institutional development, it is necessary to understand how competing special interest groups influence political decision–making.[4] Elected government officials and bureaucrats do not make their decisions affecting institutional change in a vacuum; they have their own sets of goals and objectives that may, in fact, clash with the ones of the lobbying interest groups. Fortunately, there has been a proliferation of empirical research analyzing the important role that interest groups play in shaping political decisions.[5] Surprisingly though, much of the empirical property rights research has neglected to identify what the private motives of individual politicians and bureaucrats are and how these personal goals influence institutional and economic development.[6] This paper is an attempt to attend to some of this neglect.

In the previous chapter I argued that the Georgia legislature played a key role in reducing the transaction costs associated with closing the range in the late nineteenth century. In 1881 the legislature redesigned the voting mechanism regulating fence elections so as to guarantee compensation for a subset of the expected losers once the closed range policy was adopted at the militia district level. As the evidence shows, in many cases, this government–endorsed side payment was sufficient to ensure that a majority voted for the closed range. The analysis of the previous chapter, however, took the Georgia General Assembly's actions as given, and ignored the underlying reason for the 1881 mechanism change. The goal of the present chapter is to propose and to test three general models that will help to explain the legislature's motivation for designing the sophisticated 1881 voting rules.

Were state legislators acting on behalf of the constituent interest, in their own self interest, or were they attempting to control the labor force, as "radical" historians claim?

The plan of the chapter is as follows: In the next section I briefly review the fence problem in Georgia and discuss what fence related policies the Georgia legislature enacted from 1872 to 1890, including the significant 1881 rules change. The third section explores the legislators' motivation for creating legislation that facilitated the closing of the range. In particular, why did the legislature create a set of voting rules that provided compensation for tenants? The constituent and self interest models, as well as the social control model, are presented and tested. Throughout the period under study, the legislature imposed the stock law on specific counties and militia districts. This phenomenon will also be investigated. The final section offers a conclusion and suggests possible areas for future research in the political economy of institutional change.

II.

Since colonial times, Georgia planters were required to keep fences around their growing crops or else any "trespass or damage so ever he shall receive or sustain by hogs, cattle, or horses shall be his own loss . . . ."[7] In fact, a 1759 law provided detailed specifications of what constituted a "legal" fence.[8] Instead of forcing livestock owners to control their animals, as English common law required, the fence law permitted citizens to allow their animals to roam the countryside freely. Farmers were not legally compelled to put a fence around their fields though. But in order to sue for damages caused by a marauding animal, a legal fence had to be erected. If an animal happened to get into a farmer's enclosed field and destroyed a portion of the crop, the farmer's fence had to meet the specifications of the code; otherwise, he had no basis to sue the animal's owner for compensation. Moreover, if the

farmer killed or maimed an animal straying onto his ill–fenced land, then the animal's owner, by law, could claim treble damages. In essence, the fence law created an open range, or a commons, whereby every citizen had the "right" to graze his animals on any land that was left unfenced.

In most areas of the colonial and antebellum South, farms were far between, the land was heavily wooded, and population density was low. The fence law, or open range, represented a calculated attempt to convert an abundant, "free" good into farm income. As the land was rich in natural grasses, moss, and acorns, farmers could successfully raise livestock on the commons without having to incur the high costs of pasturing or feeding the animals throughout the year. Access to the open range carried with it many benefits, but it was far from costless. Farmers, and of course society as a whole, paid for their common right in the form of legal fences maintained around the perimeter of their cultivated acreage.

The fence law persisted throughout the antebellum period, but it was not immune to criticism. Prominent agricultural journals, such as the *Farmer's Register* and the *Southern Cultivator*, published essays describing how the "planting class" was suffering "a heavy loss in land, labor and timber" because of the fence requirement.[9] Furthermore, some planters argued that in order to improve the quality of meat and dairy products, livestock had to be enclosed and selectively breeded.[10] As early critics in the South witnessed the closing of the range in the North, they emphasized that the fence law was "a home subject eminently worthy of the thought and consideration of every planter."[11]

In the early nineteenth century, northern judges closed the range there by judicial fiat, relying on common law cases and reasoning to resolve trespass disputes. "While Southern courts would consider English common law and other states' decisions, these were subordinate to the words of the state constitution and legislative enactments."[12] Throughout the

antebellum period, and into the postbellem period, southern judges adherred to the letter of the fence law — a fence was defined absolutely and there was little room for exception. Southern judges were not willing to disregard the "custom of the land" — any changes in the fence policy had to result from either constitutional reform or legislative decree.

The Georgia constitutions of 1865, 1868, and 1877 never broached the issue of fencing crops or livestock.[13] The first major legislative action on behalf of the closed range policy came in 1870 when state Senator W. C. Smith proposed to give individual counties the option to hold referenda on the fence question. Lamenting his bill's defeat in the Senate, Smith admitted:

> Mr. President, that Senators from the upper and mountainous portions of this State should oppose this bill is nothing more than I expected, and I propose if it be reconsidered to offer an amendment to prevent its application to them. But that Senators from Middle Georgia where its provisions promise such benefits, reasonable, calculating men should oppose it, I must confess surprises me. Above all, why they should oppose it when it is only proposed to go into effect after a majority of the legal voters of each county shall so determine, I am at a loss to conceive.[14]

The fact that Republicans still controlled the legislature at this time may provide some explanation for the bill's defeat. Smith reintroduced the bill, however, in the 1871–1872 session, the first Democrat–controlled legislature after the readmission of Georgia to full statehood in July 1870. The bill "relating to fences and stock, and for the protection of crops" was enacted in late summer, 1872.[15] The act gave individual counties the option to hold referenda on the fence question, and no more. If a majority of the voters decided to adopt the "no fence," or stock law position, then boundary lines between properties would be considered legal fences, forcing the enclosure of all animals. (The text of the 1872 Act is displayed as Appendix D.) The legislature did not impose the stock law on the state as a whole or on specific counties[16]; instead, the General Assembly decided that the fence issue would be decided at the local level.

Unfortunately, because the House and Senate Journals during this period did not record any of the floor debate and because roll call votes on these particular bills were not recorded, it is difficult to determine why the legislature chose the Senate's bill over the House's.

Agricultural officials such as Commissioners of Agriculture J.T. Henderson and T.P. Janes and representatives of the Georgia State Agricultural Society believed that the 1872 law was a "wise one."[17] Since "the interests and industries of different sections of the State are too varied to admit of a general [stock] law applicable to all sections," agricultural officials maintained that it was better to leave the fence decision to the voters of individual counties.[18] A Carroll County crop reporter for the Georgia Department of Agriculture remarked:

> I take occasion to reiterate my conviction that it would be unwise and unjust to force upon large sections of the State the operation of a stock or fence law for which they are not prepared, and which is not desirable in view of the system of husbandry prevailing in those sections.[19]

Even ardent stock law supporters, as this particular reporter was, believed that Georgia's agricultural diversity meant that the new institution had to be considered carefully in each of the state's separate regions. Throughout the 1870s at least, the legislature consistently maintained that the fence's fate would to be determined by direct local democracy.[20] Two attempts to repeal a county's option to close the range, one in the Senate in 1873 and the other in the House in 1875, were defeated in the legislature.[21]

While some fence reformers were calling for the eradication of the open range system, others were pressing for more stringent fence requirements. Recall that farmers were not legally bound to build fences around their fields. They could have planted their crops without the protection of a fence, but, at the same time, released any potential trespasser from liability. The fence law, as written, allowed the farmer to decide whether to fence or not. However, in 1875 Liberty County's representative W. O. Bacon called for a law such that "no person in the

County of Liberty shall be allowed to plant any crop in said County, without a fence not less than four feet high being first erected around the same."[22] After receiving an adverse recommendation from the agricultural committee, the bill was quickly defeated. Mr. Bacon evidently was a defiant man; the following year he introduced a similar bill. "Any person or persons in this State" would be found guilty of a misdemeanor if they were "to plant or sow grain or seed on or in any plantation or farm in the State of Georgia around which plantation or farm there has not been erected a lawful fence, such as is now required by law."[23] Again, the Committee on Agriculture gave the bill an unfavorable report and recommended that the House defeat the bill. The Committee's recommendation should not come as a surprise. Representatives from the Plantation Belt and Upcounty controlled the committee and, more importantly, they represented counties that expected to gain from easing the fence law, not strengthening it. To the extent that the Committee had veto power over bills relating to agriculture concerns, the Bacon bill never stood a chance. The members of the agricultural committee most likely favored a relaxation of the fence law, not an intensification.

Table 4.1 shows the geographic representation of the Georgia House Committee on Agriculture from 1871 to 1891. Although it appears that Plantation Belt and the Upcountry representatives dominated the committee throughout this period, it turns out that geographic representation followed very closely each region's proportion of the state agricultural production. For each region specified, the last row of Table 4.1 shows the average representation on the committee over the eleven legislative sessions. Table 4.2 presents a comparison between average geographic representation and each region's share of the total agricultural production of the state in 1870, 1880, and 1890. As the data clearly demonstrate, assignments on the agricultural committee were handed out in proportion to each region's relative contribution to the agricultural production of the state. Finally, it is a useful exercise to match each

agricultural committee member with his county's expected savings or loss from the stock law (based on 1880 census and price data) in order to determine the median voter's position within the committee. These values are displayed in Table 4.1 and show that the agricultural committee throughout the postbellum period was controlled by legislators whose counties stood to gain much by closing their range. Thus, as long as the Committee on Agriculture had gate-keeping power over fence–related bills, the legislative trend was certainly inclined toward reform.

Although the General Assembly provided the opportunity for counties to adopt the stock law in 1872, the response was minimal until 1881. Five counties adopted the closed range in 1881, seven more followed in 1882, and another four in 1883.[25] According to estimates presented in the previous chapter, these sixteen counties that adopted the stock law in countywide referenda represented only 18.2 percent (16 of 88) of all counties expecting a net positive gain from the new institution. If we include the counties that had the stock law imposed by the legislature, still only 26.1 percent of the counties that expected to gain from the closed range had the law by 1883. Analyzing the micro–level data from Carroll and Jackson Counties (two counties that expected to benefit, but failed to adopt), in the previous chapter I demonstrate that the median voter in these counties expected a net loss from the stock law, although society as a whole expected to gain. Distributional conflicts led to the stock law's defeat in Carroll and Jackson, and probably in other counties expecting a net gain. The transaction costs of privately resolving these distributional disputes were no doubt excessive. The legislature, however, possessed the power to change the rules of the game that could have facilitated the institutional change.

During a discussion of the fence question at the spring 1877 meeting of the Georgia State Agricultural Society, Mr. Livingston of Newton County said that he hoped the Society

would adopt a "set of resolutions asking the Legislature to have the moral courage to do what they know is right."[26] Livingston never explicated what he thought would have been the "right" thing for the legislature to do. Should it have imposed the stock law on the state, specific counties, or, possibly, individual militia districts? Or, as some fence reformers suggested, should the legislature have disfranchised the land poor from fence elections? Alternatively, the General Assembly could have enacted legislation making the adoption of the stock law easier. The legislature had to grapple with two contradictory signals. On the one hand, fence reformers were arguing that the stock law would promote agricultural efficiency and help the South escape relative poverty, while on the other hand, throughout the 1870s no county chose to close its range. Representatives in the 1880–1881 House evidently decided to muster the "moral courage" to resolve the fence problem in Georgia. There was an explosion of new bills introduced in the House designed to deal with the fence issue.

The bills introduced in 1881 were quite diverse, ranging from subtle changes to the 1872 voting law to strict enforcement of the common law. One bill called for a law "to protect the farming interests in this State, by making parties who permit animals to run at large liable in damages for any trespass which such animals may commit."[27] Even top agricultural officials in the state argued that Georgia's diverse geography and industry did not allow for a statewide stock law. Not surprisingly, the bill was defeated in the agricultural committee. In fact, the House Committee on Agriculture, which seemed to have had gatekeeping power over bills in its jurisdiction, consistently maintained that voters were to decide the fence issue at the local level. When a bill was put before the Committee to make the stock law " . . . operative in any county or militia district of any county in this State, upon the recommendation of a majority of two successive grand juries," it was defeated.[28] Nor was the Committee willing to "submit to the people of each county in this State, the question as to whether any horse, mule,

cow, hog or other animal fit for either food or labor, shall be permitted to run at large in any county in this State . . . ."[29] Forcing an election in each county probably would not have solved the problem, because the stock law would have been severely defeated throughout the state. The law's lack of success should not be attributed to the ease or difficulty in holding an election, for it was relatively easy given the stakes involved. To bring about a fence election, 50 freeholders were required to file a petition with the county's ordinary (county chief executive), whose job it was to advertise such a desire for an election. The movement could be quashed, however, if 50 additional freeholders presented the ordinary with a counter–petition to call off the impending election. If after the filing of the counter–petition, 25 more landowners added their names to the original petition, the ordinary was forced to hold an election on the first Monday in July. Stock law supporters did not have a problem in calling for elections, but in obtaining a majority of the vote. Distributional conflicts held up reform.

Three amendments to the 1872 county option law were enacted in the 1880–1881 session that were designed either to reduce the transaction costs associated with capturing a majority of the vote or to reduce the distributional consequences of adopting the stock law. Recall that the 1872 law restricted the holding of biennial fence elections to "the first Monday in July." One of the 1881 amendments, however, allowed fence reformers to hold elections as often as they liked and the timing of the elections was left to the county Ordinary's discretion.[30] The Ordinary's post became quite important at this time because he could set an election during harvest time, for example, when many tenants, laborers, and small landowners were busy working the fields. In addition, since this 1881 amendment allowed for repeated elections, fence reformers could continually hold fence referenda in an attempt to dampen interest in the matter, thereby reducing the number of voters necessary to convert.

There was much to gain from scaling down the scope of the fence election. By reducing the number of potential voters in an election, reformers could more effectively canvass the precinct and, possibly, offer sidepayments to expected losers. Another 1881 amendment to the 1872 county option allowed certain sections of counties to hold their own fence referenda. If a county was divided by a navigable watercourse, which was deemed a legal fence by an 1878 law[31], then citizens on one side of the water could hold their own fence election. The result of the referendum, however, had no effect on the other side of the watercourse — they could still retain their open range.[32] By reducing the geographic scope of the fence debate, the costs of organizing and capturing a majority of the vote were presumably lowered.

The amendment that clearly had the greatest impact on the development of the stock law in Georgia was the one allowing for militia district referenda (which is displayed as Appendix E). The 1881 voting rules enabled individual sub–county militia districts to adopt the stock law, regardless of what other parts of the county desired. If there were small pockets where the stock law would have been profitable, after 1881 these areas could hold their own elections, thereby eliminating the diluting effect of other county voters. The second critical feature of the 1881 district option law was that it provided a mechanism to transfer income from expected losers to expected winners. If the stock law was adopted by militia district voters, then landowners, by law, were required to provide their tenants with approximately an acre of pasturage. The promise of formal pasture, if widely known, presumably served to allay the fears of tenants, and prospective tenants (laborers), who interpreted the stock law as a policy that would prohibit them from keeping animals.[33] Since many tenants and laborers used the open range to raise animals that fed their families, closing the range would have decreased their real wealth. Therefore, in order to capture their electoral support, these individuals had to be compensated for their expected losses. But as voluntary mechanisms to transfer income

from expected winners to losers failed to emerge, the government stepped in to implement the compensation scheme. Certainly the mechanism that was designed does not resemble the ones seen in the theoretical incentive compatibility literature, but in many districts across Georgia, it was an effective tool in enabling reformers to capture a majority of the vote.

Another aspect of the district option amendment that helped to promote the adoption of the stock law, albeit in a shrewd manner, was a rewording of election ballots. According to the 1872 county option law, ballots in county referenda were required to read either "fence" or "no fence," the latter meaning the stock law. The 1881 amendment allowing militia district elections, however, required that ballots in district referenda had to be cast either "for fence" or for the "stock law." The change created confusion among fence law voters, giving reformers the opportunity to contest close elections in which illegal ballots were cast.[34] In many cases, the stock law prevailed at the district level because county ordinaries were forced to throw out votes that were cast for "fence" instead of "for fence."

Whether the legislature purposefully designed the new wording so as to confuse voters is difficult to determine with certainty. There were problems during county elections because voters misconstrued the meaning of the "no fence" law. Commissioner of Agriculture Thomas P. Janes emphasized in an 1879 report:

> In the present local [county] option fence law, the words "fence" and "no fence" required to be endorsed on the ballots at the election provided for by the act, are not consistent with the sense of the law itself, and their use was unfortunate. Many voters understood that in voting a "no fence" ballot, they would thereby vote to *prohibit* the building or keeping up fences. Of course this is an error, as, by the terms of the law, there would be no *prohibition*, but every farmer left to his own option whether or not he will keep up his fences.[35]

Apparently, in an attempt to resolve any misunderstanding, H. D. D. Twiggs of Richmond County, the representative who introduced the district option bill, proposed that the same wording — "for fence" and "stock law" — be used for both county and district referenda. The

Agricultural Committee, however, decided to keep the previous wording for county referenda, but allowed the reworded ballots for district elections. Voting in county and district elections, that were sometimes held only months apart or even simultaneously, was a very tricky matter — voters had to figure out whether their ballots had to read "fence" or "for fence" or "no fence" or "stock law." Stock law advocates were able to take advantage of this puzzle, as most of the confusion was that of fence law supporters.

The district option amendment, although a significant victory for closed range advocates, did contain one potentially obstructive clause. If a district adopted the stock law, it was required within six months "to have good and substantial fences erected around the lines of said district in order to prevent the incursions of stock from other counties or districts . . . ." Quite simply, if district voters wanted to close their range, they had to pay for the privilege in the form of a perimeter fence. The county ordinary was authorized to collect a special property tax in the stock law district in order to pay for the surrounding fence. Individuals were given the right to pay their share of the tax in the form of labor or fence material. The cost of building this fence was not trivial and, in most districts, probably would have exceeded any of the expected benefits of the stock law. For example, in the previous chapter I estimate that six Carroll County districts would have realized a net gain from the closed range policy in 1880, averaging $12,765 per district. According to contemporary estimates, however, the average cost of building a new fence around each of these districts would have amounted to $41,153.[36] Even if the cost of building the surrounding fence were halved, the fence cost tremendously outweighed the anticipated benefits of the stock law.

The fence burden was shortlived though. The Georgia Supreme Court in 1885 ruled that the authority granted to the ordinary to levy and to collect a tax for the purposes of erecting and maintaining the required perimeter fence was unconstitutional and invalid.[37]

Therefore, since the ordinary's power to collect the money to build the fence was removed, an interesting question arose: Would the entire act allowing district option become inoperative or would the stock law go into effect without the fence? The Georgia high court was forced to answer this question in an 1888 case (that, incidently, came out of Carroll County). The Court declared that:

> The erection of a fence is simply a means for the better carrying out of the law, and not a necessary condition to its going into effect. It might take longer than six months to build a fence around a militia district; various causes might arise to hinder or delay its erection. There might not be sufficient timber obtainable in the district for this purpose; the taxable property of the district might not be sufficient to enable them to raise money enough by taxation to build a fence around the district . . . . We think, therefore, that after the people of the militia district have adopted the stock law, it goes into effect within six months thereafter, and its going into operation does not depend upon the building of a fence around the district. . . . [38]

Although this case was ultimately decided in 1888, it should be noted that Fairplay, the district involved in the case, adopted and put the stock law into force in September, 1885.[39] While the fence requirement for stock law districts may have created a temporary stumbling block, as the two aforementioned Supreme Court cases reveal, fence reformers seemed to have overcome the problem by ignoring it and then relying on favorable judicial decisions.

Once the enclosure requirement for stock law districts was struck down, the adoption of the new institution in one area had important consequences for neighboring regions. As individual districts forced the enclosure of their own animals, they increased the cost to neighboring communities of maintaining the open range. When a district passed the stock law, it meant that neither indigenous nor foreign animals were permitted to roam freely within its borders. The legislature clearly was concerned about who would bear the cost of keeping foreign animals out of stock law areas, as the district option amendment shows. The original Twiggs bill sought to force both counties and militia districts that adopted the stock law to

fence foreign animals out (see Appendix F). But the Committee on Agriculture excised the county enclosure requirement, but allowed the district provision to remain in the final version of the bill. In fact, the Committee recommended against the passage of another bill that would have required counties that adopted the stock law to fence its circumference.[40] Forcing the enclosure of stock law counties was a major point of contention in the 1881 House. When the bill that proposed to allow countywide fence elections to be held more often than bienni-ally was debated on the House floor, an amendment requiring county enclosure was proposed. The amendment was killed on the floor, however.[41] The debate did not cease in 1881 though. Two enclosure bills in the 1882–1883 session of the House were killed in committee — one "to provide for the erection of fences around the counties adopting the provisions of the stock law . . . ."[42] and the other "to require counties having the stock law to have fences built between said counties, and other counties that have not adopted the stock law."[43] A House bill in the 1886–1887 session, probably in response to the aforementioned 1885 Georgia Supreme Court ruling, called for "all counties and militia districts, which have adopted the stock law, to be fenced against adjoining counties or districts." It was defeated like the others.[44]

The daunting expense of fencing in an entire county, combined with the fact that representatives from the counties that had the most to gain from the stock law dominated the powerful agricultural committee, made a county fence requirement somewhat unrealistic. The district enclosure provision left in the Twiggs bill probably served as a coalition building dev-ice. For a legislator who may have been indifferent to the stock law (or possibly against it), the enclosure requirement provided him with some assurance that his constituents would not be affected by the stock law, unless they chose to be. If this section of the bill could have been deleted, most likely it would have been, because it would have been too expensive for stock law supporters to fence themselves in. The Georgia legislature and judiciary throughout

the 1880s were taking calculated steps toward reducing the costs associated with enacting the stock law. Clearly, there was a political movement developing that demanded fence reform.

III.

The fence–related public policy that emerged in the 1870s and 1880s facilitated the closing of the Georgia open range. With the adoption of the stock law, the economic and social way of life for affected areas was significantly altered. The stock law led to an expansion of tilled acreage, a reduction in livestock holdings, and an overall redistribution of income. Table 4.3 presents data comparing the agricultural change in Plantation Belt and Upcountry counties that adopted the countywide stock law prior to 1886 and in counties that failed to adopt the law by 1890 (counties in which some militia districts adopted the law are excluded). As the Table shows, when controlling for population growth, the improved acreage (tilled plus pasturage) in stock law counties increased by almost ten percent between 1880 and 1890. By contrast, per capita improved acreage dropped by 7.6 percent in non–stock law counties. Moreover, both groups of counties' per capita improved acreage was decreasing at a similar rate from 1870 to 1880, thus highlighting the stock law's important effect on land clearing decisions. Note the dramatic drop in livestock holdings from 1870 and 1880 to 1890 in stock law counties relative to open range ones. The stock law caused noteworthy decreases in beef cattle, milch cow, and swine holdings — the animals traditionally left to roam the countryside. As these data show, the stock law's effect on agricultural decision making was not trivial.

The legislation discussed up to this point served to facilitate, what I have estimated to be, an income–enhancing institutional change. Surprisingly though, given the belief that the southern economy stagnated in the postbellum period[45], few researchers have attempted to

uncover why a state legislature would work so hard to promote the adoption of an institution that promised to increase agricultural efficiency. Historians Steven Hahn and Charles L. Flynn, Jr., hypothesize that the stock law, as well as laws restricting hunting and fishing, were mechanisms to control labor — especially black labor — more easily. After emancipation, plantation owners found that it was difficult to recruit an ample supply of labor, as freedmen were reluctant to go back to the drudgery of gang labor. And as Roger L. Ransom and Richard Sutch argue, blacks shifted their labor out of wage earning endeavors and into leisure and household activities.[46] According to Hahn and Flynn, Plantation Belt employers attempted to eradicate traditional hunting, fishing, and grazing rights so as to force blacks back to the plantation for their livelihoods.[47] "[T]he spread of game and stock laws attests to the planters' efforts, and success, at re–asserting their authority over black labor . . . . The compulsions of necessity replaced the compulsions of the lash."[48]

In the Upcountry region, the laws served a somewhat similar purpose. Hahn's argument, following the lead of Ransom and Sutch, is that merchant–landlords seized control of the countryside and amassed their power in Upcountry towns. "It is not surprising, then, that merchant, landlords, and other interests associated with these towns seized upon the stock law as they pushed to consolidate their command of the developing cotton economy."[49] In order to push poor white tenant and yeoman farmers further into cotton production and debt peonage, merchant–landlords sought to cut off access to a supplementary source of income — the commons. Therefore, the social control hypothesis predicts that legislators supported stock law legislation in an attempt to reduce black freedom in the Plantation Belt and to intensify cotton production among poor whites in the Upcountry.

The main problem with the social control hypothesis is that the stock law was not uniformly imposed on the state, or on particular geographic regions. The legislature simply gave

counties, and then militia districts, the option to hold referenda on the fence question. The important feature of these referenda was that all men over 20 years old, theoretically at least, could vote in the elections. As discussed above, the legislature tried to resolve the fence issue at the local level, through direct local democracy. Even if a county or district adopted the stock law, or if it were imposed by the legislature (to be discussed below), laborers could always migrate to neighboring open range areas. The competition for wage labor would have forced landowners to compensate laborers and tenants for their losses in income (less moving costs) caused by the stock law. Competitive labor markets mights explain why blacks (a proxy for laborers) did not move out of Plantation Belt and Upcountry counties that adopted the stock law (see Table 4.3). Thus, the social control hypothesis seems weakened by the fact that the stock law was never imposed in such a way so as to make its supposed ill–effects inescapable.

The other principal shortcoming of the social control thesis is that it assumes that planters and merchant–landlords "captured" legislators.[50] In other words, the interests of the politically dominant group controlled legislative behavior and outcomes. Such an assumption, however, ignores the subtleties of a legislator's objective function. For example, one of the basic assumptions made in rational choice models of legislative decision making is that legislators seek benefits for their constituents so as to maximize their probability of reelection.[51] When a congressman votes on major policy that is very important to voters, then, he cannot choose an alternative that makes a majority of his constituents worse off because he would surely lose his bid for reelection. Furthermore, if a legislator planned to return to his district and to resume his position as a merchant or lawyer, then his future stream of income would depend on the continued patronage of his constituents, or at least a portion thereof. His behavior, therefore, would not follow a pattern of expected vote maximization, but of

maximizing a discounted stream of expected income. Finally, an individual legislator may have had a personal interest in the stock law that caused him either to favor or to oppose it. Therefore, arguing that legislators enacted stock law legislation for the purpose of social control completely ignores the rich alternative hypothesis that legislators acted in their own self interest.

There is another potentially useful framework for analyzing the government's intervention into the fence issue. In many Georgia counties, the stock law would have generated net benefits, but a voluntary agreement to dispense with the open range would have involved excessively large transaction costs. Given the definition of the fence law, any voluntary agreement to adopt the provisions of the stock law required unanimous consent. If one individual decided not to go along with the agreement, he could hold up reform for everyone because no one would be willing to break down his fences knowing that some animals would be running wild. Of course, if a marauding animal destroyed the crops of a farmer who tore down his fences, the law would be on the side of the livestock owner. Strategic bargaining, therefore, could have seriously hindered a privately negotiated settlement of the fence issue.[52]

In a bargaining situation that required unanimous consent, individuals had to be compensated for their expected losses. Those who "should" have paid the bribe, if they could have been identified, had an incentive to free ride off of the payments of others. The free rider could enjoy all of the benefits associated with the redefinition of property rights, but incur none of the costs of achieving the transformation. Since the bargaining situation would have involved large numbers of people, it is doubtful that a mechanism could have eradicated the free rider problem completely.[53] Thus, privately redefining property rights in land would have involved huge cost, making such an endeavor either inefficient (costs outweighing benefits) or impossible.

Property rights (at least the type described in this paper) obtain their credibility from the coercive power of the state. Since the government acts as a monopolist in the definition and enforcement of property rights, clearly it has the power to intercede when voluntary negotiations break down or are not forthcoming. If a reorganization of property rights that would generate net social gain is thwarted, the government may step in to facilitate the change. Therefore, a way to model the role of the government is to view it "as a public interest maximizer of social welfare, defining and enforcing rights in their highest–valued uses."[54] If we take political rhetoric at face value, then politicians' statement would certainly lend credence to the constituent interest hypothesis. For example, discussing the defeat of the county option bill in 1870, W. C. Smith maintained: "The measure under consideration [county option] will prove one of the most efficient aids in the promotion of the wealth of our great State . . . . Let us not pass it by inconsiderately, but weigh its claims well, as we should every measure which may enhance the wealth and promote the general welfare of Georgia."[55] Since legislators are elected to serve the interests of their constituents, the constituent interest hypothesis would predict, albeit somewhat naively, that legislators acted so as to maximize the social income of their districts.

The private–interest, constituent interest, and social control models offer contrasting interpretations as to why the government intervenes in the process of institutional change. Fence legislation in late nineteenth century Georgia offers a particularly fruitful testing ground for the three hypotheses. The 1881 act giving militia districts the option to hold fence referenda was a significant piece of legislation in the process to close the Georgia range. Fortunately, the House of Representatives recorded the roll call vote on the bill (in fact, it is the only bill with such data); therefore, the analysis will focus on this legislation. For each of the 174 legislators whose action was recorded in the 1881 House *Journal*[56], I have matched his

vote (either for the bill, against the bill, or abstention) with his county's 1880 census data.

The data set also contains personal information on each legislator, which will be described

below.

A logit model is employed to analyze the voting. The dependent variable is trichoto-

mous, representing one of three feasible actions — voting for the district option bill, voting

against it, or abstaining.[57] The independent variables chosen for the analysis are designed to

act as proxies for one, or more, of the competing hypotheses. There are two versions of the

social control thesis that need to be addressed. In the Plantation Belt, the theory is that by res-

tricting common grazing rights, planters could force ex–slaves to return to plantations as wage

laborers. According to the theory then, the closed range was a mechanism designed by the

capitalist class to expropriate the labor surplus more easily. Therefore, the black population

percentage is used as a proxy variable for the available supply of wage labor. As the percen-

tage of blacks increased, this should correlate with a vote in favor of allowing district option.

The other version of the social control model predicts that merchants, particularly in the

Upcountry region, pushed for the stock law so that poor, white yeoman farmers and tenants

would be unable to raise livestock on their own and, thus, would be forced to depend on the

merchant's supply of meat and dairy products. By extending the poor farmer credit and

obtaining a lien on his crop, the merchant would be in a position to push the farmer toward

increased cotton production. To operationalize this aspect of the control model, I include in

the estimation the percentage of farms that were smaller than some threshold level. In a

controversial article Gavin Wright and Howard Kunreuther find that the threshold between

gambling and safety–first behavior was approximately 50 acres for owner–occupied farms.[58]

Since it is diffucult to define a "small" yeoman or tenant farm a priori, I will follow Wright

and Kunreuther and define any farm less than 50 acres as "small." I will also run the equation

with the small farm variable set at less than 20 acres. As the percentage of small farms increased, the social control model predicts that legislators, following the request of merchants, would have been more willing to facilitate the closing of the range.

The private–interest model is relatively straightforward — legislators sided with that option that promised to maximize their own personal net benefits. Rational choice models of modern legislative behavior assume that politicians seek to maximize their chances for reelection. Such a working hypothesis may even be applied to nineteenth century state legislators. Taking the 1880–1881 session of the General Assembly as a base, I calculated the number of times each member of the House served as a representative in the previous four sessions and in the four future sessions. The results indicate that of the 175 representatives who started the 1880–1881 session, 77 (44.0 percent) of them held the same office more than once in the nine sessions spanning 1873 to 1889. The distribution is as follows: 45 (of the 77) legislators held office twice during the nine session period, 23 served for three sessions, 7 served in four of the sessions, 1 served in five, and another 1 served in six of the nine sessions.[59] It is important to emphasize that this calculation does not consider the fact that some of the representatives may have been elected to the state Senate or may have held some type of local office, such as ordinary or superior court judge. Since reelection seems to have been a common occurence for many members of the House, it is conceivable that this concern may have influenced their voting. By 1881, there were very few counties that had adopted the stock law or even held an election; therefore, it is reasonable to argue that the majority of voters in most counties were against the closed range policy and a vote against the 1881 bill would have been the safest strategy for reelection purposes. The reelection variable included in the regression indicates the number of sessions the representative served in the House from 1873 to 1889, other than the session under investigation. The variable is expected to decrease the relative probability

of voting for the bill.

Although some representatives may have served more than once in the General Assembly, for most, the political post was secondary to an income–generating occupation, such as farming, merchandising, or law. Under a self interest assumption, we might predict that legislators voted for the option that promised to maximize their personal monetary rewards. Since most farmers who served in the legislature probably had substantial means (after all, they were able to take time off from the farm), the stock law represented a method to increase their farm profits. For the most part, wealthy farmers were already pasturing their animals, so they obtained no benefits from the open range. In fact, they bore the heavy cost of maintaining fences around their large scale farms. The stock law would have enabled them to eradicate costly fence maintenance and to expand cultivation. *Ceteris paribus*, farmer–legislators should have favored the bill. Unfortunately, the profit maximization motive will be statistically indistinguishable from the Hahn/Flynn social control thesis because both models predict that wealthy planters supported the stock law.

Merchants' support for the stock law is predictable as well. When access to the open range was cut off, the expense of keeping animals would increase, causing a reduction in cattle, cow, and swine herds. Merchants would not only be in a position to find markets for the meat of animals slaughtered after the adoption of the stock law, but later they would be the individuals to import and to sell meat from either neighboring counties or the Midwest. But, as is the case for farmers, merchants' financial interest in the stock law cannot be statistically distinguished from the effects of a labor control interest.

The interests of lawyers may have cut both for and against the stock law. On the one hand, Hahn sees the stock law as a town–based movement in the Upcountry, where it combined the political strength of "merchants, landlords, and other interests associated with these

towns." The latter would certainly include lawyers. Furthermore, lawyers in the Plantation
Belt probably derived most of their income from planters, as cotton production was the princi-
ple source of wealth in the region.[60] Why would lawyers scorn their best, and possibly only,
customers? On the other hand, fence law reformers argued that the closed range would pro-
mote "peace between neighbors."[61] One stock law champion in Jackson County, Georgia,
commented that with the open range, "We have too much litigation — too many neighbor-
hood broils — too much trouble — from this cause [fence law] . . . ."[62] In an agricultural
society with animals roaming freely, there were bound to be trespass problems, resulting in
litigation. Holding all else constant, lawyers benefitted financially from the disputes that were
created by the open range. Why, then, would they have opted for a law that would have
reduced these legal conflicts (which, it might be noted, Hahn ignores)? On balance,
self-interested lawyers should probably have supported the status quo. To test how a
legislator's occupation affected his voting, dummy variables for farmers, lawyers, and mer-
chants are included in the estimation.

Legislators acting on behalf of the constituent interest, we might hypothesize, sought
to maximize economic growth. In areas that expected to benefit from closing the range, we
would predict that their representatives voted to allow district option. As a county had rela-
tively more of its land under till, this increased its fencing burden and, thus, made the stock
law relatively attractive. Similarly, when population density was high and as there were rela-
tively more animals running the range per acre, the chances that an animal would break
through a farmer's fences increased. In other words, as the level of the externality rose, so did
the relative profitability of closing the range. Included in the estimation, therefore, are the
percentage of the county's land that was improved and population density.[63] If the constituent
interest hypothesis is valid, then a rise in either of these independent variables should

correspond to an increase in the probability of voting for the district option bill. It might also be argued that increases in improved acreage or population density would have produced greater constituency interest in the stock law as more people expected to benefit from the law's adoption. Greater voter interest in the matter, then, should have increased the relative probability that a reelection–minded legislator supported the bill. Thus, the variables used to test the constituent interest thesis, might be concurrently explaining a form of self–interested behavior.

As mentioned earlier, a unordered logit model is used to analyze the voting on the 1881 district option bill. Because there are three alternatives, two equations are estimated — $\log\left[\dfrac{P_{FOR}}{P_{AGAINST}}\right]$ and $\log\left[\dfrac{P_{ABSTAIN}}{P_{AGAINST}}\right]$. The three probabilities, if desired, could be easily computed from the estimated coefficients of the two equations.[64] I will focus my attention on the results of the former equation, but will report the results for both. It turns out that the data do not explain abstention very well. The variables used in the analysis are summarized in Panel A of Table 4.4. The hypothesis(es) that each variable is designed to test is listed, as well as the expected sign of the coefficient. Summary statistics are presented in Panel B of the Table. The regression results are reported in Table 4.5.

Column A of the Table reports the regression results on the eight variables described in detail above, with the small farm threshold set at 50 acres. Contrary to the social control thesis, labor control does not seem to have been a determinant in the legislators' voting. The percent black coefficient is of the correct sign, but insignificantly different from zero. More problematic for the Hahn thesis is that relatively more small farms in a legislator's county did not encourage him to support the closed range legislation. This is especially surprising since the percentage of small (50 acre) farms is highly correlated with the percentage of tenant

farms ($r = 0.69$). In principle, we would expect that legislators who represented counties in which tenancy was prominent to have been in favor of the bill since tenants would have been compensated if the stock law were adopted. Instead, legislators representing these relatively poor constituents expressed their disdain for the stock law by voting against the district option bill – an action that seems to be in sharp conflict with the social control argument. In fact, the negative sign of the small farm coefficient and its degree of significance provide, instead, evidence for either the constituent interest or self interest model. Legislators from poor regions were trying to hold back a policy that would have decreased their constituents' aggregate wealth. However, this constituent–minded behavior cannot be distinguished from a legislator's reelection motive. If an assemblyman's district had relatively more small farms that expected to lose from the stock law, then he would be more likely to choose the alternative that a majority of his constituents favored, holding all else constant, if reelection were an objective.

A legislator's occupation played a very important role in his voting. The evidence tends to confirm that representatives were thinking about their pocketbooks, as opposed to reelection, in deciding which side to favor. The reelection coefficient has the predicted sign, but is insignificantly different from zero. Farmer and lawyers were strongly against the district option bill, holding all else constant. Merchants, on the other hand, exhibit no strong allegiance to the bill. The self interest model predicted that lawyers would oppose a law that promised to reduce litigation, but it is surprising that farmers opposed the bill also. It might be argued that Plantation Belt and Upcountry farmers were engaged in agricultural pursuits different from those of farmers in the rest of the state. Whereas Pine Barrens or Wiregrass legislators may have called themselves farmers, they may have, in fact, been more like ranchers. Therefore, I reran all of the regressions reported in Table 4.5, but included an interaction

term between the farmer dummy variable and a dummy variable taking the value of 1 if the legislator came from either the Plantation Belt or the Upcountry, and 0 otherwise. The coefficient of the interaction is positive, but significantly different from zero in only two cases (models B and D). This result suggests that farmer–legislators from the Plantation Belt and Upcountry were slightly more in favor of the bill than their fellow agriculturalists from other parts of the state. However, on net, even the farmers from the major agricultural regions of the Georgia were against militia district option (i.e., the sum of the coefficients on the interaction variable and on the farmer dummy variable is negative).

It is important to emphasize that these farmers/legislators were engaged in large scale agricultural production and depended on wage and tenant labor for the successful operation of their farms. Even though the district option bill provided a pasture provision for tenants, it is possible that farmer–legislators feared that the stock law would scare their labor force away. Since there existed no information to document how laborers would react to the adoption of the stock law, farm owning legislators may have felt that the risk of losing their labor force outweighed the expected private benefits from the stock law. The result certainly casts strong doubt on the idea that planters tried to use the stock law as a mechanism to control their laborers.

The variables designed to test the constituent interest model — improved acreage and population density — both operate as expected. A rise in the percentage of improved acreage in a representative's county — or, put another way, a decrease in the available open range — increased the relative probability that he would support the district option bill. The more his county expected to profit from the stock law, the more inclined the legislator was to support stock law legislation. Similarly, increased population density in a legislator's county tended to increase his support for the bill. But this coefficient is not significant at conventional

levels. Therefore, the roll call data offer strong evidence for the constituent and private–interest hypotheses, while offering nothing to support a social control motive.

Instead of setting the small farm threshold at 50 acres, I reduced it to 20 acres and reran the equation. Column B reports the revised results. By changing the definition of a small farm, the data give stronger support to the private and constituent interest models. The small farm and population density coefficients increase to high significance levels. Legislators were indeed very sensitive to their counties' economic interest in the stock law. Farmers and lawyers were thinking about their own economic interests as well.

There is another possible explanation for the disagreement over the district option bill. Why would any legislator care if a district far away from his own adopted the stock law and fenced itself in, as the law required? The fence law/stock law split may have been the result of factionalism in the House. Since there is insufficient data documenting the political party of each legislator, and since most were Democrats anyway, I use two variables in an attempt to proxy a factional split – membership on the agricultural committee and how legislators voted in the U.S. senatorial election of 1880. A dummy variable is created taking the value of 1 if the representative was a member of the Committee on Agriculture (there were 53 members), and 0 otherwise. Another dummy variable is set equal to 1 if the legislator voted for Joseph E. Brown for the U. S. Senate position, and 0 otherwise (Brown won the election over Alexander R. Lawton, 146 to 64)[65]. Regressions with these two variables added to the original eight are shown in Columns C and D of Table 4.5. Neither of the variables shows any sign of playing a role in determining the vote. Therefore, it seems unlikely that the fence vote divided the House along recognizable factional lines. Note also that the results for the other eight variables are robust to the new specification.

The 1872 and 1881 county and militia district option laws served to facilitate the adoption of the closed range. The legislature, as it consistently tried to do, left the fence question to the voters of the state. This was not always the case though. Beginning in 1881 and increasing throughout the 1880s, the legislature imposed the stock law either on whole counties or individual districts. Representatives would introduce local stock law bills for their own districts and, after gaining approval from the agricultural committee, the bills were usually passed with the unanimous consent of both the House and Senate. In 1890, however, the Georgia Supreme Court ruled that the General Assembly's imposition of the stock law on counties and militia districts was unconstitutional. The 1877 Georgia Constitution declared: "Laws of a general nature shall have uniform operation throughout the State, and no special law shall be enacted in any case for which provision has been made by an existing law." The Court ruled that the county and district option laws were general in nature; therefore, any fence legislation imposed at the local level violated the spirit of the constitution.[66] The legislature immediately responded to the 1890 decision by passing a general stock law covering the entire state, except for "any county or district of this State, which has not heretofore abolished or removed fences either by a vote of the people or in pursuance of legal or illegal legislative action."[67] Although the legislature was able to overcome the potentially devastating Supreme Court ruling, local stock laws quickly ceased after this incident.

From 1881 to 1889 the stock law was imposed on fourteen counties and in another sixteen counties, certain militia districts were targeted. What were the forces that determined whether a county adopted the stock law voluntarily, had the law imposed by the legislature, or did not adopt it at all? Although the 1881 district option amendment guaranteed pasturage for tenant farmers, it made no provision for the compensation of laborers. Therefore, a testable hypothesis would be that in counties that had a large wage labor population, there was a

relatively higher probability that the stock law would be legislatively imposed, rather than voluntarily adopted. To investigate this question I have created an independent variable that takes one of three values — 1, if county i, or districts within it, voluntarily adopted the stock law by 1890; 2, if the legislature imposed the law on county i or any portion thereof by 1890 and; 3, if all of county i's range was still open in 1890. The independent variables used in the logit analysis are PCTIMP, DENSITY, PCTFARM50(20), and PCTBLACK (to proxy wage labor), which are all defined in Table 4.4.

The results are reported in Table 4.6. The single most important determinant of whether a county voluntarily adopted the stock law or kept its range open was improved acreage. Quite simply, if the law would have generated net benefits, counties and militia districts adopted the closed range policy. Improved acreage, however, did not affect the relative probability of legislative action to voluntary adoption. In other words, highly improved counties were equally likely to adopt the stock law as they were to have it imposed on them by the legislature, *ceteris paribus*. As predicted above, though, where wage laborers made up a relatively large portion of the voting populace, the legislature was more likely to create a local stock law for the particular county or district. Given that the voting mechanisms did not deal with the expected losses that laborers might have realized if the closed range were enacted, it is not surprising that the stock law was often defeated at the ballot box in these communities. As the data suggest, the General Assembly was willing to correct its previous oversight. The coefficient for the variable measuring the percentage of farms less than 50 acres, which essentially acts as a proxy for the percentage of tenant farms in a county, suggests that the district option law, along with its promise of compensation, was able to entice tenant farmers to vote for the stock law. Counties with relatively more small farms, mostly of which were tenant farms, were more likely to adopt the law voluntarily than to rely on the legislature's coercive

power. It should be added that these counties were more likely to adopt the closed range on a district by district basis. If we exclude from the analysis those counties in which only some districts adopted the law, the small farm coefficient loses its significance. In addition, because small farms less than 20 acres correlate badly with tenant farms ($r = 0.04$), it is not surprising that the PCTFARM20 coefficient in the second column of Column B is insignificant.

The data illustrate the importance of governmental mechanisms that transfer income from expected winners of institutional change to expected losers. The 1881 district option law provided compensation for tenants, so their support for the new institution was secured. Laborers were not compensated, and they were able to block the institutional change at the ballot box. The coercive power of the state was necessary to break their veto power.

IV.

In a Coasean economy, where information is abundantly available and is costless to obtain and where bargaining costs are infinitesimal, institutional change is an automatic process. If exogenous shocks, such as relative price changes or technological discoveries create an incentive to redefine property rights so as to capture untapped efficiency gains, then, in this idealized world, individuals will immediately bargain with one another to adopt the new, income–enhancing institutional arrangement. If the proposed set of property rights would make certain parties better off at the expense of others, then these distributional conflicts will be efficiently resolved in the negotiation process. What happens, however, when asymmetric information and costly bargaining is added as a constraint? The assumptions underlying Coase's result are too fantastic to predict accurately what type of institutions, if any, will emerge so as to capture the potential efficiency gains in this more complicated environment.

The study of institutional change is more complicated than simply identifying the relevant economic forces at work. When transaction costs impede the path of institutional development, the government is often called in at the behest of special interest groups to implement a solution coercively. But as the interests of politicians and bureaucrats shape the public policies that govern institutional choice, it is not certain that the political solution will capture all potential efficiency gains or resolve the distributional conflicts that held up private reform in the first place. The interaction between economic and political processes is an important issue that must be addressed before institutional and economic development is fully understood. Questions such as the following must be confronted: How do special interest groups influence political decision making? What are the private objectives of elected government officials and bureaucrats and how do their interests influence the path of institutional change? This paper has been an attempt to explore the latter question.

Fence reformers in postbellum Georgia argued that the open range was an anachronistic policy that led to agricultural inefficiency and economic stagnation. Even though the stock law, or closed range policy, promised to generate net social benefits in many Georgia counties, the voluntary adoption of the law was virtually impossible. The 1872 law, along with the 1881 amendments, vastly reduced the power of holdouts against the stock law. Before 1872, a single owner of animals could force every farmer to erect fences to keep his animals out. After 1872, it took a majority in a county. After 1881, a majority in a militia district, a much smaller unit, could, in effect, compel neighboring farmers, as well as fence law supporters within the district, to enclose their stock. The legislature's manipulation of the mechanism governing fence elections played a key role in closing the Georgia open range.

The paper has presented and empirically tested three general models to explain why Georgia assemblymen created legislation that effectively facilitated the adoption of the stock

law. The historical literature on the fence issue has generally concluded that planters and merchants designed and advocated the stock law as a mechanism to extract the "labor surplus" from laborers, tenants, and yeoman farmers more easily. Although social control may have been merchants' and planters' ulterior motive, the data presented in this paper show that legislators were not followng such a strategy. The social control thesis, in fact, was clearly refuted in the roll call analyses of the 1881 district option bill. Instead, the data suggest that legislators voted according to their districts' economic interests in the stock law. In other words, legislative behavior is consistent with the hypothesized constituent interest model. Pure selfless individuals they were not. Farmers and lawyers were against the enactment of the 1881 district option bill, holding all else constant. This empirical result should not come as a surprise — lawyers had a selfish interest in keeping the range open and farmer–legislators might have feared that the stock law would scare their labor force away.

The objectives of individual legislators clearly influenced the type of fence–related policies that were enacted throughout the postbellum period. Representatives wanted to promote economic development in Georgia, but they also wanted the fence question to be decided by those who would be directly affected by the changes that the new law would cause. The coalition building device that was written into the 1881 district option bill (the pasture provision for tenants) enabled the legislature to accomplish both of its goals. Had the legislature been interested in social control, then a statewide stock law probably would have been enacted. Instead, the General Assembly moved cautiously and slowly, maintaining its commitment to direct local democracy, while ensuring that the stock law was adopted where it would have been most profitable. Of course, as was shown in the paper, the voting mechanisms failed to provide compensation for laborers and the legislature did tend to force the stock law on counties where laborers consistently vetoed the new institution. This fact offers some

comfort to the proponents of the social control thesis, but not much. In two decades, the legislature imposed the stock law on only 30 counties — a far cry from the aggressive capitalist revolution from above depicted by Hahn.

The institutional change literature often emphasizes the important role that the government can play in determining economic success, but the research seldom considers the reasons for the government's actions. In order to understand more completely the process of institutional and economic development, it is important to know why and when the government is likely to intervene. Once we have uncovered the private motives of the individuals who design and implement public policy, we will be in a better position to explain and to predict whether relatively inefficient institutions persist or whether they are pushed aside to make room for economic growth and development.

FOOTNOTES

1. For a survey of the property rights literature, see Eirik G. Furubotn and Svetozar Pejovich, "Property Rights and Economic Theory: A Survey of Recent Literature," *Journal of Economic Literature*, 10 (December 1972), pp. 1137–1162; Douglass C. North, "Structure and Performance: The Task of Economic History," *Journal of Economic Literature*, 16 (September 1978), pp. 963–978; Louis De Alessi, "The Economics of Property Rights: A Review of the Evidence," *Research in Law and Economics*, 2 (1980), pp. 1–47; and Gary D. Libecap, "Property Rights in Economic History: Implications for Research," *Explorations in Economic History*, 23 (July 1986), pp. 227–252.

2. For theoretical discussions of this point, see H. Scott Gordon, "The Economic Theory of a Common Property Resource: The Fishery," *Journal of Political Economy*, 62 (April 1954), pp. 124–142 and Steven N. S. Cheung, "The Structure of a Contract and the Theory of a Non–exclusive Resource," *Journal of Law and Economics*, 13 (April 1970), pp. 49–70.

3. Gary D. Libecap, "Distributional Issues in Contracting for Property Rights," *Journal of Institutional and Theoretical Economics*, 145 (March 1989), p. ?

4. See, for example, George J. Stigler, "The Theory of Economic Regulation," *Bell Journal Economics and Management Science*, 2 (Spring 1971), pp. 3–21; Sam Peltzman, "Toward a More General Theory of Regulation," *Journal of Law and Economics*, 19 (August 1976), pp. 211–248; Gary Becker, "A Theory of Competition Among Pressure Groups for Political Influence," *Quarterly Journal of Economics*, 98 (August 1983), pp. 371–400.

5. Some of this work includes Jonathan R. T. Hughes, *The Governmental Habit: Economic Controls from Colonial Times to the Present* (New York: Basic Books, 1977); Gary D. Libecap and Steven N. Wiggins, "The Influence of Private Contractual Failure on Regulation: The Case of Oil Field Unitization," *Journal of Political Economy*, 93 (August 1985), pp. 690–714; and Lee J. Alston and Joseph P. Ferrie, "Labor Costs, Paternalism, and Loyalty in Southern Agriculture: A Constraint on the Growth of the Welfare State," *Journal of Economic History*, 45 (March 1985), pp. 95–117.

6. Recent work in the property rights literature has begun to consider this question, however. See Gary D. Libecap, *Locking Up the Range, Federal Land Controls and Grazing* (Cambridge: Ballinger, 1981) and Fred S. McChesney, "Government Prohibitions on Volunteer Fire Fighting in Nineteenth–Century America: A Property Rights Perspective," *Journal of Legal Studies*, 15 (January 1986), pp. 69–92.

7. Quoted in J. Crawford King, Jr., "The Closing of the Southern Range: An Exploratory Study," *Journal of Southern History*, 48 (February 1982), pp. 53.

8. Steven Hahn, *The Roots of Southern Populism: Yeoman Farmers and the Transformation of the Georgia Upcountry, 1850–1890* (New York: Oxford University Press, 1983), pp. 60–61

9. Quoted in King, "The Closing," p. 56.

10. See James C. Bonner, *A History of Georgia Agriculture 1732–1860* (Athens, GA: University of Georgia Press, 1964), ch 9.

11. Quoted in King, "The Closing," p. 56.

12. R. Ben Brown, "'Let Us Go Down and There Confound Their Language': The Multiplicity of Legal Discourses in the Antebellum United States," American Bar Foundation Working Paper #8901, n.d.

13.   The Georgia constitutions are displayed in Francis Newton Thorpe, *The Federal and State Constitutions, Colonial Charters, and Other Organic Laws of the States, Territories, and Colonies Now or Heretofore Forming the United States of America, v. II* (Washington: GPO, 1909), pp. 809–876.

14.   *Atlanta Constitution*, August 30, 1870.

15.   Georgia Senate *Journal*, pp. 73, 153, 412.

16.   During the same 1871–1872 session, "a bill to create a stock law in the State" was introduced in the House (Georgia House *Journal*, 1872, pp. 13). The bill never made it off the House floor, though (p. 197). A copy of the original bill is missing from the Georgia Department of Archives and History, so it is impossible to say definitively that the bill called for a statewide stock law. But given the bill's title, it seems very likely that it did.

17.   Thomas P. Janes, "June Crop Report — 1879," in *Publications of the Georgia State Department of Agriculture for the Year 1879* (Atlanta: J.P. Harrison & Co., 1880), p. 3.

18.   J.T. Henderson, *Report of the Commissioner of Agriculture of the State of Georgia, Embracing the Years 1881 and 1882* (Atlanta: J.P. Harrison & Co., 1882), p. 53.

19.   *Ibid.*, p. 54.

20.   There was only one exception to this rule, occuring in 1874. The legislature imposed the stock law on specific portions of Milton and Forsyth Counties. See Georgia *Session Laws*, 1874, no. 370, p. 397.

21.   See Georgia Senate *Journal*. 1873, pp. 38, 50, and 86. The Senate bill calling for repeal received an adverse recommendation from the Committee on Agriculture. When the Senate voted to accept the Committee's proposal (to kill the bill), 12

Senators voted to reject the advice, 19 voted to accept, and 11 abstained. I estimated several logit equations in an attempt to explain the voting. Variables such as the percentage of the Senator's district that was black, the percentages of improved acreage and farms less than 50 acres, population density, and whether the senator was a member of the agricultural committee explain about two thirds of the votes. The only statistically significant results were that relatively more blacks meant that a senator would vote to accept the committee's recommendation (i.e., keep county option), and improved acreage and membership on the committee itself corresponded to a higher relative probability of abstaining. For data on the House's defeat of the repeal movement, see the Georgia House *Journal*, 1875, pp. 157, 259, and 484.

22.   Georgia House *Journal*, 1875, pp. 70, 107, 142, 249. House Bill 104, Georgia Department of Archives and History (GDAH), Record Group 37, sub–group 1, series 1 (37–1–1); location 13–03; box 47.

23.   Georgia House *Journal*, 1876, pp. 139, 252, 328, 330. House Bill 243, Georgia Department of Archives and History (GDAH), (37–1–1); location 13–09; box 53.

24.   For a theoretical discussion of committee jurisdiction and gatekeeping, see Kenneth A. Shepsle, "Institutional Arrangements and Equilibrium in Multidimensional Voting Models," *American Journal of Political Science*, 23 (February 1979), pp. 27–59.

25.   The distribution of voluntary adoption is as follows: 1881 — Campbell, Clayton, Coweta, Meriweather, Troup; 1882 — Butts, Henry, Lincoln, Morgan, Pike, Rockdale, Spalding; 1883 — Clarke, Houston, Talbot, Wilkes. The legislature imposed the stock law on seven counties over these three years: 1881 — Monroe, Putnam; 1883 — Greene, Hancock, Jasper, Taliaferro, Warren. See J. T. Henderson, "August Crop Report – 1889," in *Publications of the Georgia State Department of Agriculture from*

the Year 1889 (Atlanta: Constitution Book and Job Print, 1889), pp. 115–126 and the

Georgia *Session Laws*, 1881, pp. 349 and 426 and 1883, pp. 630–631, 636–637, and

653–654.

26.   Georgia State Agricultural Society, *Proceedings of the Georgia State Agricultural

Society, from August, 1876 to February, 1878* (Atlanta: J.P. Harrison & Co., 1878),

pp. 728–729.

27.   Georgia House *Journal*, 1881, p. 289.

28.   *Ibid.*, p. 448.

29.   *Ibid.*, pp. 142, 890.

30.   Georgia *Session Laws*, 1881, No. 110, pp. 60–61.

31.   Georgia Code, 1882, p. 300.

32.   Georgia *Session Laws*, 1881, No. 366, p. 177.

33.   See Shawn E. Kantor and J. Morgan Kousser, "Common Sense or Commonwealth?

The Fence Law and Institutional Change in the Postbellum South," Social Science

Working Paper 703, California Institute of Technology, July, 1989; Steven Hahn,

Roots, pp. 239–54; Charles L. Flynn, Jr., *White Land, Black Labor: Caste and Class

in Late Nineteenth–Century Georgia* (Baton Rouge: Louisiana State University Press,

1983), pp. 130–145; James C. Bonner, *Georgia's Last Frontier: The Development of

Carroll County* (Athens, GA: University of Georgia Press, 1971), pp. 139–143 for

detailed description of the contemporary fence debate.

34.   See Chapter 3.

35.   Thomas P. Janes, "June Crop Report — 1879," in *Publications of the Georgia State

Department of Agriculture for the Year 1879* (Atlanta: J.P. Harrison & Co., 1880), p.

3.

36. The expected stock law benefits accruing to each district were calculated using the procedure detailed in Appendix A. The data come from a 100% sample of the 1880 Carroll County manuscript agricultural census. The cost of building a new fence was estimated to be $1.90 per acre.

37. *Jones v. Sligh*, 75 GA Reports 7 (1885).

38. *Dover v. The State of Georgia*, 80 GA Reports 781 (1888).

39. *Carroll Free Press*, September 18, 1885. In fact, the stock law prevailed in Fairplay because illegal ballots were cast and the ordinary had to overturn the original results reported by the precinct managers.

40. Georgia House *Journal*, 1881, p. 288–289.

41. *The Daily Chronicle & Constitutionalist* (Augusta, GA), August 6, 1881.

42. Georgia House *Journal*, 1882, pp. 278 and 342.

43. Georgia House *Journal*, 1883, pp. 502 and 531.

44. Georgia House *Journal*, 1886, pp. 160 and 248.

45. Ransom and Sutch, *One Kind of Freedom: The Economic Consequences of Emancipation* (New York: Cambridge University Press, 1977), p. 171.

46. *Ibid.*, chapter 1.

47. Steven Hahn, "Hunting, Fishing, and Foraging: Common Rights and Class Relations in the Postbellum South," *Radical History Review*, 26 (1982), pp. 37–64.

48. Hahn, "Hunting," pp. 50–51.

49. *Ibid.*, p. 53.

50. See Stigler, "The Theory," for an early statement on the "capture" theory.

51. For example, see Anthony Downs, *An Economic Theory of Democracy* (New York: Harper and Row, 1957); David R. Mayhew, *Congress: The Electoral Connection* (New Haven, CT: Yale University Press, 1974); Morris P. Fiorina, *Congress: Keystone of the Washington Establishment* (New Haven, CT: Yale University Press, 1977).

52. For historical discussions of this same phenomenon, see Donald N. McCloskey, "The Economics of Enclosure: A Market Analysis," in William N. Parker and Eric L. Jones, eds., *European Peasants and Their Markets*, pp. 132–133; Jean–Laurent Rosenthal, "The Fruits of Revolution; Property Rights, Litigation and French Agriculture 1700–1860," unpublished California Institute of Technology doctoral dissertation, 1988, pp. 90–112; and Philip T. Hoffman, "Institutions and Agriculture in Old–Regime France," *Journal of Institutional and Theoretical Economics*, 145 (March 1989), pp. 166–181.

53. George J. Mailath and Andrew Postlewaite, "Asymmetric Information Bargaining Problems with Many Agents," University of Pennsylvania, mimeo, June 1988; and Raphael Robb, "Pollution Claim Settlements Under Private Information," *Journal of Economic Theory*, 47 (June 1989), pp. 307–333.

54. McChesney, "Government Prohibitions," p. 79.

55. *Atlanta Constitution*, August 30, 1870.

56. The 1877 Georgia Constitution states that there should have been 175 representatives in the House. Evidently, at the time of the vote, one seat was vacant either because of a resignation or a death.

57.   I should note that there were actually two votes taken on the district option bill. On September 15, 1881, the House voted on the bill, but it did not obtain the constitutional majority — 81 voted for the bill, 52 voted against, and 41 abstained [Georgia House *Journal*, 1881, pp. 917–8]. On September 16, 1881, after the reading of the previous day's journal, Twiggs moved to reconsider the portion of it that dealt with the House's action on the district option bill. Twiggs' motion to reconsider was approved and the bill was tabled [Georgia House *Journal*, 1881, p. 930]. On September 21, 1881 the bill was taken up again and debated on the House floor. Below is a summary of the *Atlanta Constitution* (September 22, 1881) reporter's account of the floor debate:

> Harrell – offered an amendment, but it was rejected.
>
> Farnell – offered an amendment "obstructive to the bill, and opposed the bill as one that would operate injuriously to his county." The amendment lost.
>
> Reese – proposed an amendment requiring gates across public roads to be constructed so that they could be opened and closed without dismounting.
>
> Adderton – moved to postpone bill indefinitely. Lost.
>
> Reese amendment adopted.
>
> Twiggs – supported bill in an "able and eloquent speech."
>
> Smith, of Oglethorpe – also supported bill "forcibly, in some strong and pointed remarks."
>
> Bill passed 98–51–25 (for, against, abstain).

Sixty–five legislators switched their votes from the 15th to the 21st. The transition matrix is displayed below:

FIRST ROLL CALL

		for	against	abstain
	for	65	13	20
SECOND ROLL CALL	against	7	34	10
	abstain	9	6	10

In order to determine why these legislators changed their votes, I have created a vari-able taking one of three values — +1, if the legislator moved in a positive direction toward favoring the bill (e.g., abstain to support or against to abstain); −1, if the legis-lator moved in a negative direction (e.g., support to abstain or abstain to against) and; 0, if the legislator voted the same in both roll calls. An ordered probit estimation of this independent variable on the dependent variables used in my analysis (described below in the text) suggests that legislators from more improved and densely populated counties were the ones to switch their votes. It is not clear why the legislators did not vote for the bill in the first place. They could have been ignorant of the bill's contents and, therefore, decided to abstain or vote against it. Alternatively, it is possible that the legislators were behaving strategically, sending some kind of cryptic signal to the bill's sponsors or holding out until they received promises of support for a bill that they favored. Whether it was simply a matter of education or of logrolling, the bill's sponsors were able to convert most easily those legislators whose counties stood to gain from the adoption of the stock law. I also regressed the first roll call on the dependent variables and the fit is extremely bad, with only about half of the votes being predicted correctly. Because the first roll call vote seems to be, in a sense, aber-rant, my analysis relies on the second roll call which seems to be a more reliable

representation of the sentiment in the House.

58. Gavin Wright and Howard Kunreuther, "Cotton, Corn and Risk in the Nineteenth Century," *Journal of Economic History*, 35 (September 1975), pp. 526–551.

59. The data underlying this calculation were gathered from the Georgia House *Journals*, 1873 – 1889.

60. Alston and Ferrie, "Labor Costs," argue that landlords provided their tenants, and possibly laborers, with paternalistic benefits, which included legal services. Therefore, it is reasonable to argue that plantation operators provided Plantation Belt lawyers with a large portion of their workload.

61. *Carroll Free Press*, April 17, 1885.

62. *Jackson Herald*, June 29, 1883.

63. The social savings that a county expected to receive from the stock law (as calculated in the previous chapter), is highly correlated with the improved acreage percentage — 0.71. Substituting the expected savings estimate for improved acreage in the regressions that follow does not change the results.

64. For a theoretical discussion of the model, see G.S. Maddala, *Limited–Dependent and Qualitative Variables in Econometrics* (New York: Cambridge University Press, 1983), pp. 34–37.

65. Brown received 118 votes in the House, while Lawton received 48. A. O. Bacon, Charles J. Jenkins, and Rufus E. Lester each received 1 vote. Six representatives abstained. For a discussion of the Brown/Lawton senatorial contest, see Joseph H. Parks, *Joseph E. Brown of Georgia* (Baton Rouge, LA: Louisiana State University Press, 1977), pp. 524–533.

66.   *Mathis v. Jones*, 84 GA Reports 804 (1890).

67.   Georgia Session Laws, 1890, No. 12, p. 69. See also Georgia Session Laws, 1892,

No. 44, pp. 104–105.

TABLE 4.1

COMPOSITION OF GEORGIA HOUSE COMMITTEE
ON AGRICULTURE, 1871 – 1891

SESSION	REGION[a]				MEDIAN SAVINGS (000)[b]	N[c]
	P. Blt.	Upc.	Mnt.	Oth.		
1871–1872	69.2%	23.1%	0.0%	7.7%	17	13
1873–1874	82.3	11.8	5.9	0.0	154	17 (1)
1875–1876	81.2	18.8	0.0	0.0	179	16
1877	68.4	10.5	5.3	15.8	146	19
1878–1879	66.7	16.7	5.5	11.0	124	36 (5)
1880–1881	62.3	11.3	1.9	24.5	111	53
1882–1883	58.3	23.3	1.7	16.7	104	60 (3)
1884–1885	54.2	20.8	6.9	18.1	94	72 (1)
1886–1887	66.0	18.8	3.8	11.3	128	53
1888–1889	60.6	12.1	4.5	22.7	113	66
1890–1891	49.2	23.8	12.7	14.3	99	63
Average Representation	65.3	17.4	4.4	12.9	–	–

TABLE 4.1 (continued)

Notes: [a] "P. Blt." correspnds to the Plantation Belt, "Upc." to the Upcountry, "Mnt." to the Mountain region, and "Oth." refers to the Wiregrass, Pine Barrens, and Coastal regions. The numbers in these columns represent the percentage of the agricultural committee members who resided in the specified regions in each session.

[b] Median expected savings from the stock law, calculated from committee members' counties. See Appendix A for a discussion of the computation of a county's expected savings.

[c] Number in parentheses is the number of members whose home county was not recorded at the beginning of the session. Therefore, these members are excluded from the analysis.

Sources: Georgia House *Journal*, 1871, p. 41; 1873, pp. 4–7, 60; 1875, pp. 5–9, 66; 1877, pp. 5–10, 69; 1878, pp. 5–9, 75; 1880, pp. 5–10, 66–67; 1882, pp. 5–9, 69–69; 1884, pp. 5–9, 194; 1886, pp. 5–9, 136; 1888, pp. 3–6, 182–183; 1890, pp. 3–7, 147–148.

TABLE 4.2

**AVERAGE REPRESENTATION ON THE HOUSE AGRICULTURAL COMMITTEE,
1871–1891, AND SHARE OF STATE AGRICULTURAL PRODUCTION, 1870, 1880,
1890**

Region(s)	Average Committee Representation	Share of State Agricultural Production		
		1870	1880	1890
Plantation Belt	65.3	66.9	60.2	62.5
Upcountry	17.4	15.0	23.0	19.2
Mountain	4.4	5.8	5.2	4.6
Pine Barrens, Coast, Wiregrass	12.9	12.3	11.6	13.6

Sources: Representation — See Table 1. Agricultural data — U. S. Census Office, Ninth
Census, 1870, *Compendium of the Ninth Census* (Washington: GPO, 1872), pp.
720–725; U. S. Census Office, Tenth Census, 1880, *Report on the Productions of
Agriculture* (Washington: GPO, 1883), pp. 109–111; U. S. Census Office, Eleventh
Census, 1890, *Report on the Productions of Agriculture* (Washington: GPO, 1894),
pp. 202–204.

TABLE 4.3

CHANGES IN STOCK LAW AND NON–STOCK LAW COUNTIES, PLANTATION BELT AND UPCOUNTRY

Panel A: Counties that Adopted the Stock Law by 1885

	ADOPTED STOCK LAW $\leq$ 1885				
	1870[a]	1880[a]	1890[a]	% chg.('70-'80)	% chg.('80-'90)
IMPROVED ACRES	71,042	81,703	96,919	15.0%	18.6%
IMPROVED ACRES PER CAPITA	6.23	5.65	6.21	−9.31	9.9
PERCENT BLACK	55.37	59.68	59.41	4.3	−0.3
DRAFT ANIMALS PER CAPITA	0.193	0.178	0.180	−7.8	1.1
BEEF CATTLE PER CAPITA	−[b]	0.219	0.160	−	−26.9
MILCH COWS PER CAPITA	0.139	0.142	0.121	2.2	−14.8
SWINE PER CAPITA	0.589	0.708	0.487	20.2	−31.2
N	25[c]	26	26		

TABLE 4.3 (continued)

Panel B: Counties that Had Not Adopted the Stock Law by 1890

| | DID NOT ADOPT STOCK LAW BY 1890 | | | | |
	1870[a]	1880[a]	1890[a]	% chg.('70-'80)	% chg.('80-'90)
IMPROVED ACRES	47,754	56,495	61,631	23.5%	9.1%
IMPROVED ACRES PER CAPITA	7.09	6.57	6.07	−7.3	−7.6
PERCENT BLACK	42.62	48.04	46.66	5.4	−1.4
DRAFT ANIMALS PER CAPITA	0.217	0.214	0.227	−1.4	6.1
BEEF CATTLE PER CAPITA	−[b]	0.451	0.461	−	2.2
MILCH COWS PER CAPITA	0.216	0.261	0.238	20.8	−8.8
SWINE PER CAPITA	0.948	1.251	1.259	32.0	0.6
N	13	13	13		

TABLE 4.3 (continued)

Notes: [a] Data are averages from the counties in each column. Counties in which only a portion adopted the stock law are excluded.

[b] Data on beef cattle holdings are not provided in the aggregate agricultural statistics of 1870.

[c] Rockdale County is missing here. It was not yet created.

Sources: U. S. Census Office, Ninth Census, 1870, *Compendium of the Ninth Census* (Washington: GPO, 1872), pp. 720–725; U. S. Census Office, Tenth Census, 1880, *Compendium of the Tenth Census* (Washington: GPO, 1883), pp. 341–343, 846–851; U. S. Census Office, Eleventh Census, 1890, *Compendium of the Eleventh Census* (Washington: GPO, 1894), pp. 12–13 & 590–595; U. S. Census Office, Tenth Census, 1880, *Report on the Productions of Agriculture* (Washington: GPO, 1883), pp. 109–11; U. S. Census Office, Eleventh Census, 1890, *Report on the Productions of Agriculture* (Washington: GPO, 1894), pp. 202–204, 280–282, 322–324.

TABLE 4.4

PANEL A: VARIABLES USED IN ROLL CALL ANALYSES

VARIABLES	DESCRIPTION	HYPOTHESIS TESTED (expected sign — $\log\left[\dfrac{P_{FOR}}{P_{AGAINST}}\right]$ eq.)
Independent		
VOTE	Three alternatives — *for* the bill, *against* the bill, *abstain*	
Dependent		
PCTBLACK[a]	Percentage of the population black	Social Control (+)
PCTFARM50[a]	Percentage of farms ≤ 50 acres	Social Control (+)
PCTFARM20[a]	Percentage of farms ≤ 20 acres	Social Control (+)
FARMER	1 if legislator was a farmer; 0 otherwise	Social Control (+) Private interest (+)
LAWYER	1 if legislator was a lawyer; 0 otherwise	Social Control (+) Private interest (−)
MERCHANT	1 if legislator was a merchant; 0 otherwise	Social Control (+) Private interest (+)
REELECTION	Number of sessions legislator served in the House from 1873 to 1889, excluding 1880–1881 session (maximum — 8)	Private interest (−)
PCTIMPROVED[a]	Percentage of the land improved (tilled or in pasture)	Public interest (+) Private interest (+)
DENSITY[a]	Population per acre	Public interest (+) Private interest (+)
BROWN	1 if legislator voted for Joseph E. Brown for U.S. Senate; 0 otherwise	
AGRCOMM	1 if legislator served on the House Committee on Agriculture; 0 otherwise	

TABLE 4.4 (continued)

PANEL B: SUMMARY STATISTICS OF VARIABLES

VARIABLES	MEAN	STD. DEV.	# 1s	# 0s	*for*	*against*	*abstain*
Independent							
VOTE							
Full sample[b]					98	52	24
Sub–Sample[c]					77	40	20
Dependent							
PCTBLACK	44.1	21.8					
PCTFARM50	33.3	13.7					
PCTFARM20	8.1	8.2					
FARMER[d]			63	74			
LAWYER[d]			52	85			
MERCHANT[d]			17	120			
REELECTION	0.7	1.0					
PCTIMPROVED	35.1	13.9					
DENSITY	0.08	0.08					
BROWN							
Full Sample			117	55			
Sub–sample			89	46			
AGRCOMM							
Full Sample			52	122			
Sub–sample			43	94			

TABLE 4.4 (continued)

Notes: [a] Data correspond to the county that the legislator represented.

[b] "Full Sample" corresponds to the 174 legislators whose vote was recorded in the 1881 district option roll call.

[c] "Sub–sample" corresponds to the 137 legislators for whom I have occupational data.

[d] Some legislators reported more than one occupation. There were 11 farmer–merchants, 1 farmer–lawyer, and 3 merchant–lawyers. If a representative reported any two of these occupations, both dummy variables take the value of 1.

Sources: VOTE — Georgia House *Journal*, 1881, pp. 1021–2; FARMER, LAWYER, MER-CHANT — *Georgia's General Assembly, 1880–1881: Biographical Sketches of Senators, Representatives, Governors, Heads of Departments* (Atlanta: James P. Harrison & Co., 1881); REELECTION — Georgia House *Journals*, 1873 – 1888; PCTBLACK — U. S. Census Office, Tenth Census, 1880, *Compendium of the Tenth Census* (Washington: GPO, 1883), pp. 341–343; PCTIMPROVED, DEN-SITY, PCTFARM20, PCTFARM50 — U. S. Census Office, Tenth Census, 1880, *Report on the Productions of Agriculture* (Washington: GPO, 1883), pp. 109–111, pp. 40–45; BROWN — Georgia House *Journal*, 1880, pp. 120–122; AGRCOMM — *Georgia General Assembly Roster*, 1880, pp. 32–33.

TABLE 4.5

ROLL CALL ANALYSES OF 1881 DISTRICT OPTION BILL — LOGIT ESTIMATION

VARIABLES	A $\log\left[\dfrac{P_{FOR}}{P_{AGAINST}}\right]$	A $\log\left[\dfrac{P_{ABSTAIN}}{P_{AGAINST}}\right]$	B $\log\left[\dfrac{P_{FOR}}{P_{AGAINST}}\right]$	B $\log\left[\dfrac{P_{ABSTAIN}}{P_{AGAINST}}\right]$
CONSTANT	−1.259 (−1.459)	−1.769 (−1.620)	−0.809 (−0.882)	−1.699 (−1.513)
PCTBLACK	0.020 (1.473)	0.004 (0.243)	0.012 (0.868)	0.001 (0.046)
PCTFARM50	−0.046*** (−1.686)	−0.022 (−0.704)		
PCTFARM20			−0.133** (−2.213)	−0.052 (−0.836)
FARMER	−1.797** (−2.459)	−1.535*** (−1.694)	−1.782** (−2.379)	−1.622*** (−1.764)
LAWYER	−1.777** (−2.152)	−0.654 (−0.686)	−1.854** (−2.182)	−0.803 (−0.826)
MERCHANT	−0.089 (−0.122)	−0.100 (−0.103)	−0.129 (−0.177)	−0.094 (−0.097)
REELECTION	−0.428 (−1.546)	−0.053 −(0.168)	−0.381 (−1.341)	0.024 (0.076)
PCTIMPROVED	0.106* (3.202)	0.059 (1.592)	0.072** (2.309)	0.046 (1.277)
DENSITY	14.696 (1.375)	13.982 (1.279)	22.878*** (1.874)	17.634 (1.411)
BROWN				
AGRCOMM				
N^a	137		137	
log (L)	−103.26		−101.40	
$\rho^{2\,b}$	0.383		0.394	

TABLE 4.5 (continued)

ROLL CALL ANALYSES OF 1881 DISTRICT OPTION BILL — LOGIT ESTIMATION

VARIABLES	C		D	
	$\log\left[\dfrac{P_{FOR}}{P_{AGAINST}}\right]$	$\log\left[\dfrac{P_{ABSTAIN}}{P_{AGAINST}}\right]$	$\log\left[\dfrac{P_{FOR}}{P_{AGAINST}}\right]$	$\log\left[\dfrac{P_{ABSTAIN}}{P_{AGAINST}}\right]$
CONSTANT	−1.713	−1.880	−1.252	−1.842
	(−1.529)	(−1.354)	(−1.070)	(−1.294)
PCTBLACK	0.025	0.005	0.017	0.001
	(1.653)	(0.262)	(1.049)	(0.080)
PCTFARM50	−0.052***	−0.027		
	(−1.866)	(−0.842)		
PCTFARM20			−0.135**	−0.057
			(−2.232)	(−0.916)
FARMER	−2.062*	−1.894***	−2.041*	−1.964**
	(−2.570)	(−1.921)	(−2.507)	(−1.975)
LAWYER	−1.843**	−0.709	−1.919**	−0.838
	(−2.089)	(−0.694)	(−2.117)	(−0.807)
MERCHANT	0.318	0.254	0.265	0.254
	(0.386)	(0.245)	(0.311)	(0.245)
REELECTION	−0.433	−0.074	−0.390	0.002
	(−1.491)	(−0.228)	(−1.307)	(0.006)
PCTIMPROVED	0.106*	0.061	0.068**	0.043
	(3.133)	(1.606)	(2.164)	(1.196)
DENSITY	15.460	14.712	23.733***	18.725
	(1.479)	(1.374)	(1.935)	(1.489)
BROWN	0.678	0.309	0.592	0.309
	(1.102)	(0.418)	(0.959)	(0.419)
AGRCOMM	0.202	0.493	0.234	0.515
	(0.294)	(0.552)	(0.334)	(0.570)
N	135		135	
$\log(L)$	−101.00		−99.487	
ρ^2	0.396		0.405	

TABLE 4.5 (continued)

Notes: t–statistics in parentheses.

[a] There were 174 legislators whose vote was recorded, but the sample size is 137 because I was unable to collect occupation data for 37 of them. Of these 37, 12 voted against the bill; 21 voted for the bill; and 4 abstained.

[b] ρ^2 is a goodness of fit measure and equals $1 - \dfrac{L(\hat{\beta})}{L(\bar{\beta})}$, where $\hat{\beta}$ is the maximum likelihood estimator and $\bar{\beta}$ is zero, except for the constant term. See Thomas A. Domencich and Daniel McFadden, *Urban Travel Demand: A Behavioral Analysis* (Amsterdam: North–Holland, 1975), pp. 122–4.

*   Significant at the 1% level, two tailed test.
**   Significant at the 5% level, two tailed test.
*** Significant at the 10% level, two tailed test.

Sources: See Table 3.

TABLE 4.6

REGRESSIONS OF COUNTY ADOPTION, NON–ADOPTION, OR LEGISLATIVE ENACTMENT OF THE STOCK LAW — LOGIT ESTIMATION

VARIABLES[b]	A[a] $\log\left[\dfrac{P_{NO}}{P_{ADOPT}}\right]$	A[a] $\log\left[\dfrac{P_{LEG.}}{P_{ADOPT}}\right]$	B[a] $\log\left[\dfrac{P_{NO}}{P_{ADOPT}}\right]$	B[a] $\log\left[\dfrac{P_{LEG.}}{P_{ADOPT}}\right]$
CONSTANT	8.068* (5.168)	0.471 (0.287)	6.956* (4.914)	–0.292 (–0.185)
PCTBLACK	0.016 (0.999)	0.077* (3.562)	0.013 (0.785)	0.061* (3.196)
PCTFARM50	–0.045 (–1.543)	–0.077* (–2.742)		
PCTFARM20			0.021 (0.363)	–0.050 (–0.858)
PCTIMPROVED	–0.209* (–5.094)	–0.053 (–1.306)	–0.210* (–4.988)	–0.070*** (–1.739)
DENSITY	0.088 (0.019)	–0.810 (–0.135)	–6.605 (–0.820)	–1.820 (–0.278)
N^c	137		137	
log (L)	–83.697		–87.586	
ρ^2	0.425		0.398	

TABLE 4.6 (continued)

Notes: t-statistics in parentheses.

[a] P_{NO} refers to the probability of not adopting the stock law by 1890; P_{ADOPT} is the probability of county i, or any portion thereof, adopting the law by 1890 and; $P_{LEG.}$ is the probability that the General Assembly imposed the stock law on county i, or sections within it by 1890.

[b] Variables are the same as defined in Table 3.

[c] $N = 137$ here refers to Georgia's 137 counties.

* Significant at the <1% level, two tailed test.
** Significant at the 10% level, two tailed test.

Sources: Independent Variable — J. T. Henderson, "The Results of the Operation of the "No Fence" Law of 1872–[9]0," in *Publications of the Georgia State Department of Agriculture for the Year 1889*, v. 15 (Atlanta: Constitution Book and Job Print, 1889), pp. 115–126 and Georgia *Session Laws*, 1880 – 1890. Dependent Variables — See Table 3.

CHAPTER 5

SUPPLANTING THE ROOTS OF SOUTHERN POPULISM:
A FINAL LOOK AT CARROLL AND JACKSON COUNTIES

I.

For a brief period in the late nineteenth century, the Populists seriously challenged the

stronghold of the Democratic party in the South. Historians are far from being able to explain

definitively who the Populists were, what they stood for ideologically, or what caused them to

"revolt" in the 1890s. Bruce Palmer, for example, contends that the Populists did not "ques-

tion the fundamental tenets of the American economic system as they understood them — the

market, supply and demand, private ownership and profit, and the beneficence of economic

competition between small economic units . . . They all believed that material self–interest

made human beings run . . ." and "they broadly shared a commitment to a competitive, private

property– and profit– oriented market economy . . . ."[1] But Steven Hahn says that "Populists

did not wish to unfetter the 'invisible hand' of the marketplace; they wished to protect a

'liberty tree' rooted in petty ownership of productive resources." Instead of adherring to "the

tenets of bourgeois individualism and the free market," Hahn's Populists envisioned "a

producer's commonwealth achieved through cooperative enterprise and public regulation of

exchange."[2] These two positions are exemplary of the wide variety of thought concerning the

Populist movement of the early 1890s.

Why did voters turn to the Populist party? Many of the early analyses of the People's

party focused on the economic hardships that farmers faced in the late nineteenth century.

Early explanations of the rise of Populism were sympathetic to the farmers' plight: depressed

agricultural prices, high (monopolistic) railroad rates, and the heavy burden of farm debt

(mortgages in the Midwest and crop liens in the South).[3] Douglass C. North suggests that the fundamental source of "the farmer's discontent was . . . that he found himself competing in a world market in which the fluctuations in prices made no apparent sense to him."[4] Anne Mayhew offers a similar analysis, indicating that the rising commercialization of agriculture might explain the farmer's economic frustrations which, in turn, were translated into political protest.[5] Robert A. McGuire has presented evidence that shows Populist activity to be significantly and positively correlated with agricultural uncertainty, measured in terms of price, yield, and income variability.[6] In another study, James H. Stock argues that it was the "fear of foreclosure" on farm mortgages that generated agrarian unrest in the midwestern states in the late part of the nineteenth century.[7]

While these studies provide a starting point for explaining the type of environment in which Populism might have flourished, they fail to explain why political discontent was not more uniformly distributed across individual states or specific counties. In other words, if the increasing commercialization or uncertainty of agricultural production or the fear of losing one's farm through foreclosure led voters to the People's party, why did all voters within a small geographic area, who all faced the same "problems," not join the Populists? This question has encouraged many historians to investigate the general patterns of Populist support in order to understand better what economic or social characteristics distinguished Populists from their Democratic or Republican neighbors. The evidence presented is very mixed, and varies by state and even by county. Overall, historians have shown that economic factors cannot completely explain Populist activity. While some combination of variables such as income, wealth, tenancy, or indebtedness might explain Populism across one state, it is uncertain that the same variables do well in explaining the vote in another state.[8] Finding inconclusive evidence to support a purely economic reason for the Populist movement, historians

have tried to explain Populism in terms of social conflicts.

This type of research has produced interesting results. James Turner, studying Texas Populism, maintains that "Populists lived in relative isolation from the larger society of their state and nation."[9] He argues that Populists "lived on the fringe of the dominant society" — in communities that were infrequently traversed by railroads and relatively far away from major towns.[10] Turner argues that "Populists were not so much pulling away from society, as their society was from them." Their physical and psychological distance from the "metropolitan culture" made them "fearful and uncertain" of what might happen to their local political culture as the United States rapidly industrialized.[11] While this approach offers a refreshing challenge to the wholly economic–based explanations of Populism, an oddity arises as we look more closely at individual counties. Even within small communities that were located in what might be considered the hinterlands of developing America, Populism caused bitter political divisions. For a better understanding of the Populists, therefore, we must turn to micro–level analyses.

This concluding chapter revisits Carroll and Jackson Counties. In his influential book *The Roots of Southern Populism*, Steven Hahn portrays the political movement of the 1890s not as an economic or political crisis, but as a social rupture that had its roots in the stock law debates of the 1880s. "The stock law controversy," Hahn contends, "not only anticipated the social and political contours of Upcountry Populism; it helps elucidate the cultural and ideological contours as well."[12] James C. Bonner, in his 1971 history of Carroll County, reached a similar conclusion. The Populists' relative success in the county in the 1890s, according to Bonner, was the result of class conflicts that began to develop during local battles to close the open range.[13] In brief, "the fencing controversy . . . paved the road to Populism."[14]

The bold hypothesis Bonner and Hahn put forward essentially rests on a bivariate analysis of the patterns of electoral support for the fence law and Populism in Carroll and Jackson Counties. They observed that relatively poor rural areas tended to support both the open range and Populist candidates, while their relatively wealthy neighbors living in more town–oriented districts tended to favor the stock law and the Democrats. Unfortunately, neither historian attempts to substantiate his thesis using simple statistical or multivariate methods; instead, each relies on a casual observation of the data. One of the primary goals of this concluding chapter, therefore, is to test rigorously (statistically) the claim that conflicts over common grazing rights planted the seeds of Populism in upcountry Georgia. More generally, the chapter is concerned with the dynamics of Populist support at the local level. Who were the men who supported the Populist cause — what distinguished them from their Democratic neighbors? Who led the People's party at the grassroots level, and how did these individuals differ from their adverseries? Answers to these questions may help to unearth "the Roots of Southern Populism."

II.

The agricultural depression of the 1890s represented the culmination of almost three decades of worsening economic circumstances for southern cotton farmers. The trend in cotton prices had been decreasing throughout the postbellum period, and by the early 1890s, the southern cotton farmer's terms of trade were at their lowest level since the end of the Civil War (see Figure 5.1). In terms of the relative price between cotton and corn (the South's second major crop), the ratio hit very low points from 1890 through 1894, and then rebounded until 1901, when the relative price of cotton reached its lowest point in the postbellum era (see Figure 5.2). Even though the relative price of cotton to corn was falling, southerners were

putting more and more of their resources into cotton, instead of corn, production (see Table
5.1).[15]

Southern farmers' devotion to cotton immediately after the Civil War when prices
were soaring was understandable. But as the price of cotton fell back down to prewar levels,
farmers continued their practice of buying supplies and provisions from local merchants, who
would advance goods or cash in return for a lien on the crop. This trend worried agricultural,
as well as local, officials who saw an increasing proportion of farmers fall into debt.
Georgia's Commissioner of Agriculture in 1881 admitted: "Why the farmers will persist in
planting all cotton and no provision crops, we cannot see, when the experience of year after
year shows that it will not pay."[16] The editor of the *Carroll County Times* was more direct:
Cotton "has monopolized this whole country — a country where corn once reigned supreme.
King cotton is a usurper and it is time king corn was 'coming into his own,' and when he does
the good old days of 'hog and hominy' will return and peace and prosperity will bless the
land."[17] Reiterating what he believed to be a growing problem in his county, the editor of the
Jefferson Forest News in 1881 warned that "Our farmers plant too much cotton and neglect
the grain crops, and if they do not stop it this county [Jackson] will be bankrupt in less than
five years."[18] Agricultural journals and local newspapers throughout the postbellum period
urged farmers to:

> Make cotton your surplus crop! . . . Make your own fertilizers . . . . Thus you
> become independent of the Guano merchants. Raise your own provisions. Thus
> you become independent of the provision merchant. Your cheapest and safest line
> of transportation runs from your own fields and hog–pens to your own barn and
> meathouses! With no debts for your supplies, you will need no accomodation
> credits at two percent per month. Thus you become independent of brokers, cotton
> factors and lien merchants. You can sell your cotton at your own time, to your
> own chosen buyers, and will get your own money.[19]

While such recommendations may have been feasible for relatively wealthy farmers who had

the resources to avoid the costly southern credit market, for poor landowners and nonlandown-ers, complete financial independence was out of reach. Credit was a necessity for many south-ern farmers, but the price of money was not cheap — interest rates were high and the farmer lost some of his independence as the merchant fixed a lien on the crop.[20] When the vagaries of the international market turned against the farmer, he blamed the one person who embodied the system over which he had no control – the local merchant.

Farmers' welfare was directly tied to national and state policies that, to them, must have seemed inpenetrable.[21] When harvest time came and the price of his produce declined sharply, farmers did not rebuke the forces of supply and demand, but condemned the bankers for manipulating the money supply, instead of adjusting it to meet the country's monetary needs. As a producer, the farmer not only blamed his dire circumstances on the rigid money supply, but also on the monopolistic rate setting of the railroads. As C. Vann Woodward noted, "Southeastern railroads were members of a pool that fixed rates and discriminations against agricultural shippers . . . ."[22] Farmers' frustration mounted as they saw their tax bur-den rising, while their state legislatures eagerly granted subsidies and tax exemptions to these same railroad companies. As consumers, southern farmers felt similarly oppressed. The price of the farmer's consumer goods "were fixed by pools, monopolies, trusts and combines, who levied tribute on his machinery and tools, his fuel, his food, his clothing."[23] On top of this, of course, was the tariff.

While farmers individually could not affect the price of cotton, the price of credit, or the price of transportation services, as an organized group, they represented a potentially powerful economic and political force. The Southern Farmers' Alliance created the institu-tional framework for harnessing the farmers' energies into concrete action. By August, 1887 the Alliance had formally organized in Carroll County and by January, 1888 in Jackson.[24]

Membership in the Alliance grew rapidly as Upcountry farmers were very receptive to the

organization. Within a year after its formation, Carroll's Alliance claimed at least 39

sub–alliances with a total of 1845 male and 835 female members.[25] If indeed 1845 men

joined the Alliance, then they represented about half (49.4 percent) of the adult (over 20 years

old) white male population in Carroll County. Within eight months of the creation of Jackson

County's Alliance, 15 sub–alliances emerged and within a year after, 57 more sub–alliances

were created. By 1890, reported Alliance membership in Jackson reached 1240 members, or

43.4 percent of the adult white male population of Jackson.[26] With the apparatus and member-

ship sufficient to mobilize a significant number of people, chapters of the Alliance across the

South took positive steps toward changing the economic institutions that, they felt, were bur-

dening agricultural producers.

An important early victory for the Southern Alliance was its defeat of the jute bagging

trust. In the summer of 1888, manufacturers of jute bagging increased its price from 7 cents to

11 cents per yard. At their convention in Birmingham in the spring of 1889, the Alliance

unanimously resolved to boycott jute and to use cotton bagging instead. With the support of

Alliance chapters across the South, the boycott was a success.[27] Local chapters that partici-

pated in state and national activities, such as the jute boycott and the Georgia Alliance

Exchange, did much at the local level as well. As mentioned before, the country merchant

was a major force in many farmers' lives — the merchant was a (and according to some scho-

lars, *the*) source of credit, he purchased cotton, and he sold fertilizers, food, and other consu-

mer goods. As some merchants were getting very wealthy and the farmers' lot seemed to be

worsening, merchants immediately became the target of the Alliance's rancor.[28]

The Alliance was able to use its numerical strength, to some extent, to bargain with

local merchants for bulk purchases at reduced prices.[29] But, the Alliance's most ambitious

idea, in its attempt to reduce the price of consumer goods, was the cooperative enterprise. The Alliance established cooperative stores, as well as ginneries and warehouses.[30] If farmers could directly control the processing of their produce, then they could eliminate another middleman who extracted a portion of the crop's value. Proposals were made to build Alliance–operated cottonseed oil factories that could also produce fertilizers (by adding phospates from Florida).[31] In Carroll County, the Alliance even suggested opening a cooperative coffin factory.[32]

Merchants, as might be expected, did not take the Alliance's interference into local business matters lightly. The merchant fought back dilligently, treating Alliancemen who tried to forge trade agreements with utmost contempt. Merchants used their county political connections to restrict the cooperatives' operations.[33] Jackson County Alliancemen quickly learned that merchants were not willing to concede easily. The Alliance reported that "the merchants are fighting us with all the ferocity they can summon. They have . . . passed ordinances in several towns to keep us from shipping goods into them, or, about the same thing, to make us pay town tax for all goods shipped there."[34]

The Alliance's goal to provide relief for the southern farmer through the cooperative system had greater problems than the animosity of local merchants. Very simply, the Alliance lacked the private financial resources to satisy the credit needs of southern farmers. The Alliance, therefore, introduced a revolutionary program of federal assistance — the subtreasury system. C. W. Macune presented the idea at the Southern Alliance's December 1889 meeting in St. Louis. The plan called for the creation of a subtreasury office in any county in which over five hundred thousand dollars of agricultural produce — including wheat, corn, oats, barley, rye, rice, tobacco, cotton, wool, or sugar — was offered for sale. In the subtreasury counties, warehouses or grain elevators would be built so that farmers could literally deposit their

products in the substreasury system. The farmer would then receive a certificate showing the amount and quality of the products deposited. The subtreasury system, then, would issue the farmer legal tender notes worth up to 80 percent of the current local value of his deposit. The "cash" advance was due within one year of the deposit. The cost to the farmer was to be modest — one percent interest on the loan plus a "trifle" for handling, storing, and insuring the produce. The substreasury system was designed to provide important short term credit for farmers, to allow them flexibility with respect to marketing their crop, and to increase the national currency during the harvest time when prices were depressed.

Alliance members could easily agree that the plight of the farmer was their foremost concern, but the diversity of the membership made agreeing on policy, even the subtreasury, somewhat difficult. Credit–hungry farmers saw the subtreasury as a way to escape the burden of the lien law, while relatively wealthy farmers, who held liens on their tenants' crops, saw the system as an intrusion. Some Alliancemen supported the organization's involvement in state and local politics, while others saw this as a potential threat to the stability of the Democratic party. And when issues such as the stock law became the topics of Alliance discussions, the results were divisive.[35] According to Hahn and Bonner, it was the bitter stock law controversy that not only helped to undermine the Alliance's cohesiveness (at least in Carroll County), but also helped to steer voters toward the Populist party. Whether the stock law debate created the Alliance's demise and the Populists' success is debatable and certainly worthy of empirical testing. But it should be emphasized that many southern farmers began to see the Alliance as a failing economic and political experiment.[36] Populism offered a radical and ambitious alternative.

III.

Steven Hahn states that "Election returns offer . . . [a] compelling illustration of the connections between the conflicts of the 1880s and those of the 1890s."[37] Using the election data, Hahn emphasizes what he believes to be the obvious connection between the districts that supported the fence law in the 1880s and those that voted Populist in the 1890s. "Upcountry Democrats, like stock–law proponents, had their base in the town districts," Hahn contends. "The Populists, like stock–law opponents, had their strength in the countryside and, particularly, in the poorer rural districts . . . . [T]own districts consistently backed the Democrats while most rural districts consistently backed the Populists . . . . And the districts that had raised the strongest opposition to the stock law also raised the strongest support for the Populists."[38] Ironically, a simple analysis of the election returns actually undermines the strength of his central thesis.

Tables 5.2 and 5.4 give an extensive display of the Populist election returns for Carroll and Jackson, respectively. Tables 5.3 and 5.5 show summary statistics of the Populist and fence election returns as well as wealth information for individual militia districts in Carroll and Jackson. The extant Carroll County newspapers of the Populist era only provide returns for the years 1892 through 1895. Jackson County Populism, however, can be tracked through 1898.[39] For each election, Tables 5.2 and 5.4 show the correlation between the Populist and Democratic percentages and the percentage voting for the fence law and per capita wealth.

Contrary to Hahn's contention, Carroll County Populism and fence law support were hardly connected. For each of the four elections presented in Table 5.2, Populism and the fence law are negatively correlated. Moreover, a close look at Table 5.3 shows that the town/rural split cannot be easily substantiated. The town districts of Carrollton, Bowdon, and

Roopville were soldily and consistently Democratic, while Villa Rica, Whitesburg, and Temple were not. Villa Rica, Carroll's second largest town district was, on average, quite receptive to the Populists, giving a majority of its vote to the Populist candidates in both of the 1894 elections. Of all the districts in Carroll County, it is interesting to note that Villa Rica was the most unreceptive to the open range policy. On the other hand, if we look at the town districts that were very supportive of the fence law, Bowdon and Whitesburg, Populism did not fare very well at all. In the rural areas, the patterns of support are just as confused as in the towns. Whereas Villa Rica voters were leaders of the stock law movement, the rural district of Smithfield led the opposition to the new institution. Strangely enough, Populism had the least success in Smithfield. In the rural districts of Lowell, Shiloh, and Cross Plains, the fence law received very strong support, but Populist success in these communities was quite marginal. As this very general look at the Carroll County data has shown, Hahn's argument — that "the districts that had raised the strongest opposition to the stock law also raised the strongest support for the Populists" — is clearly false.

Jackson County provides better support for Hahn's thesis, but still there are problems. The Populist vote in eight of the nine elections is positively correlated with the fence law vote, but this relationship is statistically significant in only two of the elections (National, 1894 and Local, 1895). The town/rural split is more clear cut for Jackson County, as Table 5.5 shows. In all of the town district except for the poorer House district, the Democrats dominated. These districts also gave relatively weak support to the fence law in the early 1880s. Voters in the Jackson countryside generally followed the pattern that Hahn describes — strong fence law support, followed by strong Populist support. Miller and Cunningham, though, only gave marginal support to both the fence law and the Populists. However, as a careful analysis of Table 5.4 shows, all rural districts did not "consistently" vote Populist. The majorities

sometimes switched a couple of times during the Populist elections. Therefore, what emerges from this look at the relationship between the fence law and Populism is that the two political processes might not be as closely linked as previously suggested.

What complicates the bivariate analysis that Hahn and Bonner provide is the high correlation between Populist/Democratic support and wealth (Carroll seems to be an exception). In Jackson County, particularly, the correlation is very high and is persistent throughout the Populist era. Poorer areas voted Populist, while wealthier areas voted Democratic. Similarly, as pointed out in Chapter 2, poorer areas voted to keep the open range and relatively wealthy districts supported the stock law. Thus, we do not know which force is determining Populism — wealth or the divisions created by the stock law conflict. The only way to disentangle the complex and interrelated determinants of Populism, then, is to model voting behavior as a multivariate process. The next two sections attempt to provide a more general analysis of Populist support in these two upcountry counties.

IV.

On the eve of the October, 1894 election, Democratic leaders in Carroll County had reason to be concerned. Populists were well organized and were gaining momentum. The editor of the *Carroll Free Press* (a Democratic newspaper) warned Democrats to vote, otherwise they would be beaten at the polls. "Every Democrat who refuses to vote consents for the Populists to go into power in Georgia. Go to the ballot box next Wednesday and enter your protest against it by a freeman's vote."[40] Clearly, these were the words of a party that was on the defensive. The Populists won the October election in Carroll and the paper rationalized that "a great many of the democrats on account of the depression in the country, the low price of cotton &c, and the busy time in gathering their crops, did not turn out."[41] Writing to the

Free Press, "Democrat" argued that "It was the populists organization that beat us in the last election. So if we wish to succeed and succeed we must, organize and organize at once."[42]

The leadership of the two parties might offer useful insights into the bases of support that each party built at the grassroots level. Table 5.6, Panels A through D, provides summary statistics of selected economic characteristics of Populist and Democratic executive committee members and candidates for local offices for Carroll and Jackson Counties. The data underlying these tables were gathered from the 1894 property tax digests of Carroll and Jackson Counties. Whereas the results for Carroll County tend to substantiate the sweeping generalization that is usually made about the wealth of Populist versus Democratic leaders, the information from Jackson County tends to undermine the generalization.[43] In Carroll County, Populist leaders were, for the most part, significantly poorer than their rivals. On average, members of Populist executive committees had 55 percent of the land and 49 percent of the value of land that their Democratic competitors had. Democrats had $1119 more in average aggregate wealth than did the Populists. The results are similar for the respective office seekers in Carroll. Democrats, on average, had 2.8 times the acreage, 1.6 times the value of land, and 2.5 times the aggregate wealth of the Populists. In terms of town property ownership and the holding of financial instruments, Democrats had tremendously greater holdings than the Populists.

The patterns that we see in the Carroll data are almost completely reversed in the Jackson statistics. Populist executive committee members had, on average, 1.4 times more land than their rivals and 1.3 times more livestock, but, overall, Populists only had 56 percent of the total wealth that Democrats held. This result is caused by the Democrats' greater holdings of town property and financial paper. Similarly, for Jackson County office seekers, Populists had higher levels of wealth for each category listed, except town property and financial

instruments. It should be noted, however, that most of the means reported for Populists and Democrats in Panels C and D are not significantly different from one another at conventional levels.

If Populist and Democratic leaders in Jackson County were not that disparate economically, then why were there such sharp partisan division in the county in the 1890s? When the occupations and residences (town or rural) of the leaders are compared, the answer becomes more apparent. Table 5.7, Panel A, displays the occupational and residential breakdowns of the candidates for local offices in Jackson County. As the data show, Democrats were much more likely to live in the town districts and to be involved in non-farming pursuits. In addition, while Jackson's Populist leaders were wealthier than their opponents, they amassed their holdings in the countryside (see Panel B). Populist voters in Jackson, therefore, were not identifying with and placing into office individuals who shared their economic status, but people who lived in the countryside and who understood the difficulties that the farmer faced. This pattern may help to explain the apparent sharp division between town and country in the Jackson County voting returns presented in Tables 5.4 and 5.5. It could be, as Turner suggests, that rural areas increasingly feared the growing strength and hegemony of the more "urban" districts. Rural voters, therefore, turned to the Populist party and selected leaders who would help them maintain their *relative* economic and political power in the county.

V.

As the above discussion suggests, the contours of Upcountry Populism were quite different across the region. The preliminary analyses of Jackson County show that Populism was a political movement based in the countryside, that gathered its support from relatively poor yeoman and tenant farmers. This distinction, on the other hand, does not hold for Carroll

County. In fact, no distinguishing feature of Populism emerges from a superficial analysis of the Carroll data. Regression analysis, naturally, offers the most promise of uncovering the underlying trends of Populist support in both counties. More importantly, the analysis allows us to test Hahn's cultural conflict thesis against more simple explanantions of the rise of Populism in the Georgia upcountry.

To what extent did race, class, residence, past political support, or economic frustration determine whether voters sided with the Populists or the Democrats? Race was an issue that created real problems for the Populists in the South.[44] If they were to win over the South, the Populists had to take drastic steps. One, for example, was to make "a desperate effort to capture the colored brother."[45] In Jackson County, the Populists encouraged blacks to participate in their meetings, county conventions, and even brought in a black speaker from Atlanta to show their eagerness to attract black voters. In a society where the race line was defined absolutely, advocating forms of explicit equality for blacks — "that the negro should have his rights at the ballot box and that his person and property be protected by the law of the country just as the whites man's person and property is protected"[46] — was guaranteed to create political and racial turmoil. The Bay Springs Farmers' Alliance in Carroll County opposed the Populists because "They [the Alliance members] did not wish to enter into no party that favored striking out the color line . . . ."[47] Right–wing members in the Democratic camp condemned the Populists for splitting the white vote. If the whites were divided at the ballot box, the critics argued, 75 to 100 blacks would get into the state legislature "and about the first act they would pass would be for mixed schools and where would this lead to." It was the "preservation of the Anglo Saxon race" that was at stake.[48] The editor of the *Free Press* summed up many whites' anger with the Populist party: There was "a division of the white voters of the state and the negro made the balance of power."[49]

With white voters split, blacks were certainly in a position to influence electoral out-
comes. After the Populists swept the October state election in Carroll in 1894, Edwin R.
Sharpe, editor of the *Free Press* and candidate for state senator, quickly rationalized the loss
on account "that there were a good many illegal votes cast by the pops, or rather their republi-
can allies, the darkeys."[50] The evidence presented later, in fact, showed that both parties were
not immune from illegal activities.[51] Sharpe admitted that "the negroes voted almost solidly
for the populists . . . . The negro croppers were made to believe that the low price of cotton
was attributable to democratic rule . . . ."[52] W. B. Stephenson, a Democrat, put it simply: "The
pops talked to them [black voters] and they voted with them." He conceded, though, "I never
saw a democrat ask a colored man to vote the ticket."[53] In other parts of Georgia, Democrats
were able to attract some of the black vote by taking a stronger stand against lynching than did
the Populists. Democrats were far from advocating full equality for blacks in the South, but
they did send some conciliatory signals. For example, in the Democrat–controlled Richmond
County, blacks sat on juries in cases that involved whites.[54] It is difficult to determine a priori
how blacks sided in the political upheaval of the 1890s, or whether they voted at all.[55] In the
empirical analysis of the Populist elections, therefore, I include the percentage of the black
electorate as an independent variable.

With regard to past political support, the hypothesized fence law connection has been
described above. Another possible link may have existed between the Populists and the
Independents of the late 1870s and early 1880s. Conceivably, areas that deviated from the
Democratic party in the early 1880s had a proclivity toward more "radical" politics. As
Woodward makes clear, "Changing one's party in the South of the nineties involved more
than changing one's mind. It might involve a falling–off of clients, the loss of a job, of credit
at the store, or of one's welcome at church. It could split families, and it might even call in

question one's loyalty to his race and his people."[56] Voting Independent in the early 1880s

may have made the transition to Populism somewhat easier. Moreover, it is also possible that

voters who supported the Independents or the Greenbacks had the type of preferences that

would lead them to support the Populists in the 1890s.[57] To test for this possible connection

between the two political movements, I include in the regressions a variable measuring the

percentage of the electorate that voted Independent in the 1880 congressional election.

An alternative explanation for the success of Populism in the 1890s is that it was sim-

ply an economic response to the depressed price of cotton. With the Democrats and Republi-

cans historically doing very little to offer relief for the farmer, the Populists' advocacy of the

subtreasury, government ownership of the railroads, and the coinage of silver was a powerful

signal to the downtrodden farmer. As the relative price of his cash crop plummetted, the

southern farmer may have seen Populism, along with its ambitious, and maybe even unrealis-

tic, objectives, as his best hope. This view of Populism sees the party's support as the product

of economically selfish behavior of upcountry cotton farmers. When the price of cotton fell,

they punished the Democrats for their inattention or incompetence.[58] And when the price

rebounded, voters returned to the party with which they most closely identified — the Demo-

crats. According to this theory then, retrospective voters blamed the Democrats when times

were bad, and if they went to the polls at all, they cast their ballots for the Populists as a signal

of protest. To test the hypothesis, a terms of trade variable is included in the regressions that

follow.

The two other major variables included in the analysis, as described above, are per

capita wealth and rurality. Since the fence law vote, ruralness, and wealth (or the lack thereof)

all tend to move together, the regression allows for the disentangling of their individual

effects. Moreover, since there was discussion in the contemporary newspapers that "our local

affairs, both of town and county, concern us more than national and state politics,"[59] a dummy variable for congressional elections is included in the estimation. (Because I have relatively few elections, I have decided not to dummy state elections.) Descriptions and summary statistics of the independent variables used in the analysis are presented in Table 5.8. The econometric model used for the estimation is the minimum logit chi–squared method, derived in Appendix C. The dependent variables in the regressions are $\log\left[\dfrac{P_{POP.}}{P_{DEM.}}\right]$ and $\log\left[\dfrac{P_{ABS.}}{P_{DEM.}}\right]$, where $P_{POP.}$, $P_{DEM.}$, and $P_{ABS.}$ are the percentages of the electorate voting for the Populists, Democrats, or abstaining, respectively. I estimate each county separately, on account of the evidence presented in the last two sections, and for each county I pool all of the elections shown in Tables 5.2 and 5.4. Because the district lines in Carroll County were changed throughout the 1880s and 1890s, some districts that have Populist election data do not have fence or Independent election returns. Therefore, for both counties — for reasons of symmetry — I run the regressions with and without the earlier elections. The regression results are presented in Table 5.9, Panels A and B.

The results in columns (1) and (3) of Panel A tend to show that Populists and Democrats in Carroll County sharply divided along town/rural lines. Town residents were much more likely to vote Democrat than to abstain (as columns (2) and (4) suggest), and more likely to vote Democrat than Populist (as columns (1) and (3) show). As seen in columns (2) and (4), black voters abstained significantly during the Populist era, at least relative to voting for the Democrats. When it came to voting for either Populists or Democrats, Carroll County blacks much preferred the former. In order to determine if blacks were more likely to vote Populist or to abstain, we need to compare the sizes of the black coefficients in the two regression equations. This comparison can be made because Democrats are used as the base in both

equations. Note that the coefficient on the percent black variable is 0.059 in column (1) and 0.080 in column (2). The same type of argument holds for columns (3) and (4). From this data, we can conclude that blacks in Carroll County were more likely to abstain than to vote for either the Populists or Democrats. Abstention may not exactly be the correct characterization, however. During the Populist era, Democrats made a concerted effort to exclude blacks and poor whites from voting, either through stronger enforcement of the poll tax or through extra–legal means.[60] Thus, what appears to be abstention on the part of black voters may, in fact, be disfranchisement, especially since blacks were more prone to vote with the Populists in Carroll.

Per capita wealth, the relative price of cotton, and the federal election dummy do not predict the Populist vote (relative to the Democratic vote) very well at all. As columns (1) and (3) show, an increase in per capita wealth, contrary to expectations, increased the relative share of the electorate voting Populist. The coefficients in both columns, however, are insignificantly different from zero; in other words, wealth did not create the Populist/Democrat schism. According to the regressions, changes in southern farmers' terms of trade did not affect Populist or Democratic voting in Carroll County. The price coefficients in colimns (1) and (3) are not significant at conventional levels. Although increases in wealth or the relative price of cotton did not benefit or hurt either party, they did significantly influence voter participation, at least according to column (2). Wealthier people were more likely to vote (for either party) and a rise in the terms of trade decreased voters' interest in the political process. Put another way, when the relative price of cotton tumbled, voters were more likely to vote for either party than to stay at home. Therefore, the theory presented above, that voters would punish the Democrats for downturns in their economic well–being, is not supported by the Carroll data. I should note that these results should be approached

somewhat cautiously because the terms of trade variable varies very little during the time span of the Carroll elections that I am studying (see Table 5.8). Finally, congressional elections in Carroll County were not associated with any significant partisan shifts. However, as the results in column (2) and (4) indicate, federal elections did bring about higher voter turnouts. This finding should not come as a great surprise given that most of the hotly contested political issues in the local press centered around national issues, such as the free coinage of silver, the subtreasury, and the government ownership of the railroads.

When the two past elections — the Independent and the fence law vote — are included in the regressions, there are no dramatic changes, except that town residence loses some of its significance in column (3) and per capita wealth loses all of its significance in column (4). The important point to emphasize is that the Populists did not derive support, in a statistical sense, from either the Independents or the pro–fence voters. If anything, greater support for the fence law in the 1880s corresponded to higher voter absenteeism in the 1890s. Thus, the Carroll County data, when subjected to rigorous analysis, completely refutes Hahn's argument that the roots of (Carroll County) Populism were planted during the stock law controversy.

Whereas Carroll voters seemed to have divided along geographic lines, Jackson County voters aligned according to class. Per capita wealth quite significantly explains the division between Populists and Democrats, as columns (5) and (7) of Panel B suggest. In the abstention columns, however, wealth has a positive coefficient, implying that in more affluent areas voter turnout was relatively low. Note that this result is statistically insignificant. Therefore, the conclusion to be drawn is that increased wealth did not change the relative probability of abstaining or of voting Democratic, but it did decrease the likelihood of voting for the Populists.

The price of cotton had only a marginal effect on the balloting in Jackson. As column (5) indicates, higher relative cotton prices tended to translate into added support for the Democrats. But this result does not hold in column (7). Thus, the evidence from both counties tends to refute the argument that Populism was a response to the difficult economic circumstances of southern farmers in the 1890s. Economic downturns did lead to unique reactions in both counties in so far as voter participation is concerned. When the price of cotton fell, Carroll voters were more likely to turnout and to protest than to become disillusioned with the political process. The behavior of Jackson countians, on the other hand, did not change as relative cotton prices changed.

The percent black, percent town, and congressional election dummy all do poorly in explaining voting behavior in Jackson County. Although town residents were more likely to vote than to abstain, at least in column (6), they did not significantly lean toward any party in particular. An interesting feature of the Jackson data is that blacks did not favor one party over the other. This may explain why blacks were turning out to vote. Because they were not a serious threat to the Democrats in Jackson County, disfranchisement was not as important an objective as it seems to have been in Carroll. Finally, the federal election dummy is a very weak predictor, as it was in the Carroll regressions, of the Populist/Democrat split. In addition, the November congressional elections were associated with neither increased nor decreased voter participation, as columns (6) and (8) show.

The results of columns (7) and (8) show that political allegiances of the 1880s played an important part in determining electoral behavior in Jackson County in the 1890s. Contrary to the hypothesis that the Independent movement of the late 1870s and early 1880s may have been the harbinger of future political dissent, districts that voted Independent solidly backed the Democracy during the Populist era. This finding certainly creates doubt that "the progress

of the Independent movement and that of Populism closely paralleled each other," as Charles L. Flynn, Jr., has recently argued.[61] Some historians claim that the Independents represented a burgeoning two–party system in Georgia and were the precursors of the Populists.[62] In light of the evidence presented here, this hypothesis requires further analysis.

Hahn's claimed connection between the fence law and Populism is clearly established in the Jackson County data. However, there is a crucial feature of the stock law controversy that Hahn completely ignores in his discussion of Populism. In 1889 the Georgia General Assembly imposed the stock law on Jackson County. Although county option on the fence question had existed since 1872 and militia district option since 1881, most of Jackson County had decided to keep its range open. Only four districts chose to enact the stock law in the mid–1880s and the others either voted the measure down or did not hold an election. The imposition of the stock law in 1889 made it easy for Jackson voters to associate the curtailment of their grazing rights (that, since 1872, had been determined democratically) with the Democrats who controlled the legislature. Not surprisingly, then, those districts that strongly supported the open range turned to the Populists. Populism represented a break from the "rings and cliques and . . . corrupt politicians"[63] who dominated federal, state, and local politics. As Flynn notes, "The most detailed provisions of the Populist platform all concerned protection for the rights of suffrage and popular participation."[64] With the 1889 stock law fresh in their minds, Jackson County voters may well have turned to the Populists not because they were repudiating the free market or trying to recapture a "cooperative commonwealth," but because direct democracy was threatened. This may explain why the fence law and Populism had no connection in Carroll County. There, voters decided the fate of the fence through district referenda, with no interference from above.

VI.

In the introductory chapter to this thesis, I presented a general framework for analyzing the process of institutional change. One of the crucial features of this process is the way in which individuals react to the economic, social, and political changes associated with a rearrangement of society's institutional structures. For instance, the redistribution of wealth generated by a new regime of property rights is likely to cause those people who were adversely affected to question the fairness or legitimacy of the new arrangement. The economic or social consequences of the final outcome might encourage a disadvantaged group to take some sort of action, such as political protest or revolt, to ameliorate their situation. The goal of this chapter has been to test what some historians claim to be the aftereffect of the stock law controversy of the 1880s in the Georgia upcountry. The animosities created during the bitter fence debate, according to these historians, generated the bases of support for the Populist movement of the 1890s.

Analysis of the Carroll County data found no statistical connection between the fence law and Populism. Democrats and Populists in Carroll found their supporters in different geographic parts of the county — Democrats accumulated their strength in the town districts and the Populists in the countryside. In Jackson County, the electorate divided according to class distinctions — relatively wealthy districts turned to the Democrats and the poorer ones to the Populists. The emergence of these two trends in the data is important to our understanding of what Populism meant at the local level. Local economic and political factors clearly played a determining role in the Populists relative success across counties. The results of this paper highlight the difficulty of generalizing Populism, or any political movement, to the state or national levels. Steven Hahn, studying two upcountry Georgia counties, claims to have

explained the "Roots of Southern Populism." But even the two counties that Hahn chose to analyze responded to the Populists in different ways.

The analysis of Jackson County presented here suggests a different interpretation of grassroots Populism from the one Hahn offers. The imposition of the stock law on Jackson represented, to those voters who had a strong interest in the matter, a violation of their democratic rights. By forcing the closed range on districts that had made a calculated decision to keep it away only served to exacerbate the tension between the entrenched Democratic establishment and those who were outside the power structure. As Charles Flynn succinctly explains, "Nothing less than democracy itself was at stake in the political struggles of late nineteenth–century Georgia."[65] Intervention from above proved to Jackson County fence law supporters that direct democracy was threatened.

Self–determination had real meaning for upcountry voters. Districts that had already adopted the stock law in Carroll County by 1890 refused to vote in that year's countywide fence election. They instead preferred to allow districts that still had a stake in the fence controversy to decide this important issue for themselves. "Allegiance to local control" was an important feature of the stock law's development in Carroll County. Since the legislature imposed the stock law on Jackson County without a popular vote, it is conceivable that fence law supporters turned to the Populists because they saw in the third party a commitment to "honest government" and a chance for "a free ballot and a fair count."[66] After all, "Equal rights to all and special privileges to none" was indeed worth fighting for.

FOOTNOTES

1.   Bruce Palmer, *"Man Over Money": The Southern Populist Critique of American Capitalism* (Chapel Hill: University of North Carolina Press, 1980), pp. 205, xvii.

2.   Steven Hahn, *The Roots of Southern Populism: Yeoman Farmers and the Transformation of the Georgia Upcountry, 1850–1890* (New York: Oxford University Press, 1983), p. 282.

3.   See, for instance, John D. Hicks, *The Populist Revolt: A History of the Farmer's Alliance and the People's Party* (Minneapolis: The University of Minnesota Press, 1931). Relatively recent work by cliometricians, however, has provided evidence to suggest that the economic roots of Populism may be somewhat exaggerated. Douglass C. North, *Growth and Welfare in the American Past: A New Economic History* (Englewood Cliffs, NJ: Prentice–Hall, 1966), chapter 11, has offered a comprehensive attack on what might be called the traditional view. North emphasized two important points. First, farm prices in the late nineteenth century were, in fact, falling, but at a slower rate than the general price level. In other words, the farmer's terms of trade were increasing in the postbellum period, thereby making the farmer's relative economic position somewhat better. On this point, see also John Bowman and Richard Keehn, "Agricultural Terms of Trade in Four Midwestern States 1870–1900," *Journal of Economic History*, 34 (September 1974), pp. 592–609. But, of course, even though the relative prices of farm produce were increasing, the decline in agricultural prices and general prices only served to hurt farmers who had fixed mortgage payments to make. North's second argument was that railroad rates were falling faster than prices in general, again, leaving the farmer relatively better

off. North also pointed out that during this era of "agrarian discontent," the spread

between the farmgate and market prices of agricultural produce was diminishing. See

Robert Higgs, "Railroad Rates and the Populist Uprising," *Agricultural History*, 44

(July 1970), pp. 291–297, for a more extensive treatment of the railroad issue. It

should be noted, however, that using a different index to measure the "cost" of tran-

sportation services, Mark Aldrich, "A Note on Railroad Rates and the Populists Upris-

ing," *Agricultural History*, 54 (July 1980), pp. 424–432, shows that real rail rates

began increasing sharply in the late 1880s or early 1890s. In reference to the

(Midwestern) farmers' complaints that mortgage interest rates were usurious, North

acknowledged that the North Central area's interest rates were higher than the Atlan-

tic region's; however, he attributed these differentials either to credit market imper-

fections or to the higher risk associated with lending to frontier settlements. Barry

Eichengreen, "Mortgage Interest Rates in the Populist Era," *American Economic*

Review, 74 (December 1984), pp. 995–1015, has provided strong evidence to support

the latter hypothesis. Once mortgage interest rates are adjusted for risk and interest

rate ceilings particular to individual states, there is no statistical interregional differ-

ence in mortgage interest rates across the United States. Eichengreen concludes:

> to the extent that binding interest rate ceilings in the Atlantic states
> induced mortgage companies to shift funds away from those markets and
> toward more renumerative loans in the West, farmers in the centers of
> Populist unrest would have been made better off by the resulting decline
> in lending rates. Is it possible that western farmers were in fact
> beneficiaries of the very phenomenon of which they so vociferously com-
> plained?

4. North, *Growth and Welfare*, p. 142.

5.   Anne Mayhew, "A Reappraisal of the Causes of Farm Protest Movements in the United States, 1870–1900," *Journal of Economic History*, 32 (June 1972), pp. 464–475.

6.   Robert A. McGuire, "Economic Causes of Late–Nineteenth Century Agrarian Unrest: New Evidence," *Journal of Economic History*, 41 (December 1981), pp. 835–852.

7.   James H. Stock, "Real Estate Mortgages, Foreclosures, and Midwestern Agrarian Unrest, 1865–1920," *Journal of Economic History*, 44 (March 1983), pp. 89–105.

8.   Compare, for instance, Sheldon Hackney, *Populism to Progressivism in Alabama* (Princeton: Princeton University Press, 1969), chapter 1, especially Table 1 and Appendixes I and II; Stanley B. Parsons, *The Populist Context: Rural Versus Urban Power on the Great Plains Frontier* (Westport, CT: Greenwood Press, 1973), see Table 12 (p. 127), in particular; Peter H. Argersinger, *Populism and Politics: William Alfred Peffer and the People's Party* (Lexington, KY: University Press of Kentucky, 1974), see Table 9 (p. 190), for example; and Gerald H. Gaither, *Blacks and the Populist Revolt: Ballots and Bigotry in the "New South"* (University, AL: University of Alabama Press, 1977), see Tables I through XIII (pp. 140–156).

9.   James Turner, "Understanding the Populists," *Journal of American History*, 67 (September 1980), p. 364. See also the references in his footnote 12.

10.   *Ibid.*, p. 359.

11.   *Ibid.*, p. 371.

12.   Hahn, *Roots*, p. 282.

13.   James C. Bonner, *Georgia's Last Frontier: The Development of Carroll County* (Athens, GA: University of Georgia Press, 1971), p. 151.

14. Hahn, *Roots*, p. 240. Other historians have adopted this idea. See, for example, David F. Weiman, "Petty Commodity Production in the Cotton South: Upcountry Farmers in the Georgia Cotton Economy, 1840 to 1880" (unpublished Ph.D. dissertation, Stanford University, 1984), pp. 439–442; Barton C. Shaw, *The Wool–Hat Boys: Georgia's Populist Party* (Baton Rouge, LA: Louisiana State University Press, 1984), pp. 97–98.

15. The debate over the increasing cotton production in the postbellum South is not one I wish to present here. Instead, see Gavin Wright and Howard Kunreuther, "Cotton, Corn and Risk in the Nineteenth Century," *Journal of Economic History*, 35 (September 1975), pp. 526–551; Robert McGuire and Robert Higgs, "Cotton, Corn, and Risk in the Nineteenth Century: Another View," *Explorations in Economic History*, 14 (April 1977), pp. 167–181; Wright and Kunreuther, "Cotton, Corn, and Risk in the Nineteenth Century: A Reply," *Explorations in Economic History*, 14 (April 1977), pp. 183–195; Roger L. Ransom and Richard Sutch, *One Kind of Freedom: The Economic Consequences of Emancipation* (New York: Cambridge University Press, 1977); and Peter Temin, "Patterns of Cotton Agriculture in Post–Bellum Georgia," *Journal of Economic History*, 43 (September 1983), pp. 661–674.

16. *Carroll County Times*, June 17, 1881, reprinted from the *Atlanta Constitution*.

17. *Carroll County Times*, May 27, 1881.

18. *Jefferson Forest News*, April 8, 1881.

19. Quoted in Ranson and Sutch, *One Kind of Freedom*, pp. 161–162.

20. See Ransom and Sutch, *One Kind of Freedom*, chapter 7, for an extensive discussion of the southern rural credit market. See also Jacqueline P. Bull, "The General Merchant in the Economic History of the New South," *Journal of Southern History*, 18

(February 1952), pp. 37–59 and Thomas D. Clark, "The Furnishing and Supply System in Southern Agriculture Since 1865," *Journal of Southern History*, 12 (February 1946), pp. 24–44.

21.   The forthcoming discussion of the beginnings of the Farmers' Alliance follows C. Vann Woodward, *Origins of the New South, 1877–1913*, v. 9 of *A History of the South*, eds., Wendel Holmes Stephenson and E. Merton Coulter (Baton Rouge: Louisiana State University Press, 1951), pp. 186–187.

22.   *Ibid.*, p. 187.

23.   *Ibid.*

24.   Bonner, *Georgia's Last*, p. 144, Hahn, *Roots*, p. 272, and Jim Alan Fergeson, "Power Politics and Populism: Jackson County, Georgia, as a Case Study" (unpublished MA thesis, University of Georgia, 1975), p. 38.

25.   *Carroll Free Press*, August 10, 1888. For a discussion of female members in the Alliance see Woodward, *Origins*, p. 195.

26.   Fergeson, "Power Politics," p. 38.

27.   For a discussion of the boycott, see Woodward, *Origins*, pp. 197–198 and Robert C. McMath, *Populist Vanguard: A History of the Southern Farmers' Alliance* (Chapel Hill: The University of North Carolina Press, 1976), pp. 54–57.

28.   See Fergeson, "Power Politics," pp. 39–40 for data on merchants' rapid accumulation of wealth in Jackson County.

29.   Hahn, *Roots*, p. 274.

30.   *Ibid.*; Bonner, *Georgia's Last*, pp. 144–145; *Carroll Free Press*, December 13, 1889; *Carroll Free Press*, February 5, 1892; *Carroll Free Press*, February 19, 1892.

31. *Carroll Free Press*, April 18, 1890, *Jackson Herald*, May 23, 1890.

32. Bonner, *Georgia's Last*, p. 145.

33. Hahn, *Roots*, p. 275 and Fergeson, "Power Politics," p. 41.

34. *Jackson Herald*, March 7, 1890.

35. Hahn, *Roots*, p. 277 and Bonner, *Georgia's Last*, p. 145.

36. See, for example, William F. Holmes, "The Southern Farmers' Alliance and the Georgia Senatorial Election of 1890," *Journal of Southern History*, 50 (May 1984), pp. 197–224.

37. Hahn, *Roots*, p. 279.

38. *Ibid.*

39. Hahn ignores Carroll's November, 1892 election and stops his study of Jackson County Populism at 1895.

40. *Carroll Free Press*, September 28, 1894.

41. *Carroll Free Press*, October 5, 1894.

42. *Carroll Free Press*, October 12, 1894.

43. For example, see Hahn, *Roots*, pp. 278–279.

44. For discussions of the relationship between the Populists and blacks, see Palmer, *"Man Over Money,"* pp. 50–66 and Woodward, *Origins*, pp. 254–263.

45. *Carroll Free Press*, August, 26, 1892.

46. *Carroll Free Press*, November, 24, 1893.

47. *Carroll Free Press*, April 15, 1892.

48. *Carroll Free Press*, May 6, 1892.

49.   *Carroll Free Press*, July 29, 1892. See also *Carroll Free Press*, July 22, 1892.

50.   *Carroll Free Press*, October 5, 1894.

51.   *Carroll Free Press*, October 19, 1894.

52.   *Carroll Free Press*, October 5, 1894.

53.   *Carroll Free Press*, October 12, 1894.

54.   Shaw, *Wool–Hat Boys*, p. 120.

55.   See J. Morgan Kousser, *The Shaping of Southern Politics: Suffrage Restriction and the Establishment of the One–Party South, 1880–1910* (New Haven: Yale University Press, 1974) for a comprehensive account of black disfranchisement during the Populist era.

56.   Woodward, *Origins*, p. 244.

57.   Lawrence Goodwyn, *The Populist Moment: A Short History of the Agrarian Revolt in America* (New York: Oxford University Press, 1978), pp. 86, argues that "Greenback doctrines thus provided the ideology . . . of the People's Party." Thus, it is quite plausible to conjecture that voters who sided with the Greenbacks or Independents in the early 1880s had a preference for the policies that the Populists advocated in the 1890s.

58.   On retrospective voting, see Morris P. Fiorina, *Retrospective Voting in American National Elections* (New Haven, CT: Yale University Press, 1981).

59.   *Carroll Free Press*, November 11, 1892.

60.   Beginning in 1896, there was growing concern over the proper payment of the poll tax and voter registration. See, for example, *Carroll Free Press*, March 6, 1896 and *Jackson Herald*, August 14, 1896.

61. Charles L. Flynn, Jr., "Procrustean Bedfellows and Populists: An Alternative Hypothesis," in Jeffrey J. Crow, Paul D. Escott, and Charles L. FLynn, Jr., eds., *Race, Class, and Politics in Southern History: Essays in Honor of Robert F. Durden* (Baton Rouge: Louisiana State University Press, 1989), p. 104.

62. See references cited in *Ibid.*, p. 91, note 15.

63. *Ibid.*, p. 103.

64. *Ibid.*

65. *Ibid.*, p. 105.

66. Goodwyn, *Populist Moment*, pp. 222 and 225. Also see his discussion of the "shadow movement" of Populism in Chapter 7.

TABLE 5.1

LATE NINETEENTH CENTURY EXPANSION
OF THE COTTON CROP IN THE SOUTH

PANEL A: RATIO OF COTTON TO CORN PRODUCTION, 11 COTTON STATES[a]
(1,000 bales/1,000,000 bushels)

YEAR	RATIO
1850	10.28
1860	18.91
1870	16.80
1880	21.33
1890	22.10
1900	20.60

Notes: [a] The eleven cotton states are Virginia, North and South Carolina, Georgia, Florida, Tennessee, Alabama, Mississippi, Louisiana, Arkansas, and Texas.

Source: Robert McGuire and Robert Higgs, "Cotton, Corn, and Risk in the Nineteenth Century: Another View," *Explorations in Economic History*, 14 (April 1977), p. 169.

PANEL B: AVERAGE ANNUAL GROWTH RATES OF COTTON PRODUCTION BY STATE AND REGION, 1866–1914

REGION	RATE
North Carolina	3.8%
South Carolina	4.4%
Georgia	4.1%
Alabama	3.0%
Mississippi	2.4%
Louisiana	1.2%
Arkansas	2.7%
Texas	5.9%
United States	3.7%

Source: David Freeman Weiman, "Petty Commodity Production in the Cotton South: Upcountry Farmers in the Georgia Cotton Economy, 1840 to 1880" (unpublished PhD dissertation, Stanford University, 1984), p. 375.

TABLE 5.2

POPULIST ELECTION RETURNS — CARROLL COUNTY

	ELECTION[a]							
	NATL. – 1892		STATE – 1894		NATL. – 1894		LOCAL – 1895	
DISTRICT[b]	% POP.[c]	% DEM.	%POP.	% DEM.	% POP.	%DEM.	%POP.	% DEM.
Town								
CARROLLTON	29.2	70.7	31.6	49.0	33.9	66.0	16.1	58.2
VILLA RICA	40.2	44.8	37.5*	30.0	28.9	28.1	22.2	35.5*
BOWDON	22.5	48.6	21.0	32.6	17.7	27.9	14.4	33.6
WHITESBURG	28.2	63.6	38.9*	36.9	22.8	35.8*	14.1	36.2
TEMPLE	34.4	11.7	43.7	12.0	35.9	11.6	29.3	12.8
ROOPVILLE	10.3	44.6	20.2	30.6	8.4	30.6	3.2	29.1
Rural								
TURKEY CREEK	18.9	35.3	43.5*	10.0	34.2	7.8	33.5	4.3
KANSAS	9.4	26.7	70.0*	1.0	41.4	3.0	48.5	4.0
NEW MEXICO	32.8	42.7	73.8*	16.4	57.4	22.2	36.3	15.2
LOWELL	16.3	28.0	31.7*	21.8	16.6	18.5*	16.6	25.6
SMITHFIELD	2.2	50.3	3.1	28.8	1.8	34.9	3.1	39.2
FLINT CORNER	32.1	32.1	58.5	28.5	45.7	15.7	40.0	22.8
SHILOH	7.5	48.8	23.9	30.0	22.7	36.7	21.4	44.7
FAIRPLAY	9.4	23.3	26.7*	25.7	19.0	17.6	13.4	31.6*
COUNTY LINE[d]	22.9	33.5	40.9*	35.0	35.0	23.4	30.9	22.5
CROSS PLAINS[d]	11.3	18.2	18.7*	17.9	17.1	18.7*	9.8	18.7
TOTAL VOTES	1159	2125	1682	1545	1354	1635	957	1648
FENCE CORREL.	−0.44	0.05	−0.17	−0.19	−0.21	−0.02	−0.20	−0.03
WEALTH CORREL.	0.20	0.31	−0.25	0.55	0.04	0.62	−0.25	0.47

TABLE 5.2 (continued)

Notes: [a] The elections reported under "natl.," "state," and "local" consistently refer to the congressional, gubernatorial, and county clerk elections, respectively.

[b] Districts in Carroll county underwent boundary changes throughout the 1880s and 1890s. Therefore, the districts reported here are the ones that have fence election data.

[c] The data displayed here represent the percentages of the eligible electorate who voted for either the Populist or Democratic candidates. See the Appendix for an explanation of my estimation of the electorate in each district. Asterisks denote a shift in the majority from the last election to the party with the asterisk.

[d] For some indeterminable reason, Hahn excludes these two districts from his analysis of Populism. He does, however, include them in a data table in the Appendix of his book (*Roots*, p. 310, Table XII). By excluding the two districts, he clearly biases his result in favor of his argument.

Sources: Election data: *Carroll Free Press*, November 11, 1892; *Carroll Free Press*, October 5, 1894; *Carroll Free Press*, October 12, 1894; *Carroll Free Press*, November 9, 1894; *Carroll Free Press*, January 4, 1895. Fence election data: See chapter 2. Wealth data: Carroll County Tax Digests, 1892 and 1894, Georgia Department of Archives and History.

TABLE 5.3

SUMMARY STATISTICS, CARROLL COUNTY MILITIA DISTRICTS

DISTRICT	TREND 1892–1895[a]	AVE. % POP.[b]	AVE. % FENCE[c]	PER CAPITA WEALTH[d]
Town[e]				
CARROLLTON	D	31.2%	57.3%	$1541
VILLA RICA	X	48.2	31.8	860
BOWDON	D	34.6	76.5	766
WHITESBURG	X	37.6	72.9	686
TEMPLE	P	74.9	61.5	680
ROOPVILLE	D	23.8	57.2	518
Rural				
TURKEY CREEK	X*[f]	69.4	72.5	567
KANSAS	X*[f]	83.0	81.4	517
NEW MEXICO	X*[f]	67.5	85.0	431
LOWELL	X	46.4	80.0	472
SMITHFIELD	D[f]	6.2	97.7	571
FLINT CORNER	P	64.0	82.7	419
SHILOH	D	32.0	78.2	478
FAIRPLAY	X[f]	41.1	43.7	579
COUNTY LINE	X*[f]	53.1	52.8	786
CROSS PLAINS	X[f]	43.6	82.0	1025

TABLE 5.3 (continued)

Notes: [a] Variable indicates voting trend over four Populist elections from 1892 to 1895: D ≡ Democratic majority in each election; P ≡ Populist majority in each election; X ≡ Majority switch at least once. Compare these trends with Hahn's (*Roots*, p. 281) three election trends. An asterisk denotes a one time shift to Populism from November, 1892 to October, 1894.

[b] Indicates the average percentage of the ballots cast for the Populists over the four elections.

[c] Percentage of the ballots cast for the fence law in the 1885 countywide election.

[d] Total wealth (black and white) divided by the total number of taxpayers (white and black) — 1894 data.

[e] Town districts are listed according to their rank in terms of town population size.

[f] Different from Hahn's classification.

Sources: See Table 5.2.

TABLE 5.4

POPULIST ELECTION RETURNS — JACKSON COUNTY, 1892–1898

| | ELECTION[a] | | | | | | | |
| | STATE – 1892 | | NATL. – 1892 | | LOCAL – 1893 | | STATE – 1894 | |
DISTRICT	% POP.[b]	% DEM.	%POP.	% DEM.	% POP.	%DEM.	%POP.	% DEM.
Town								
MINISHES	15.6	69.9	20.1	78.4	12.1	74.3	17.4	79.1
JEFFERSON	35.2	46.3	39.1	44.2	37.8	49.8	34.8	53.7
HOUSE	36.3	20.7	30.0	21.7	30.1	28.1	58.5	29.9
WILSON	15.1	61.8	11.5	60.6	13.5	54.7	24.6	75.1
Rural								
CUNNINGHAM	35.7	46.0	31.5	36.7	34.5	44.5	44.2	49.6
NEWTOWN	46.7	31.1	41.9	31.1	36.9	35.3	59.5	30.8
MILLER	29.1	30.1	53.2*	37.1	16.4	38.8*	MD[c]	MD
CLARKSBORO	47.2	9.5	43.6	9.2	37.7	13.5	60.3	19.2
CHANDLER	48.0	18.1	38.1	20.9	40.0	24.0	60.2	21.4
SANTA FE	42.2	25.3	32.9	22.4	28.3	31.7*	58.6*	27.3
RANDOLPH[d]	42.7	26.4	44.6	30.3	34.8	17.7	76.1	20.6
TOTAL VOTES	1605	1691	1611	1726	1370	1793	2184	1986
FENCE CORREL.	0.42	−0.20	0.00	−0.20	0.37	−0.36	0.58	−0.44
WEALTH CORREL.	−0.83	0.82	−0.59	0.88	−0.65	0.84	−0.85	0.90

TABLE 5.4 (continued)

POPULIST ELECTION RETURNS — JACKSON COUNTY, 1892–1898

	ELECTION							
	NATL. – 1894		LOCAL – 1895		STATE – 1896		NATL. – 1896	
DISTRICT	% POP.	% DEM.	%POP.	% DEM.	% POP.	%DEM.	%POP.	% DEM.
Town								
MINISHES	18.1	75.4	16.6	48.7	24.0	49.7	11.6	35.8
JEFFERSON	21.2	56.6	22.3	62.2	38.4	61.6	23.6	38.6
HOUSE	64.7	27.4	43.1	31.8	46.1	28.5	24.5	19.0
WILSON	13.1	50.5	14.6	58.8	16.0	47.6	1.9	37.2
Rural								
CUNNINGHAM	37.6	41.5	45.7*	29.0	42.1	36.1	8.1	12.4*
NEWTOWN	78.9	20.9	71.4	28.4	45.5	21.2	13.7	13.9*
MILLER	18.5	22.3	20.9	38.0	27.3	41.0	0.1	16.5
CLARKSBORO	45.5	7.1	31.3	11.5	43.6	12.8	14.8	8.7
CHANDLER	48.9	7.8	50.1	9.5	48.1	9.6	26.4	7.5
SANTA FE	48.9	30.1	51.7	28.9	39.0	15.4	12.6	13.8*
RANDOLPH	76.5	23.1	59.8	23.8	50.6	24.5	25.0	16.1
TOTAL VOTES	2047	1829	1825	1781	2088	1946	909	1228
FENCE CORREL.	0.71	−0.23	0.70	−0.24	0.43	−0.43	0.42	−0.15
WEALTH CORREL.	−0.56	0.90	−0.64	0.73	−0.65	0.69	−0.18	0.82

TABLE 5.4 (continued)

POPULIST ELECTION RETURNS — JACKSON COUNTY, 1892–1898

	ELECTION	
	STATE – 1898	
DISTRICT	% POP.	% DEM.
Town		
MINISHES	18.5	59.3
JEFFERSON	39.3	60.5
HOUSE	40.5	29.2
WILSON	13.9	57.4
Rural		
CUNNINGHAM	37.3	38.8
NEWTOWN	42.4*	27.5
MILLER	18.8	45.9
CLARKESBORO	41.8	8.8
CHANDLER	40.5	14.8
SANTA FE	27.2*	14.4
RANDOLPH	46.3	29.9
TOTAL VOTES	1960	2225
FENCE CORREL.	0.43	−0.36
WEALTH CORREL.	−0.52	0.69

TABLE 5.4 (continued)

Notes: [a] The elections reported under "natl.," "state," and "local" consistently refer to the congressional, gubernatorial, and county clerk/treasurer elections, respectively.

[b] The data displayed here represent the percentages of the eligible electorate who voted for either the Populist or Democratic candidates. See the Appendix for an explanation of my estimation of the electorate in each district. Asterisks denote a shift in the majority from the previous election to the party with the asterisk.

[c] A riot occurred in Miller on the day of the election and a ballot box was burned. No return was reported. See the *Atlanta Constitution*, October 6, 1894.

[d] Hoschton and Randolph districts are combined here. Randolph was divided in the mid 1880s to form Hoschton. Since the latter never participated in a countywide fence election, I have decided to combine the two.

Sources: *Jackson Herald*, October 14, 1892; *Jackson Herald*, November 11, 1892; *Jackson Herald*, January 6, 1893; *Jackson Herald*, October 12, 1894; *Jackson Herald*, November 9, 1894; *Jackson Herald*, January 4, 1895; *Jackson Herald*, October 16, 1896; *Jackson Herald*, November 6, 1896; *Jackson Herald*, October 7, 1898. Fence election data: See chapter 2. Wealth data: Jackson County Tax Digests, 1892, 1894, 1896, 1898, Georgia Department of Archives and History.

TABLE 5.5

SUMMARY STATISTICS, JACKSON COUNTY MILITIA DISTRICTS

DISTRICT	TREND 1892–1898[a]	AVE. % POP.[b]	AVE. % FENCE[c]	PER CAPITA WEALTH[d]
Town[e]				
MINISHES	D	21.3%	56.2%	$1388
JEFFERSON	D	38.1	53.2	849
HOUSE	P	61.3	73.8	807
WILSON	D	19.8	68.3	1025
Rural				
CUNNINGHAM	X	48.6	49.7	686
NEWTOWN	X[f]	64.5	78.7	588
MILLER	X	40.6	61.6	653
CLARKESBORO	P	78.5	64.7	516
CHANDLER	P	75.0	91.6	485
SANTA FE	X	62.0	92.9	551
RANDOLPH	P	68.2	85.6	635

TABLE 5.5 (continued)

Notes: [a] Variable indicates voting trend over nine Populist elections from 1892 to 1898: D
= Democratic majority in each election; P ≡ Populist majority in each election; X ≡
Majority switch at least once.

[b] Indicates the average percentage of the ballots cast for the Populists over the nine
elections.

[c] Percentage of the ballots cast for the fence law in the 1883 countywide election.

[d] Total wealth (black and white) divided by the total number of taxpayers (white and
black) – 1894 data.

[e] Town districts are listed according to their rank in terms of town population size.

[f] Different from Hahn's classification.

Sources: See Table 5.3.

TABLE 5.6

SUMMARY STATISTICS DESCRIBING ECONOMIC STATUS OF LOCAL POLITICAL LEADERS, CARROLL AND JACKSON COUNTIES, 1890s

Panel A: Carroll County Executive Committees

VARIABLE	DEMOCRATS[a]	POPULISTS[a]	SIGNIFICANT?[b]
ACRES	155	86	
	(170)	(86)	
VALUE OF LAND	882	433	*
	(1120)	(409)	
VALUE OF LIVESTOCK	181	106	*
	(133)	(94)	
VALUE OF TOWN PROPERTY	262	18	*
	(537)	(72)	
VALUE OF NOTES[c]	222	4	*
	(527)	(14)	
VALUE OF ALL PROPERTY	1754	635	*
	(1537)	(538)	
N	53	34	

TABLE 5.6 (continued)

Panel B: Carroll County Candidates for Local Offices

VARIABLE	DEMOCRATS	POPULISTS[d]	SIGNIFICANT?
ACRES	277	98	
	(490)	(81)	
VALUE OF LAND	1047	656	
	(1402)	(538)	
VALUE OF LIVESTOCK	125	143	
	(89)	(108)	
VALUE OF TOWN PROPERTY	537	0	*
	(867)	(0)	
VALUE OF NOTES	280	44	
	(621)	(82)	
VALUE OF ALL PROPERTY	2331	917	*
	(2077)	(627)	
N	16	8	

TABLE 5.6 (continued)

Panel C: Jackson County Executive Committees

VARIABLE	DEMOCRATS	POPULISTS	SIGNIFICANT?
ACRES	122 (129)	170 (140)	
VALUE OF LAND	757 (744)	975 (839)	
VALUE OF LIVESTOCK	149 (134)	198 (141)	
VALUE OF TOWN PROPERTY	182 (416)	0 (0)	
VALUE OF NOTES	1005 (2012)	38 (74)	*
VALUE OF ALL PROPERTY	2439 (2403)	1361 (1011)	
N	22	10	

Panel D: Jackson County Candidates for Local Offices

VARIABLE	DEMOCRATS[e]	POPULISTS	SIGNIFICANT?
ACRES	123 (115)	187 (162)	
VALUE OF LAND	866 (784)	1191 (900)	
VALUE OF LIVESTOCK	185 (178)	228 (149)	
VALUE OF TOWN PROPERTY	309 (449)	28 (118)	*
VALUE OF NOTES	291 (333)	264 (619)	
VALUE OF ALL PROPERTY	1855 (1457)	2024 (1232)	
N	17	18	

TABLE 5.6 (continued)

Notes: ^a The two numbers reported in the columns are means and standard deviations — the latter are in parentheses.

^b An asterisk indicates that the means are significantly different from one another at the 5 percent level.

^c "Notes" include money and credit holdings, such as accounts and loans.

^d The Populists included here exclude W. D. Lovvorn, an extremely wealthy farmer with aggregate wealth of $17,883. If he were included in the analysis, the Populist numbers would be (in the order presented in the Table): 233 (413); 1694 (3155); 188 (167); 0 (0); 817 (2320); 2802 (5686). When the Lovvorn data is included in the Populist column, the "value of all property" for the two parties is no longer significantly different. All of the other variables' significance levels remain unchanged.

^e The Democrats included here exclude L. G. Hardeman, an even more wealthy county physician (according to the 1880 census) with aggregate wealth of $38,960. If he were included in the analysis, the Democrat numbers would be (in the order presented in the Table): 211 (388); 1362 (2290); 211 (205); 703 (1727); 350 (408); 3916 (8859). If the Hardeman data were included in the Democrats' column, the significance column would remain unchanged.

Sources: *Carroll Free Press*, April 8, 1892; *Carroll Free Press*, April 15, 1892; *Carroll Free Press*, June 1, 1894; *Carroll Free Press*, March 15, 1895; *Jackson Herald*, May 6, 1892; *Jackson Herald*, April 22, 1892; Carroll and Jackson Tax Digests, 1894, Georgia Department of Archives and History. Also see the newspaper citations from Tables 5.2 and 5.4.

TABLE 5.7

OCCUPATION, RESIDENCE, AND WEALTH
OF JACKSON COUNTY OFFICE SEEKERS

Panel A: Residence and Occupation

VARIABLE	DEMOCRATS	POPULISTS
Residence		
% Town	60.0	29.4
% Rural	40.0	70.6
Occupation		
% Farmer	33.3	64.7
% Non–farmer	66.7	35.3

Panel B: Wealth by Residence and Occupation

VARIABLE	TOWN		RURAL		FARMER		NON–FARMER	
	DEMS.[a,b]	POPS.[a]	DEMS.	POPS.	DEMS.	POPS.	DEMS.[b]	POPS.
ACRES	124	98	122	240	116	215	127	168
	(137)	(95)	(104)	(166)	(115)	(148)	(129)	(191)
VALUE OF LAND	872	820	784	1445	791	1295	889	1200
	(942)	(811)	(558)	(867)	(624)	(727)	(889)	(1180)
VALUE OF LIVESTOCK	224	200	173	257	202	250	204	222
	(211)	(144)	(141)	(148)	(135)	(153)	(209)	(140)
VALUE OF TOWN PROPERTY	478	100	0	0	0	0	430	83
	(529)	(224)	(0)	(0)	(0)	(0)	(521)	(204)
VALUE OF NOTES	428	810	133	58	120	63	405	675
	(391)	(1039)	(197)	(103)	(217)	(106)	(375)	(987)
VALUE OF ALL PROPERTY	2273	2340	1206	2039	1245	1903	2147	2539
	(1780)	(1527)	(617)	(1082)	(682)	(1022)	(1725)	(1450)
N	9	5	6	12	5	11	10	6

TABLE 5.7 (continued)

Notes: [a] The two numbers reported in the columns are means and standard deviations — the latter are in parentheses.

[b] The town and non–farm Democrats exclude the extremely wealthy L. G. Hardeman.

Sources: Candidates for offices were found in the newspapers listed in Table 5.4. Occupations and residences reported in Jim Alan Fergeson, "Power Politics and Populism: Jackson County, Georgia, as a Case Study" (MA thesis, University of Georgia, 1975), pp. 51–52. Wealth data is from the Jackson County Tax Digests, 1894, Georgia Department of Archives and History.

TABLE 5.8

VARIABLES USED IN REGRESSION ANALYSES OF POPULIST ELECTIONS AND SUMMARY STATISTICS, CARROLL AND JACKSON COUNTIES

VARIABLES	DESCRIPTION	CARROLL		JACKSON	
		μ	σ	μ	σ
PCTBLACK	Percentage of the district voters who were black	14.46	10.11	28.54	7.99
PCTTOWN	Percentage of the district population living in a town in 1890	7.91	10.20	6.65	8.33
PCWEALTH	Per capita wealth	754.53	299.18	755.36	269.07
TERMS	Terms of trade measure — real price of cotton (1870), deflated by textile price series	0.150	0.005	0.15	0.017
NATIONAL	1 if congressional election, 0 other- wise	0.25	0.45	0.33	0.47
PCTINDEP	Percentage of the electorate voting for the Independent candidate in the 1880 congressional election	11.02	9.69	19.43	9.15
PCTFENCE	Percentage of the electorate voting for the fence law in 1885 for Car- roll county and in 1883 for Jackson county	42.97	16.75	38.59	7.79

Sources: PCTBLACK, PCWEALTH — Carroll and Jackson County Tax Digests, 1892–1898, Georgia Department of Archives and History; PCTTOWN — U. S. Census Office, Eleventh Census, 1890, *Compendium of the Eleventh Census* (Washington: GPO, 1894), pp. 89 and 93; TERMS — Cotton price series: U. S. Bureau of the Census, *Historical Statistics of the United States, Colonial Times to 1957* (Washington, DC: GPO, 1960), Series K 298–306 (p. 301). Textile products price series: George F. Warren and Frank A. Pearson, *Gold and Prices* (New York: Garland Publishing, 1983), p. 31; PCTINDEP — *Carroll County Times*, November 5, 1880 and *Jefferson Forest News*, November 5, 1880; PCTFENCE — See references to Tables 2.2 and 2.3 of Chapter 2. For the sources to the Populist election returns, see Tables 5.2 and 5.4 in this chapter.

TABLE 5.9

Panel A: Regressions of Carroll County Populist Elections

VARIABLES	(1) $\log\left[\dfrac{P_{POP.}}{P_{DEM.}}\right]$	(2) $\log\left[\dfrac{P_{ABS.}}{P_{DEM.}}\right]$	(3) $\log\left[\dfrac{P_{POP.}}{P_{DEM.}}\right]$	(4) $\log\left[\dfrac{P_{ABS.}}{P_{DEM.}}\right]$
CONSTANT	−6.247 (−1.670)	−14.051 (−2.452)	−6.411 (−1.392)	−20.471 (−2.961)
PCTBLACK	0.059* (3.192)	0.080* (2.821)	0.061** (2.018)	0.127* (2.800)
PCTTOWN	−0.062** (−2.577)	−0.110* (−2.989)	−0.065*** (−1.756)	−0.174* (−3.112)
PCWEALTH	0.001 (1.075)	−0.002** (−2.601)	0.001 (0.935)	−0.001 (−1.205)
TERMS	34.262 (1.418)	106.129* (2.868)	34.786 (1.255)	130.56* (3.137)
NATIONAL	0.129 (0.468)	−1.016** (−2.399)	0.109 (0.344)	−1.212** (−2.540)
PCTINDEP			0.002 (0.091)	0.048 (1.496)
PCTFENCE			−0.001 (−0.079)	0.040*** (1.884)
N	70	70	55	55
R^2	0.237	0.668	0.254	0.721
$\bar{R}^2$	0.178	0.642	0.143	0.680

TABLE 5.9 (continued)

Panel B: Regressions of Jackson County Populist Elections

VARIABLES	(5) $\log\left[\dfrac{P_{POP.}}{P_{DEM.}}\right]$	(6) $\log\left[\dfrac{P_{ABS.}}{P_{DEM.}}\right]$	(7) $\log\left[\dfrac{P_{POP.}}{P_{DEM.}}\right]$	(8) $\log\left[\dfrac{P_{ABS.}}{P_{DEM.}}\right]$
CONSTANT	3.374* (3.560)	−2.048 (−0.942)	2.017*** (1.813)	−1.317 (−0.507)
PCTBLACK	0.002 (0.152)	−0.037 (−1.260)	0.001 (0.735)	−0.011 (−0.393)
PCTTOWN	0.023 (1.132)	−0.148* (−3.122)	0.032 (1.415)	−0.070 (−1.299)
PCWEALTH	−0.003* (−4.763)	0.002 (1.079)	−0.002* (−3.698)	0.001 (0.596)
TERMS	−8.228 (−1.735)	14.569 (1.339)	−7.095 (−1.621)	13.222 (1.294)
NATIONAL	−0.075 (−0.435)	0.610 (1.545)	−0.086 (−0.548)	0.622*** (1.699)
PCTINDEP			−0.031* (−3.457)	−0.085* (−4.093)
PCTFENCE			0.030* (2.772)	0.011 (0.442)
N	98	98	98	98
R^2	0.442	0.272	0.547	0.398
$\bar{R}^2$	0.411	0.232	0.512	0.342

TABLE 5.9 (continued)

Notes: *t*–statistics in parentheses.

     *   Significant at the 1% level, two tailed test.
     **   Significant at the 5% level, two tailed test.
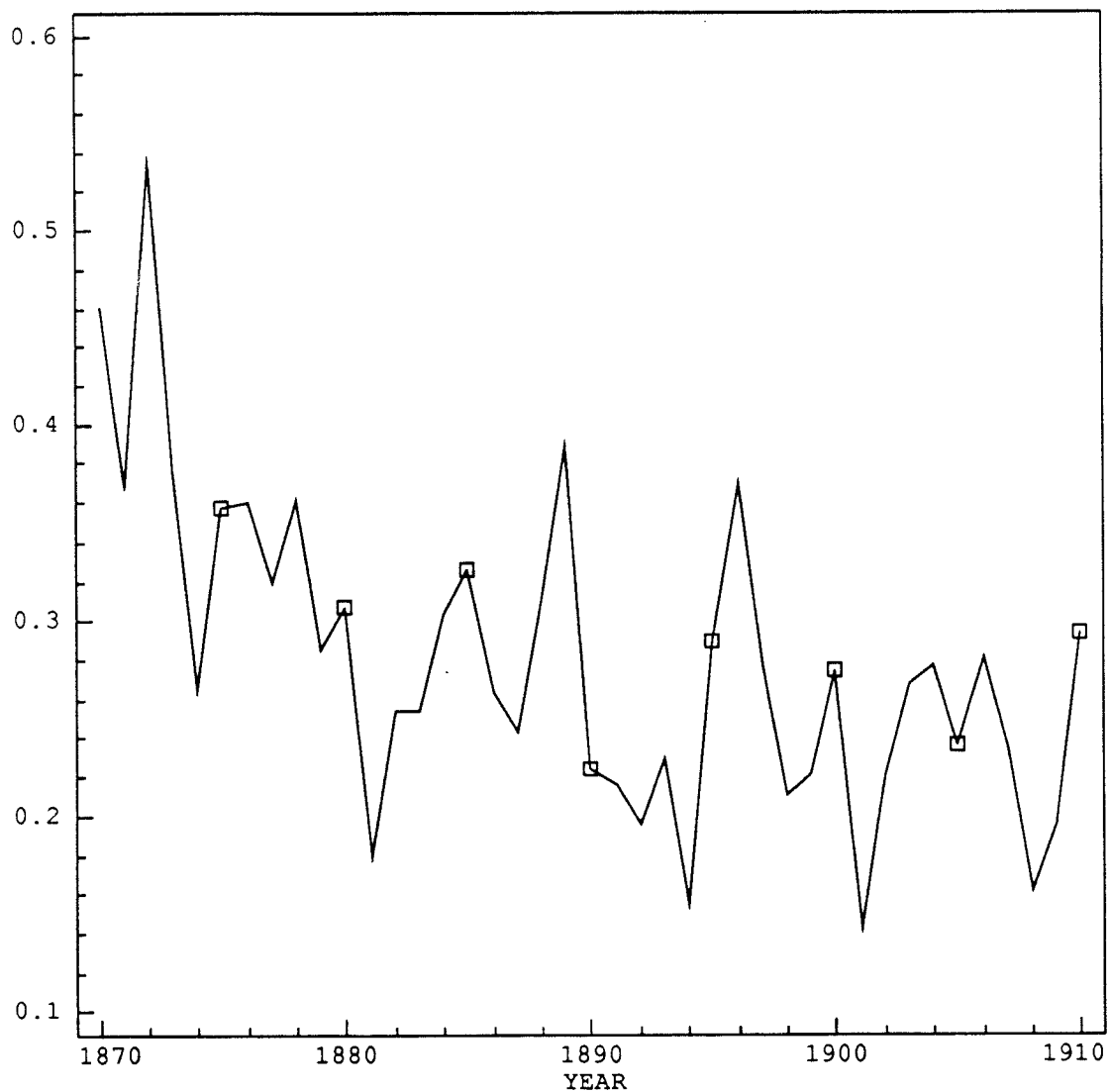   *** Significant at the 10% level, two tailed test.

Sources: See Table 5.8.

FIGURE 5.1

TERMS OF TRADE SERIES[a]
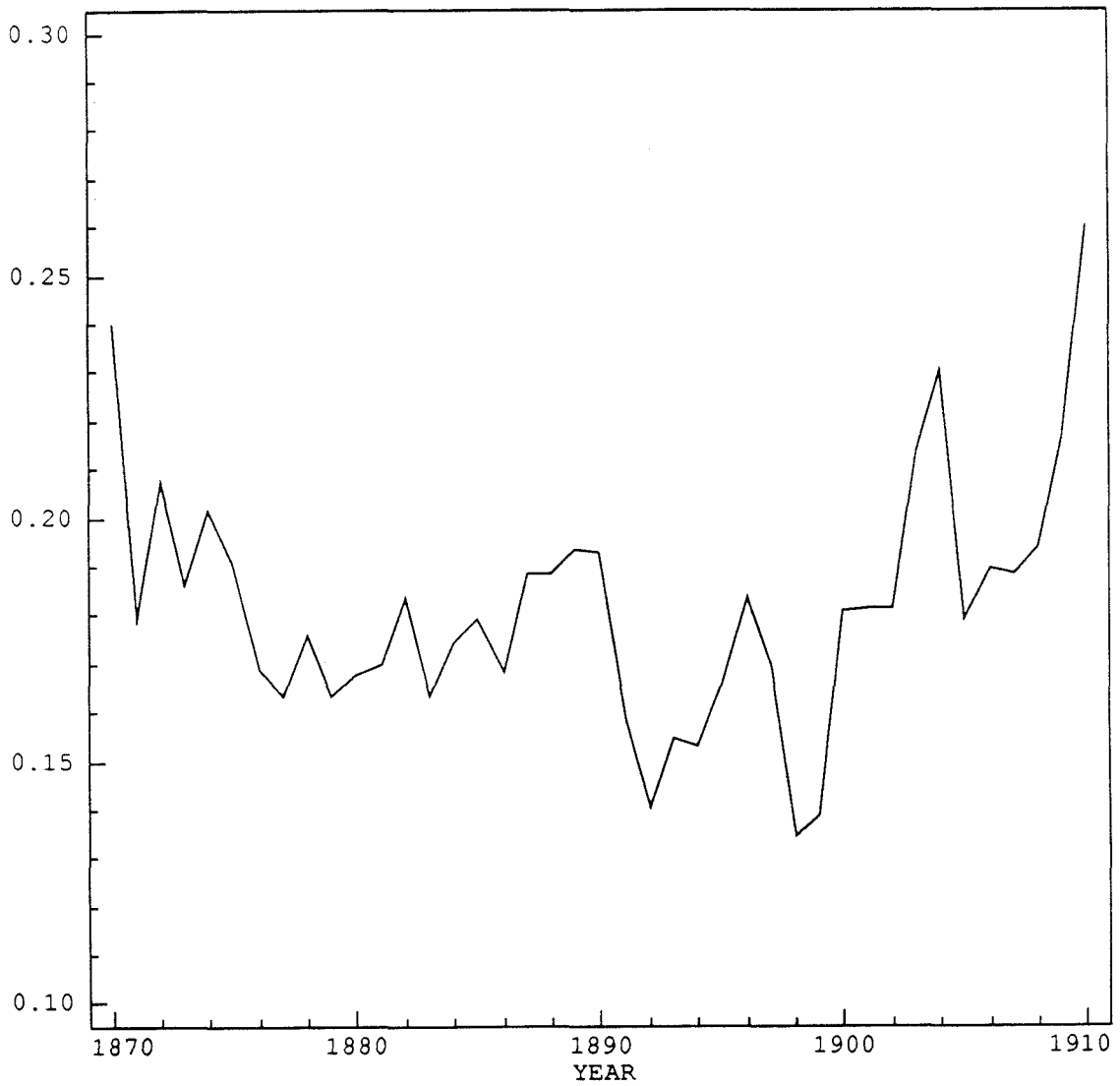
Notes: [a] Series was constructed by converting cotton prices into 1870 dollars using the Warren and Pearson series of textile prices as the deflator.

Sources: See sources for TERMS given in Table 5.8.

FIGURE 5.2

RELATIVE PRICE OF COTTON TO CORN

Sources: U. S. Bureau of the Census, *Historical Statistics of the United States, Colonial Times to 1957* (Washington, DC: GPO, 1960), Series K 265–273 (p. 297) and Series K 298–306 (p. 301).

CHAPTER 6

CONCLUSION

Previous historical research on the fence law debate in postbellum Georgia has por-
trayed the conflict as one between the "haves" and the "have nots" — wealthy landowners
against yeoman farmers, tenants, and laborers — or between contending "cultures" — believ-
ers in a precapitalistic "household mode of production" against partisans of national and inter-
national capitalistic market relations. The investigation of the qualitative and quantitative evi-
dence presented in this dissertation, however, shows that the two-class interpretation is
wrongly simple and the cultural gloss is simply wrong. The stock law created potential
benefits which crossed class lines and there is little evidence that its opponents rejected the
crass cash nexus. The debate, therefore, was not rooted in class conflict, but stemmed from
the materialistic goals of individuals concerned about the distribution of costs and benefits of
fencing crops and animals.

The evidence presented in the thesis also casts serious doubt on the social control
argument presented by Steven Hahn and Charles Flynn. These historians argue that planters
and merchants designed and advocated the stock law as a mechanism to extract the "labor
surplus" from laborers, tenants, and yeoman farmers more easily. Roll call analyses of the
1881 district option bill, in fact, refute the historians' social control hypothesis. Instead, the
data suggest that assemblymen voted according to their districts' economic interests in the
stock law. In other words, legislators were acting on behalf of the public interest. The Gen-
eral Assembly did impose the stock law on about 20 percent of Georgia's counties from 1870
to 1890, but this is hardly conclusive evidence that the stock law was capitalist aggression
from above. Indeed, the trend throughout the postbellum period was to allow local county and
militia district option on the fence question. The General Assembly, in general, maintained

that the fence policy in Georgia would be decided through direct local democracy.

The last chapter of the dissertation empirically tested Steven Hahn's analysis of the roots of southern Populism. The animosities created during the bitter fence debate, according to Hahn, generated the bases of support for the Populist movement of the 1890s. A statistical analysis of the data found no connection between the fence law and Populism in Carroll County. Carroll Democrats and Populists seemed to have divided along geographic lines. Evidence from Jackson County confirms that Populists tended to be poorer than their Democratic counterparts. Moreover, holding everything else constant, there is a statistical relationship between fence law support and Populism in Jackson. A counter hypothesis — one that still needs further investigation — is that fence law partisans were reacting negatively to the legislature's imposition of the stock law on Jackson County in 1889. What is clear from the investigation presented in this thesis, however, is that Hahn's claim that the "Roots of Southern Populism" can be found in the fence law debate is quite tenuous at best.

More generally, the dissertation has highlighted the importance of studying the dynamics of institutional change. By disentangling the process of change, we are in a better position to identify why inefficient institutions persist and why efficient ones are blocked. New institutional economists have been overly concerned with the beginning and end points of institutional change, and have portrayed the process of change as occuring within a "black box." Clearly, this is too simple an approach. The primary objective of the dissertation has been to show that the black box approach to studying institutional development must be abandoned. The forces that govern the trajectory of change are more complex than previously assumed; and, they force economists to consider the interplay between economic and political processes, the influence of rules, and the role of non–political and non–economic forces. When potentially damaging forces, such as transaction costs, threaten to block

income–enhancing economic changes, how are these obstructions usually overcome? The approach outlined in the thesis places great emphasis on the government's role as the facilitator of change. The dissertation has demonstrated that the dynamics of change must be examined as more than voluntary bargaining between self–interested individuals. Institutional change, instead, must be studied within a broader framework that incorporates the complex interplay between economic, legal, political, and social forces.

APPENDIX A

Procedure Used to Calculate Expected Savings from Stock Law

1.) Wasted Land

Contemporaries believed that the largest potential source of savings from the stock law could be achieved by literally breaking down the fences and bringing into production that land previously occupied by fence rows. As discussed in the text of Chapter 3, the waste percentage used to calculate the individual counties' expected savings is 1.5 percent. When I calculate the savings for individual farms, I detemine the percent of wasted land using the function specified in footnote 29 of Chapter 3.

2.) Crops Grown on Wasted Land

I assume that two types of crop are grown on the wasted acreage. Cotton will be grown on the cotton producing acres and corn, peas, and fodder will be grown on the corn, wheat, rye, and oat acres (for simplicity, grain acres). Yield per acre for cotton and corn was determined by dividing the total crop output by total acres of that particular crop. For the corn yield per acre measure I subtract 0.25 bushels per acre for seed.[1] The yield per acre of peas and fodder is assumed to be 4 bushels and 185 pounds, respectively, as reported in the "Annual Report of Thomas P. Janes Commissioner of Agriculture of the State of Georgia For the Year 1875," p. 135. The total crop of corn, peas, and fodder grown on the extra land brought into cultivation is equal to the number of extra grain acres times the yield per acre of the respective crop. Similarly, the total extra cotton crop is equal to the extra cotton acres times the yield

per acre of cotton. Since the yield per acre is reported in bales, I multiply the total output by 475, the average weight of a bale of cotton, to obtain total pounds of extra cotton grown.[2]

3.) Gross Value of Crops Grown on Wasted Land

After finding the total number of bushels or pounds of each crop that could be grown on the wasted acreage, I multiply the figure by the price per unit. The price of cotton is assumed to be $0.1118 per pound and corn is assumed to be $0.673 per bushel. These are the average prices for the year 1880 as reported in the Atlanta *Constitution*. I sampled the newspaper once every month, trying to obtain prices for the fourth day of each month. If the price was not reported on the fifth, I went to the sixth, seventh, and so on. The price of peas is assumed to be $1.10 per bushel and fodder $0.0119 per pound as reported in "The Annual Report...1875," p. 135.

4.) Cost of Producing Crops

"The Annual Report...1875," p. 135, reports the cost of producing corn, peas, and fodder on the same land as $8.00 per acre. Assuming an interest rate of 7 percent, an annual land depreciation rate of 2.7 percent[3], and a cash value per acre of Georgia farms of $4.67, the cost of producing the corn, peas, and fodder becomes $8.45 per acre.[4] We have the benefit of two cost estimates for cotton. "The Annual Report...1875," p. 135, reports the production cost of cotton to be $16.48 per acre, and includes the cost of marketing the crop. R.H. Loughridge, "Report on the Cotton Production of the State of Georgia, with a Description of the General Agricultural

Features of the State," in the 1880 Agricultural Census, p. 175, has several cost estimates for various counties within Georgia. Loughridge's figures correspond very closely to the $16.48 reported by the Georgia Department of Agriculture and, thus, I use this estimate to predict the total cost of producing the extra cotton crop, with one adjustment. The $16.48 figure includes the cost of fencing the acre of cotton land. Therefore, the "real" cost of planting an acre of cotton becomes $14.58 (see section 6, below, for $1.90 fence cost). It should be noted that this estimate includes the rental price of the land.

An additional cost of producing the extra crops is the opportunity cost of the capital used to work the land, specifically any machinery, farm implements, or draft animals. We first determine the value of machinery capital per acre by dividing the "value of farming implements and machinery" by the total number of cotton, corn, wheat, rye, and oat acres. To estimate the machinery rent associated with producing the extra crop, I multiply the per acre value of machinery by the total acres brought into cultivation by the depreciation and interest rate. We take the rate of depreciation to be 15 percent, following Ransom and Sutch, p. 108, and Robert C. Allen.[5] Again, the interest rate is assumed to be 7 percent.

To find the rent associated with work animals, I determine the total value of such animals, because the Census reports the value of all farm animals. Using the 1879 prices given in the *Historical Statistics of the United States, Colonial Times to 1957*, Series K 195–212, p. 290, for horses ($51.55), mules ($57.08), and all cattle ($16.96), I am able to estimate the total value of capital in the form of horses, mules, and oxen. By the same procedure used for machinery and implements, I determine the value per acre of work animals used to produce all crops within a county. Using a

depreciation rate of 15 percent (Allen, p. 952) and an interest rate of 7 percent, the

total rent for animals associated with producing the additional crops is the value of

work animals per acre times 22 percent times the total number of wasted acres brought

into cultivation.

5.) **Dealing with Animals**

Because many animals were roaming the open range, I need to take into

account the pasturing and feeding of these animals once the hypothetical stock law is

implemented. The Census reports acres of "Permanent meadows, Permanent pastures,

orchards, and vineyards" and I take this lump sum to represent the total amount of land

devoted to animal pasture. The "Annual Report...1875" gives data on total pasture

enclosed by fence, and for more than 80 counties, the Georgia Department of Agricul-

ture reports a pasture measure greater than the Census' enhanced pasture statistic.

Therefore, I do not believe that using the Census pasture variable will bias the result in

any dramatic fashion.

To this permanent pasture I allocate animals so that I can obtain an estimate of

the number of animals that were roaming the countryside. First, I allocate 5 sheep per

acre of pasturage ("Annual Report...1875," p. 128), then sequentially allocate one

horse, mule, ox, milk cow, head of cattle per acre, and if possible, 5 swine per acre.

The Jackson *Herald*, August 31, 1883, reports that six cows and twelve hogs could be

put on a six acre pasture sown in vetch for the summer. Moreover, the March 30, 1885

Herald reported that one acre of pasture per cow was suitable. Given this, one acre

devoted to each horse, mule, ox, head of cattle, and milk cow is a generous estimate.

Furthermore, five pigs per acre seems reasonable, given that five sheep per acre was

the norm, and taking into account the *Herald*'s 1883 advice.

Once I have determined the number of animals that were non–pastured, I must deduct from the savings estimate a feed allowance for these animals. Before the stock law is instituted, I assume that farmers fed their non–pastured animals the Ransom and Sutch "Lower bound" feed estimate reported in Table E.4, p. 250. Once the hypothetical law is implemented, these animals must be put into pastures and I assume that they are now fed the Ransom and Sutch "Reasonable allowance, 1880" of corn–equivalent bushels. Of course, I need not allocate feed to previously pastured animals because I assume they were fed the "Reasonable allowance" before and after the law. In fact, the feed allowance only has to be made for horses, mules, and oxen because grain given to milk cows, cattle, and swine was consumed by the farm family in a different form, namely meat, milk, cheese, butter, etc. Therefore, the dollar value of the feed is equal to $0.673/bushel corn * (nphorses * 11.7 bushels + npoxen * 11.7 bushels + npmules * 14.5 bushels), where "np" represents "non–pastured."

6.) Fence Maintenance Savings

Contemporaries claimed that the depreciation of fences amounted to 10 percent of the initial value of the fence. However, as described above, previously non–pastured animals require a fence enclosure, and I assume that these animals are penned on unimproved land.[6] Assume that each non–pastured horse, mule, ox, head of cattle, and milk cow was given one acre of land and one acre was allocated for 5 sheep and swine. Call the land used to pasture the previously non–pastured animals, "new fenced acres." In addition, I have assumed that all of the fences around crops are removed and, thus, no longer require repair expense. Call the amount of land used to

grow the cotton and grain crops before the hypothetical stock law, "crop acres." Using the fact that the average cost of fencing in the South was $1.90 per acre, I am able to estimate the amount saved from maintaining fewer fences. Thus, the fence savings is equal to 0.10 * $1.90 * (crop acres – new fenced acres).

I also must take into account the cost of fencing the "new fenced acres" devoted to penning the animals. Denoting the one–time cost of this fence as C_0, its value is given by $1.90 * (new fenced acres).

7.) Total Expected Savings

The total annual expected savings once the hypothetical law is passed is obtained by adding the gross value of the additional crops grown and the money saved from maintaining fewer fences and subtracting the total cost of producing the crop, including the rent on the capital, and the value of the feed allowance given to previously non–pastured horses, mules, and oxen. A general equation for the savings after the first year can be written as:

Total expected savings (S) = x % cotton acres * [bales/acre * 475 lbs/bale * $0.1119/lb

– $14.58 cost/acre – $rent of capital/acre] + x % grain acres * [(bushels corn/acre

* $0.673/bushel + 4 bushels peas/acre * $1.10/bushel + 185 lbs fodder/acre *

$0.0119/lb) – $8.45 cost/acre – $rent of capital/acre] – $0.673/bushel corn * [11.7

bushels * nphorses + 11.7 bushels * npoxen + 14.5 bushels * npmules] + 0.10 *

$1.90 * [crop acres – new fenced acres],

where x % represents the percentage of tilled acreage wasted by fence rows. The savings of the first year that the law is in force is slightly different. All of the profits from

the crops as well as the depreciation from the crop acre fences are realized as savings. However, in the first year the full value of C_0 is subtracted off and the depreciation from these fences need not be subtracted. Thus, the net present value of the expected savings is $\sum_{t=0}^{\infty} S_t - 0.9\, C_0$, where $0.9\, C_0$ is the cost of the animals' fences plus the first year's depreciation which is embedded in the S_t term.

FOOTNOTES

1. Ransom and Sutch, *One Kind of Freedom: The Economic Consequences of Emancipation* (New York: Cambridge University Press, 1977), Table E.1, p. 246.

2. Weiman, "Economic Emancipation," p. 76, footnote 12.

3. Ransom and Sutch, *One Kind of Freedom*, p. 208.

4. "Annual Report...1875", p. 135.

5. Robert C. Allen, "The Efficiency and Distributional Consequences of Eighteenth Century Enclosure," *The Economic Journal* 92 (December 1982), p. 952.

6. For evidence that animals were pastured on unimproved land see, *Southern Cultivator*, 35 (January 1877), pp. 19–20 and *The Southern Cultivator and Dixie Farmer*, 41 (September 1883), p. 15.

APPENDIX B

Data Appendix to Chapter 2

As discussed in Chapter 2, we used three primary sources for our data: the Population and Agricultural Manuscript Schedules of the 1880 Census, as well as published census data, contemporary newspapers, and property tax digests from Carroll and Jackson counties, which are housed in the Georgia Department of Archives and History. This Appendix discusses the procedural details behind the creation of the variables found in Tables 2.5 and 2.6.

The fence election data were culled from contemporary newspapers, specified in the sources of Tables 2.2 and 2.3. For the statistical analyses in this paper, we used the percentage of the eligible voters who cast ballots for the fence law, stock law, or who did not vote as our dependent variables. Therefore, it was necessary to create an accurate count of the electorate to use as a common denominator. Although the property tax digests record the number of men who paid the poll tax, Kousser (*The Shaping of Southern Politics: Suffrage Restriction and the Establishment of the One–Party South, 1880–1910* (New Haven: Yale University Press, 1974), chapter 3) argues that tax collectors purposefully avoided collecting the tax from those who they deemed undesirable voters, such as Republican black voters. A more accurate description of the eligible voting population would be the number of men twenty–one years of age or older. However, the Census only reported this data for the whole county and not the individual militia districts. Therefore, our strategy in estimating the potential electorate was to inflate the number of black and white polls reported in the tax digest for individual districts to a level commensurate with the Census' count of males 21 years or older.

We first determined the total number of black and white voting age males within each county for 1880 using our 100 percent sample of the Population Manuscript Schedules. In the

published 1890 Population Census, voting age males of both races are reported. Using a linear interpolation between the 1880 and 1890 census data, we have countywide estimates of the number of potential voters for the 1880s. The next step was to find the total number of men, black and white, who paid the poll tax within each county for each year that a fence election was held. Finally, we used the ratio of the total countywide number of voting age males, of each race, enumerated by the Census to the countywide number of poll tax payers as our inflator of the number of districtwide voters reported in the tax digests. For example, assume that wi_{1882} is the interpolated estimate of the census' total number of white voting age males divided by the total number of white men who paid their poll tax in Carroll county in 1882. If district X had 100 white poll tax payers in 1882, our estimate of the "actual" number of white voters is $100*wi_{1882}$. An analogous calculation was used to determine the "actual" number of black voters within district X. Of course, the total number of potential voters in this hypothetical district would be the sum of the black and white estimates described above. The apparent undercollection of taxes was more dramatic for Carroll than for Jackson county. The black and white polls in Carroll had to be inflated, on average, 45 percent and 23 percent, respectively. For Jackson county, we only had to inflate the black and white polls 30 percent and 19 percent, respectively.

The percent forest, per capita cotton, the percentage of farms achieving self–sufficiency, and the proportion expecting to profit from the new law were all created using the data from Agricultural Manuscript Schedules. Self–sufficiency was determined using the method that Ransom and Sutch, *One Kind of Freedom*, have devised. In estimating the number of farms expecting to profit from the stock law, we followed the procedure detailed in Appendix A. The percentages of the eligible electorate that were tenant farmers or laborers were calculated from the Population Manuscript Schedules.

The population density variable uses published census data from the *Compendium of the Eleventh Census*, pp. 89 and 93. We used a linear interpolation to estimate a district's population in years between 1880 and 1890. The density variable is the population per square mile, using the total district acreage aggregated from the manuscript schedules. Substituting tilled land for total land mass in the denominator did not change the results reported above. Percent black is just the percentage of the electorate, as estimated above, that was black. Finally, per capita wealth is the total taxable wealth in a district divided by its number of potential voters (estimated above).

During the 1880s Carroll county saw two major internal boundary changes. Two new districts were created, Shiloh and Flint Corner. It was rather clear from the tax digests and maps (in Bonner's book) which districts were cut in order to create the new ones. In particular, Smithfield and Carrollton were dissected to create Shiloh and, later, Flint Corner was created out of parts of Shiloh and Smithfield. Unfortunately, with the agricultural data that we have, we never observe the specific characteristics of the new districts, especially since the 1890 census returns are not available. Therefore, in dealing with the addition of these new districts, we adopted the convention that a new district obtained half of its land from each of its parent districts. After determining what percentage of the parent district was "transferred" to the new one, call it $y\%$, we subtracted $y\%$ from the aggregated raw data for the parent district and added this same amount to the newly created district. For example, let the vectors $\bar{S}$ and $\bar{T}$ be the raw data for two districts of the same names. Assume that district X is created out of S and T and we find that $x\%$ of district S is lost and $y\%$ of district T. Thus, the new data for districts S, T, and X will be $(1-x\%)\bar{S}$, $(1-y\%)\bar{T}$, and $(x\%\bar{S} + y\%\bar{T})$. The appropriate percentages used as independent variables were calculated using this adjusted data.

Two of our variables, self–sufficiency and farms profiting from the stock law, depend upon farm specific data. But we do not know which farms actually changed districts as a result of the boundary alterations. Therefore, to create the aforementioned variables for the new districts, we simply take the average of the parent districts' percentages. This assumption should not cause statistical problems as long as the boundary changes were done arbitrarily, in the sense that new districts were not created so as to contain a greater majority of farms achieving self–sufficiency or expecting to profit from the stock law. Wealth and racial composition for the new districts was obtained from the tax digests. Since the 1890 Census reported the population for the new districts, the population density variable is accurate.

APPENDIX C

Derivation of Minimum Logit Chi–Squared Model

Assuming that the error terms are distributed according to the logistic cumulative distribution, the probability of voting for option j is given by

$$P_j = \frac{e^{\beta_j' X}}{e^{\beta_0' X} + e^{\beta_1' X}}, \tag{1}$$

where X is the matrix of independent variables, β_j' is the vector of coefficients, $j = \{0, 1\}$ indexes the voters' possible actions — voting for the fence law or the stock law, respectively, and $P_0 + P_1 = 1$. Dividing P_1 by P_0 reduces to

$$\frac{P_1}{P_0} = \frac{P_1}{1 - P_1} = \frac{e^{\beta_1' X}}{e^{\beta_0' X}}. \tag{2}$$

Taking the log of $\dfrac{P_1}{1 - P_1}$ yields

$$\log\left[\frac{P_1}{1 - P_1}\right] = \beta_1' X - \beta_0' X = (\beta_1' - \beta_0') X. \tag{3}$$

I will henceforth call the expression $(\beta_1' - \beta_0') X$, $\beta' X$

The equation to be estimated, however, is

$$\log\left[\frac{\hat{P}_1}{1 - \hat{P}_1}\right] = \beta' X + \mu, \tag{4}$$

where $\mu = \log\left[\dfrac{\hat{P}_1}{1 - \hat{P}_1}\right] - \log\left[\dfrac{P_1}{1 - P_1}\right]$. A Taylor series expansion of $\log\left[\dfrac{\hat{P}_1}{1 - \hat{P}_1}\right]$ around p_1

yields

$$\mu \approx (\hat{p}_1 - p_1)\left[\frac{1}{p_1} + \frac{1}{1 - p_1}\right] = \frac{1}{p_1(1 - p_1)}(\hat{p}_1 - p_1). \tag{5}$$

Equation 5 ignores higher order terms of the Taylor expansion. Thus, in large samples,

$E(\mu) \approx 0$, and

$$\text{Var}(\mu) = \frac{1}{(p_1(1-p_1))^2} \cdot \frac{p_1(1-p_1)}{n} = \frac{1}{np_1(1-p_1)}. \tag{6}$$

In estimating equation 4, then, the error term will be heteroskedastic. A correction is made by

multiplying both sides of equation 4 by the square root of n, the number of eligible voters,

before estimating it. This estimation is known as the minimum logit chi–squared method.

The discussion of the above model follows G.S. Maddala, *Limited Dependent and Qualitative*

Variables in Econometrics (New York: Cambridge University Press, 1983), pp. 29–30.

Once β has been computed, probability estimates of voting for either option can be

computed. Algebraically manipulating equation (3), the estimated probabilities of voting for

the fence law $(\hat{P}_0)$ and the stock law $(\hat{P}_1)$ are:

$$\hat{P}_0 = \frac{1}{1 + e^{\beta \bar{X}}} \tag{7}$$

and

$$\hat{P}_1 = \frac{e^{\beta \bar{X}}}{1 + e^{\beta \bar{X}}}. \tag{8}$$

The final step in determining the estimated probabilities is to specify an $\bar{X}$ matrix. This is

traditionally done by setting the independent variables at their sample means.

APPENDIX D

An act relating to fences and stock, and for the protection of crops.

1. SECTION I. *The Legislature of the State of Georgia do enacts as follows:* That in each and every county in this State, which shall adopt the provisions of this act, in the manner hereinafter provided, chapter eighth, part first, title fifteenth of Irwin's Revised Code of Georgia, embracing sections 1456, 1457, 1458, 1459, 1460 and 1461, be, and the same is hereby, repealed, and the boundary lines of each lot, tract or parcel of land in said county shall be, and the same are hereby, declared a lawful fence.

2. SEC. II. That no horse, mule, cow, or hog, or any other animal or animals, used or fit either for food or labor, shall be permitted to run at large beyond the limits of the lands of its owner or manager.

3. SEC. III. That if any of the animals enumerated in the foregoing section shall commit any trespass or damage, or shall be found going at large on the premises of any other person than the owner of such animals or stock, whether enclosed or unenclosed, and whether such animals wandered from the premises of the owner in the county in which the trespass was committed, or from another county, it shall be lawful for the owner of such premises to impound such animals and retain them until the owner thereof shall make full satisfaction or reparation for the damages committed by such animals including all costs and expenses, unless disposed of according to the provisions of this act hereinafter provided.

4. SEC. IV. That in case any of the said animals shall be impounded under the provisios of this act, it shall be the duty of the party so impounding them to give them all necessary feed, care and attention, for which he shall have reasonable compensation hereinafter provided; and it shall also be his duty to give the owner, if known, notice of the fact of such

impounding in twenty–four hours, and if not known or ascertained within three days from the

taking up and impounding such animals, they shall be disposed of as provided by law in cases

of estrays, except that in case any such animal or animals shall be sold under the provisions of

the estray laws or this act, the proceeds of such sales, after the payment of legal costs, includ-

ing advertising, etc., shall be applied first to the payment of the damages sustained by the

aggrieved party, including reasonable compensation for feed, careand attention, to be ascer-

tained as hereinafter provided.

5. SEC. V. That if any person shall, under the pretext of the provisions of this law,

unecessarily, or out of mere vexation, take up and impound any such animal or animals, or

after having taken up and impounded any such animal or animals, shall fail to give the notice

required by this act, or to estray them, in case the owner is not known or ascertained within

the time prescribed by this act, or shall fail to give the proper care or attention, as herin pro-

vided, or in any manner shall injure or maltreat any such animal or animals, such person so

offending shall be deemed quilty of misdemeanor, and, on indictment and conviction before

any court having jurisdiction of such offenses, shall be punished by fine or imprisonment in

the common jail, in the discretion of the presiding Judge who shall try said cause, the fine not

to exceed one hundred dollarsm and the imprisonment not to exceed one month; and in addi-

tion shall pay to the owner of such animalor animals double the amount of damages actually

sustained by a violation of the provisions of this act.

6. SEC. VI. That in case of disagreement between the taker up or party claimed to be

damaged, and the owner of such animal or animals, as to the amount of damages sustained on

account of the alleged trespass of such animal or animals, or for expenses or care, feed and

attention, as required by this act, the aggrieved party may make complaint to the Justice of the

Peace of the district, and if no Justice in such district, then to the most convenient Justice in

any other district, setting forth the amount claimed, whereupon such Justice shall issue a summons, as in other suits, returnable within five daysfrom the date thereof, requiring the owner or claimant of such stock to appear at a time and place therein named, and which shall be served as other summons at least three days before the time of hearing, when such Justice shall proceed to hearevidence and give judgment against such owner or claimant for such damages as shall appear reasonable and just, including the expenses of care and feeding such stock, and all legal costs, which shall be enforced by execution, levy and sale as other judgments of such Justice: *Provided, nevertheless,* That a special lien upon the trespassing animal or animals, for the payment of such judgment, shall attach from the time of the committing of such trespass, superior to all other liens or previous claims, except public dues, and superior also to all exemptions under the homestead and exemption laws: *And provided also,* That if said judgment for damages shall exceed the sum of fifty dollars, the defendant may enter an appeal as in other cases in Justices' Courts: *And provided further,* That in case of any litigation, as contemplated by this act, it shall be lawful for the owner of such animals to redeem or replevy the same by giving to the complaining party a bond, with good and sufficient security, conditioned to pay all damages and costs which may be finally recovered against him in such suit.

7. SEC. VII. *And be it further enacted by the General Assembly of the State of Georgia,* That the foregoing provisions of this act shall become operative in any county of this State upon the following terms and conditions: Whenever so many as fifty freeholders in any county of this State shall petition the Ordinary of any county for the benefit of the provisions of this act, said Ordinary shall at once make known throughout said county, by advertisement in the public gazette, if there is pne published in said county, and by notices at all election precincts and public places therein, that such petition has been filed in his office, such notice to

be published twenty days. If a counter–petition is filed, amounting to fifty persons, then the Ordinary shall proceed no further. If such petition of freeholders is not met by such counter–petition, or, if met by such counter–petition, is supported by a petition of so many as twenty–five additional freeholders, then the Ordinary aforesaid shalkl at once proceedto have an election held in such county, on the first Monday in July following, in which the question shall be submitted to the lawful voters of said county, of "fence or no fence;" said election to be held at the places and under the same rules and regulations as are provided for members of the General Assembly, and after thirty days' notice at the most public places in said county. The returns of said election shall be made to the Ordianry of said county, and, after examining the same, and deciding upon all questions which may arise out of said election, he shall pro-claim the result by notice as aforesaid. If the lawful majority in said election is for "no fence," then the provisions of this act shall take effect in such county within six months thereafter: *Provided*, Said elections shall not be held oftener than one time in every two years.

Approved August 26, 1872.

Source: Georgia *Session Laws*, 1872, no. 30, pp. 34–36.

APPENDIX E

FENCE LAW FOR MILITIA DISTRICTS

No. 401.

An Act to extend the provisions of sections 1449, 1450, 1451, 1452, 1453, and 1454, of the Revised Code of Georgia, which relate to the fence and stock laws of this State, by making the same applicable to militia districts, and to provide for the erection of fences around district lines.

SECTION I. *Be it enacted by the General Assembly of the State of Georgia, and it is hereby enacted by the authority of the same,* That the provisions of sections 1449, 1450, 1451, 1452, 1453, and 1454 of the Revised Code of Georgia, shall become operative in any militia district of this State, upon the following terms and conditions: "Whenever so many as fifteen free–holders, or a majority of free–holders in any militia district of this State, shall petition the Ordinary of any county in which said district is located, for the benefit of the provisions of said foregoing sections, said Ordinary shall give notice of said petition by advertising the same in the public gazette, if there be one published in said county, and by notices at all election precincts and public places in said district, which said notices shall be published for twenty days, and said Ordinary shall at once proceed to have an election held in said militia district at as early a day as practicable to be designated by him after said notices have been given, in which the question shall be submitted to the lawful voters of said district in the following form to–wit: "For fence" or "stock law;" said election to be held at the places and under the same rules and regulations as are provided for members of the General Assembly, and after fifteen days' notice at the most public places in said district. The returns of said elections shall be made to the Ordinary of said county who, after examining the same, and

deciding upon all questions which may arise out of said election, shall proclaim the result by notice as aforesaid. If the lawful majority in said elections is for stock law, then the provisions of said six sections shall take effect in such militia district within six months thereafter; *Provided*, that said election shall not be held oftener than one time in every year."

SEC. II. *Be it further enacted*, That whenever any miltia district shall adopt the provisions of the stock law, it shall be the duty of the Ordinary (or such other tribunal as may have jurisdiction over county matters) as soon as practicable after said adoption, to have good and substantial fences erected around the lines of said district in order to prevent the incursions of stock from other counties or districts, and for this purpose he is empowered to enter upon the land of any person of said district or county, and have fences constructed across any public or private road; *provided*, that proper gates are established in such public or private roads.

SEC. III. *Be it further enacted*, That said Ordinary (or such tribunal as may have jurisdiction over county matters) shall be empowered to levy and collect a tax upon the property of said district sufficient to defray the expenses of erecting and maintaining said fences, said tax to be collected at the same time and in the same manner as other State and county taxes are collected; *provided*, that whenever any person should prefer to pay the tax required of him by this section in labor or material, he may upon application to said Ordinary (or tribunal as aforesaid) pay the same by furnishing rails and erecting (under the supervision of said county authority) such proportion of said fence as shall be equal in value to the amount of taxes due by him. Said labor and material to be valued by said county officer at the customary prices for such in each county.

SEC. IV. *Be it further enacted*, That the laws now of force with regard to legal fences as found in sections 1443, 1444, 1445, 1446, 1447 and 1448, shall apply to all fences erected in pursuance of the foregoing section, and all persons disturbing or injuring the same shall be

punished as now prescribed by law.

SEC. V. *Be it further enacted*, That it shall be the duty of any person or persons driving stock of any kind through the public roads of any district in which the "stock law" is of force, so to herd and drive the same, that they shall not be allowed to enter upon or work injury to the lands or crops of the citizens thereof, and for violation of this section shall be dealt with as other trespassers.

SEC. VI. *Be it further enacted*, It shall be the duty of the Ordinary (or such tribunal aforesaid) in any county where any district of the same has adopted the provisions of this Act, to have erected substantial and convenient gates in fences at the crossings of all public highways and neighborhood roads; and whenever any person residing in said district shall desire a crossing on his own lands, he shall be permitted to erect and keep up such gates at his own expense. And any person who shall wilfully and unlawfully leave open any of said gates, or do any wilful damage to the same, or to the fences erected for the purposes aforesaid, shall be fined in a sum not exceeding twenty dollars, or imprisonment not longer than twenty days. That any gate erected across a public road, under the provisions of this Act, shall be so constructed that the same can be opened and shut without dismounting from any horse or vehicle that may be desired to pass through the same.

SEC. VII. *Be it further enacted*, That each owner or proprietor of lands in any militia district, adopting the provisions of this Act, who shall rent his lands, or establish a system of tenantry thereon, shall furnish pasturage for at least one cow and calf, for the family of each tenant, provided that said tenant shall do his proportionate part of fencing.

SEC. VIII. *Be it further enacted*, That nothing herein contained shall prevent any district which has adopted this law from voting at any county election on the stock law.

SEC. IX. *Be it further enacted*, That all laws and parts of laws in conflict with this Act

be, and the same are hereby, repealed.

Approved September 29th, 1881.

Source: Georgia *Session Laws*, 1881, no. 401, pp. 79–81.

APPENDIX F[a]

A Bill

To be Entitled an act to extend the provisions of sections [1449] — 1450 — 1451 — 1452 — 1453 — 1454 — [which] of the Revised Code of Georgia which relate to the Fence and Stock laws of this state and to make the provisions of the same applicable to Militia Districts and to provide for the Erection of Fences around county and Militia District lines [and to amend 1449 section 1449 of the Revised Code] and to amend section 1455 of the Revised Code of Georgia

Section 1   Be it Enacted by the General Assembly of the State of Georgia and it is hereby

Enacted by the Authority of the Law that the provisions of sections 1449 —

1450 — 1451 — 1452 — 1453 — 1454 of the Revised Code of Georgia shall

become operative in any Militia District of this State upon the following terms

and conditions Whenever so many as Twenty Free holders in any Militia Dis-

trict of this State Shall petition the Ordinary of Any County in which said Dis-

trict is located shall [petition the Ordin] for the benefit of the provisions of said

foregoing sections. Said Ordinary shall give notice of said petition by advertis-

ing the same in the public Gazette if there be one published in said County and

by notices at all Election precincts and public places in said District which said

Notices shall be published for Twenty Days. And said Ordinary Shall [give] at

once proceed to have an election held in Said Militia District on the first Mon-

day in July following in which the question shall be Submitted to the lawful

voters of Said District in the following form towit —

" For Fence " — or " Stock Law " Said Elections to be held at the places and

under the same Rules and Regulations as are provided for Members of the Gen-

eral Assembly, and after thirty Days notice at the Most public places in said

District the returns of said Election shall be made to the Ordinary of said County and after Examining the Same and and deciding upon all questions which may arise out of said Election he Shall proclaim the Result by notice as aforesaid; If the lawful Majority in Said Election is for Stock Law" then the provisions of said Six sections shall take Effect in such Militia District within six months thereafter. Provided that said Election Shall not be held oftener than one time in Every two years.

Section 2   Be it further Enacted that whenever any Militia District [or County according to the Respective provisions which govern each shall adopt] the provisions of the

" Stock Law " [and it Shall become necessary to protect the lands in said District or County from the incursions of stock from any adjoining District or County.] It [may] be lawful for the Ordinary [County Judge or Board of County Commissioners] (or such other Tribunal as may have Jurisdiction over County Matters), to have fences Erected along such lines of the District or County as may be Exposed to such incursions and for that purpose to Enter upon the lands of any person in said District or County: to Construct fences across any public or private road, provided that proper gates are established in such private or public Roads.

Section 3   Be it further Enacted that such ordinary (or such Tribunal as may have Jurisdiction over County Matters) shall be empowered to levy and collect a tax upon the property of said District or County as the Case may be sufficient to defray the Expenses of erecting and maintaining said fences, said tax to be collected at

the same time and in the same manner as other State and County taxes are collected

Section 4   Be it further enacted that said Ordinary (or such Tribunal as aforesaid) is authorised and empowered to make such arrangements with the owners of property contiguous to and on either Side of the County of District lines as many accomplish the object of protecting said District or County from the incursions of Stock.

Section 5   Be it further enacted that whenever any County or District shall adopt the provisions of section second of this act the laws now of force with regard to the erection and maintainance of fences as found in sections 1443 — 1444 — 1445 — 1446 — 1447 — 1448 shall apply to any fence erected in pursuance of the foregoing section and all persons disturbing of injuring said fences shall be punished as now provided by the law.

Section 6   It shall be the duty of any person or persons driving stock of any kind through the public roads of any County or District in which the above fence law is of force so [as] to herd and drive the same. That they shall not be allowed to Enter upon or work injury to the lands or crops of the citizens of said County or district.

Section 7   It shall be the duty of the Ordinary (or such tribunal as aforesaid) of any County or district which has adopted or may adopt the provisions of section 2nd of this Act, to Erect substantial and convenient gates in fences at the Crossings of all public highways and neighborhood roads, and whenever any person

[or persons] residing in said District or County shall desire a Crossing on [their] his own lands, he shall be permitted to erect and keep up such gates at his own expense and any person who shall wilfully and unlawfully leave open any of the Said gates, or do any wilful damage to the gates or fences erected for the purposes aforesaid shall be fined in a Sum not exceeding Twenty Dollars or imprisonment not longer than Twenty Days.

[Section 8th]   [Be it further Enacted that Section 1449 of the Revised Code of Georgia be amended by striking out that portion of said Section, which begins with the word " the " after the word " provided " in the third line, and ending with the word " and " after the word " repealed " in the fourth line so that said Section when so amended shall read as follows.

In each and Every County in this State which Shall adopt the provisions]

[Twiggs]

Section 8th   Be it further Enacted that section 1455 of the Revised Code be amended by striking out the words, " fence or no fence " which appear in the Seventeenth and Eighteenth lines of said Section and inserting in lieu thereof the following words " For Fence ", or " Stock Law " and by striking out the words " no fence " which appears in the twenty fourth line and inserting the words " stock law " in lieu thereof so that said section when so amended shall read as follows.

The foregoing sections of 1449 — 1450 — 1451 — 1452 — and 1454 shall become operative in any county in this State upon the following terms and con-

ditions: Whenever so many as fifty freeholders in any County of this State shall petition the Ordinary of any County for the benefit of the provisions of said sections said Ordinary shall at once make known throughout said County by advertisement in the public gazette if there [be] is one published in said County and by notices at all election precincts and public places therein that such petition has been filed in his office, such notices to be published Twenty days. If a counter petition of freeholders is filed amounting to fifty persons, then the Ordinary Shall proceed no further. If such petition of free holders is not met by such Counter petition, or if met by such Counter petition is supported by a petition of so many as Twenty five additional freeholders, then the Ordinary aforesaid, shall at once proceed to have an election held in such county on the first Monday in July following in which the question Shall be submitted to the lawful voters of said County, " for fence " or " Stock Law " Said Election to be held at the places and under the same rules and regulations as are provided for members of the General Assembly, and after thirty Days notice at the most public places in said county, The returns of said election shall be made to the Ordinary of said County and after Examining the Same and deciding upon all questions which may arise out of Said Election, he shall proclaim the result by notice as aforesaid. If the lawful majority in said election is for " stock law " then the provisions of the said six sections shall take effect in such County within six months thereafter. Provided said elections shall not be held oftener than one time in Every two years

Twiggs — Richmond

Notes: [a] Words enclosed within brackets had a line through them in the original copy of the bill.

Source: House Bill 897, 1880–1 session, Record group 37, sub–group 1, series 1, location 14–12, Georgia Department of Archives and History.

BIBLIOGRAPHY

Primary Sources

Unpublished Materials

Georgia, Comptroller General's Office, County Tax Digests of Carroll and Jackson, 1880–1898, Georgia Department of Archives and History.

Georgia, General Assembly, Bills and Resolutions of the General Assembly, Georgia Department of Archives and History.

Georgia, General Assembly, House and Senate Calenders, 1870–1890, Georgia Department of Archives and History.

Georgia, General Assembly, "Report of the Georgia State Agricultural Society to Establish More Experimental Farms in the State: 1884–5," Georgia Department of Archives and History.

Georgia, Supreme Court Case File A–15581, George H. Tumlin vs. Charles C. Parrott, Georgia Department of Archives and History.

O'Rear, A. D. Collection, Georgia Department of Archives and History.

U. S. Census Office, Manuscript Agricultural and Population Schedules, Carroll and Jackson Counties, Georgia, 1880, National Archives.

Wilkes Family Papers, Georgia Department of Archives and History.

Published Materials

Atlanta and West–Point Railroad Company, "Reports of the President and Superintendent of the Atlanta and West–Point Railroad Company, to the Stockholders in Convention," 1880 and 1884.

Atlanta Constitution, 1870–1896.

Carroll County Times, 1880–1882.

Carroll Free Press, 1884–1895.

Georgia, Department of Agriculture, *Publications of the Georgia State Department of Agriculture*, 1874–1890.

Georgia, General Assembly, *Georgia's General Assembly, 1880–1881: Biographical Sketches*

of Senators, Representatives, Governors, Heads of Departments (Atlanta: James P. Harrison & Co., 1881).

Georgia, General Assembly, *Georgia General Assembly Roster*, 1880.

Georgia, General Assembly, *Session Laws*, 1872–1896.

Georgia, House of Representatives, *Journal*, 1871–1890.

Georgia, Senate, *Journal*, 1871–1890.

Georgia, Supreme Court, *Reports*, 1872–1890.

Georgia Railroad and Banking Company, "Reports of the Directors, &c. of the Georgia Railroad and Banking Company to the Stockholders in Convention," 1877.

Georgia State Agricultural Society, *Proceedings of the Georgia State Agricultural Society, from August, 1876 to February, 1878* (Atlanta: J.P. Harrison & Co., 1878).

Greeley, Horace, *What I Know of Farming: A Series of Brief and Plain Expositions of Practical Agriculture as an Art Based Upon Science* (New York: Tribune Association, 1871).

Ingham, John H., *The Law of Animals: A Treatise on Property in Animals Wild and Domestic and the Rights and Responsibilities Arising Therefrom* (Philadelphia: T. & J.W. Johnson & Co., 1900).

Jackson Herald, 1881–1898.

Jefferson Forest News, 1880–1881.

Loughridge, R. H., "Report on the Cotton Production of the State of Georgia, with a Description of the General Agricultural Features of the State," U.S. Census Office, Tenth Census, 1880, volume 6, pp. 260–450.

Newnan Herald, 1881–1882.

Poor's Manual of Railroads of the United States, 1874, 1884, 1885, 1890.

South–Western Railroad Company, "Report of the Chief Engineers, President and Superintendents of the South–Western Railroad Company, of Georgia," 1861, 1866, and 1869.

Southern Cultivator, 1876–1883.

Thorpe, Francis Newton, *The Federal and State Constitutions, Colonial Charters, and Other Organic Laws of the States, Territories, and Colonies Now or Heretofore Forming the United States of America, v. II* (Washington: GPO, 1909).

U. S. Bureau of the Census, *Historical Statistics of the United States, Colonial Times to 1957* (Washington, DC: GPO, 1960).

U. S. Census Office, Ninth Census, 1870, *Compendium of the Ninth Census* (Washington: GPO, 1872).

U. S. Census Office, Ninth Census, 1870, *The Statistics of the Population of the United States* (Washington: GPO, 1872).

U. S. Census Office, Tenth Census, 1880, *Compendium of the Tenth Census* (Washington: GPO, 1883).

U. S. Census Office, Tenth Census, 1880, *Report on the Productions of Agriculture* (Washington: GPO, 1883).

U. S. Census Office, Eleventh Census, 1890, *Compendium of the Eleventh Census* (Washington: GPO, 1894).

U. S. Census Office, Eleventh Census, 1890, *Report on the Productions of Agriculture* (Washington: GPO, 1894).

Washburn and Moen Manufacturing Co., *The Fence Question in the Southern States as Related to General Husbandry and Sheep Raising, with the History of Fence Customs, and Laws Pertaining Thereto: And a View of the New Farm System of the South, as Shown in the Census of 1880*, (Worcester, MA: Snow, Woodman & Co., 1881).

Secondary Sources

Books and Theses

Argersinger, Peter H., *Populism and Politics: William Alfred Peffer and the People's Party* (Lexington, KY: University Press of Kentucky, 1974).

Arrow, Kenneth J., *Social Choice and Individual Values* (New Haven: Yale University Press, 1963).

Bonner, James C., *Georgia's Last Frontier: The Development of Carroll County* (Athens, GA: University of Georgia Press, 1971).

_____, *A History of Georgia Agriculture 1732–1860* (Athens, GA: University of Georgia Press, 1964).

Buchanan, James M. and Gordon Tullock, *The Calculus of Consent* (Ann Arbor: University of Michigan Press, 1965).

Cronon, William, *Changes in the Land: Indians, Colonists, and the Ecology of New England* (New York: Hill and Wang, 1983).

Davis, Lance E. and Douglass C. North, *Institutional Change and American Economic Growth* (Cambridge, Eng.: Cambridge University Press, 1971).

DeCanio, Stephen J., *Agriculture in the Postbellum South: The Economics of Production and Supply* (Cambridge, MA: MIT Press, 1974).

Downs, Anthony, *An Economic Theory of Democracy* (New York: Harper & Row, 1957).

Feldman, Allan M., *Welfare Economics and Social Choice Theory* (Boston: Kluwer Nijhoff, 1980).

Fergeson, Jim Alan, "Power Politics and Populism: Jackson County, Georgia, as a Case Study" (unpublished MA thesis, University of Georgia, 1975).

Fiorina, Morris P., *Congress: Keystone of the Washington Establishment* (New Haven, CT: Yale University Press, 1977).

_____, *Retrospective Voting in American National Elections* (New Haven, CT: Yale University Press, 1981).

Flynn, Charles L. Jr., *White Land, Black Labor: Caste and Class in Late Nineteenth Century Georgia* (Baton Rouge, La.: Louisiana State University Press, 1983).

Gaither, Gerald H., *Blacks and the Populist Revolt: Ballots and Bigotry in the "New South"* (University, AL: University of Alabama Press, 1977).

Goodwyn, Lawrence, *The Populist Moment: A Short History of the Agrarian Revolt in America* (New York: Oxford University Press, 1978).

Gray, Lewis Cecil, *History of Agriculture in the Southern States to 1860, Volume II* (Washington, DC: Carnegie Institution, 1933).

Green, Jerry R. and Jean–Jacques Laffont, *Incentives in Public Decision–Making* (Amsterdam: North–Holland, 1979).

Hackney, Sheldon, *Populism to Progressivism in Alabama* (Princeton: Princeton University Press, 1969).

Hahn, Steven, *The Roots of Southern Populism: Yeoman Farmers and the Transformation of the Georgia Upcountry, 1850–1890* (New York: Oxford University Press, 1983).

Hicks, John D., *The Populist Revolt: A History of the Farmer's Alliance and the People's Party* (Minneapolis: The University of Minnesota Press, 1931).

Higgs, Robert, *Competition and Coercion: Blacks in the American Economy, 1865–1914* (New York: Cambridge University Press, 1977).

Holmes, Oliver Wendell, *The Common Law* (Cambridge, MA: Belknap Press, 1963).

Hughes, Jonathan R. T., *The Governmental Habit: Economic Controls from Colonial Times to the Present* (New York: Basic Books, 1977).

Kousser, J. Morgan, *The Shaping of Southern Politics: Suffrage Restriction and the Establishment of the One–Party South, 1880–1910* (New Haven: Yale University Press, 1974).

Libecap, Gary D., *Locking Up the Range, Federal Land Controls and Grazing* (Cambridge: Ballinger, 1981).

Maddala, G. S., *Limited–Dependent and Qualitative Variables in Econometrics* (New York: Cambridge University Press, 1983).

Mayhew, David R., *Congress: The Electoral Connection* (New Haven, CT: Yale University Press, 1974).

McCloskey, Donald N., *The Rhetoric of Economics* (Madison, WI: University of Wisconsin Press, 1985).

McMath, Robert C., *Populist Vanguard: A History of the Southern Farmers' Alliance* (Chapel Hill: The University of North Carolina Press, 1976).

North, Douglass C., *Growth and Welfare in the American Past: A New Economic History* (Englewood Cliffs, NJ: Prentice–Hall, 1966).

_____, *Structure and Change in Economic History* (New York: Norton, 1981).

_____ and Robert Paul Thomas, *The Rise of the Western World: A New Economic History* (Cambridge, Eng.: Cambridge University Press, 1973).

Ordeshook, Peter C., *Game Theory and Political Theory* (New York: Cambridge University Press, 1986).

Palmer, Bruce, *"Man Over Money": The Southern Populist Critique of American Capitalism* (Chapel Hill: University of North Carolina Press, 1980).

Parks, Joseph H., *Joseph E. Brown of Georgia* (Baton Rouge, LA: Louisiana State University Press, 1977).

Parsons, Stanley B., *The Populist Context: Rural Versus Urban Power on the Great Plains Frontier* (Westport, CT: Greenwood Press, 1973).

Posner, Richard A., *Economic Analysis of Law* (Boston: Little Brown, 1973).

Ransom, Roger L. and Richard Sutch, *One Kind of Freedom: The Economic Consequences of Emancipation* (New York: Cambridge University Press, 1977).

Roemer, John E., *Free to Lose: An Introduction to Marxist Economic Philosophy* (Cambridge, MA: Harvard University Press, 1988).

Rosenthal, Jean–Laurent, "The Fruits of Revolution; Property Rights, Litigation and French Agriculture 1700–1860" (Ph.D. dissertation, California Institute of Technology, 1988).

Shaw, Barton C., *The Wool–Hat Boys: Georgia's Populist Party* (Baton Rouge, LA: Louisiana State University Press, 1984).

Umbeck, John R., *A Theory of Property Rights: With Application to the California Gold Rush* (Ames, IA: The Iowa State University Press, 1981).

Warren, George F. and Frank A. Pearson, *Gold and Prices* (New York: Garland Publishing, 1983).

Weiman, David F., "Petty Commodity Production in the Cotton South: Upcountry Farmers in the Georgia Cotton Economy, 1840 to 1880" (Ph.D. dissertation, Stanford University, 1983).

Woodward, C. Vann, *Origins of the New South, 1877–1913*, v. 9 of *A History of the South*, eds., Wendel Holmes Stephenson and E. Merton Coulter (Baton Rouge: Louisiana State University Press, 1951).

Articles

Akerloff, George, "The Economics of Caste and of the Rat Race and Other Woeful Tales," *Quarterly Journal of Economics*, 90 (November 1976), pp. 599–617.

Alchian, Armen A. and Harold Demsetz, "The Property Rights Paradigm," *Journal of Economic History*, 33 (March 1973), pp. 16–27.

Aldrich, Mark, "A Note on Railroad Rates and the Populists Uprising," *Agricultural History*, 54 (July 1980), pp. 424–432.

Allen, Robert C., "The Efficiency and Distributional Consequences of Eighteenth Century Enclosure," *The Economic Journal*, 92 (December 1982), pp. 937–953.

Alston, Lee J. and Joseph P. Ferrie, "Labor Costs, Paternalism, and Loyalty in Southern Agri-

culture: A Constraint on the Growth of the Welfare State," *Journal of Economic History*, 45 (March 1985), pp. 95–117.

Anderson, Terry L. and P.J. Hill, "The Evolution of Property Rights: A Study of the American West," *Journal of Law and Economics*, 18 (April 1975), pp. 163–179.

Arrow, Kenneth J., "The Property Rights Doctrine and Demand Revelation Under Incomplete Information," in *Economics and Welfare: Essays in Honor of Tibor Scitovsky*, ed. Michael J. Boskin (New York: Academic Press, 1979), pp. 23–39.

Arthur, W. Brian, "Self–reinforcing Mechanisms in Economics," in Philip W. Anderson, Kenneth J. Arrow, and David Pines, eds., *The Economy as an Evolving Complex System* (New York: Addison–Wesley, 1988), pp. 9–31.

Bardhan, Pranab, "Alternative Approaches to the Theory of Institutions in Economic Development," in Pranab Bardhan, *The Economic Theory of Agrarian Institutions* (Oxford, Eng.: Clarendon, 1989).

Basu, Kaushik, Eric Jones, and Ekkehart Schlict, "The Growth and Decay of Custom: The Role of New Institutional Economics in Economic History," *Explorations in Economic History*, 24 (January 1987), pp. 1–21.

Becker, Gary, "A Theory of Competition Among Pressure Groups for Political Influence," *Quarterly Journal of Economics*, 98 (August 1983), pp. 371–400.

Benson, Bruce L., "Legal Evolution in Primitive Societies," *Journal of Institutional and Theoretical Economics*, 144 (December 1988), pp. 772–788.

Bergstrom, Theodore, Carl P. Simon, and Charles J. Titus, "Counting Groves–Ledyard Equilibria Via Degree Theory," *Journal of Mathematical Economics*, 12 (October 1983), pp. 167–184.

Berthoff, Rowland, "Celtic Mist Over the South," *Journal of Southern History*, 52 (November 1986), pp. 523–546.

Binger, Brian R. and Elizabeth Hoffman, "Institutional Persistence and Change: The Question of Efficiency," *Journal of Theoretical and Institutional Economics*, 145 (March 1989), pp. 67–84.

Bowman, John and Richard Keehn, "Agricultural Terms of Trade in Four Midwestern States 1870–1900," *Journal of Economic History*, 34 (September 1974), pp. 592–609.

Brenner, Robert, "Agrarian Class Structure and Economic Development in Pre–industrial Europe," in T.H. Ashton and C.H.E. Philpin, eds., *The Brenner Debate* (Cambridge, Eng.: Cambridge University Press, 1986), pp. 10–63.

Brooks, Robert Preston, "The Agrarian Revolution in Georgia 1865–1912," *Bulletin of the*

University of Wisconsin, History Series 3 (1914), pp. 393–524.

Brown, R. Ben, "'Let Us Go Down and There Confound Their Language': The Multiplicity of Legal Discourses in the Antebellum United States," American Bar Foundation Working Paper #8901, n.d.

Bull, Jacqueline P., "The General Merchant in the Economic History of the New South," *Journal of Southern History*, 18 (February 1952), pp. 37–59.

Cheung, Steven N. S., "The Structure of a Contract and the Theory of a Non–exclusive Resource," *Journal of Law and Economics*, 13 (April 1970), pp. 49–70.

Clark, Thomas D., "The Furnishing and Supply System in Southern Agriculture Since 1865," *Journal of Southern History*, 12 (February 1946), pp. 24–44.

Clarke, Edward H., "Multipart Pricing of Public Goods," *Public Choice*, 11 (Fall 1971), pp. 17–33.

Coase, Ronald, "The Problem of Social Cost," *Journal of Law and Economics*, 3 (October 1960), pp. 1–44.

Crawford, Vincent P., "A Theory of Disagreement in Bargaining," *Econometrica*, 50 (May 1982), pp. 607–637.

David, Paul A., "Path–dependence: Putting the Past into the Future of Economics," Technical Report No. 533, Institute for Mathematical Studies in the Social Sciences, Stanford University, August 1988.

De Alessi, Louis, "The Economics of Property Rights: A Review of the Evidence," *Research in Law and Economics*, 2 (1980), pp. 1–47.

Demsetz, Harold, "Some Aspects of Property Rights," *Journal of Law and Economics*, 9 (October 1966), pp. 61–70.

_____, "Toward a Theory of Property Rights," *American Economic Review*, 57 (May 1967), pp. 347–359.

Eichengreen, Barry, "Mortgage Interest Rates in the Populist Era," *American Economic Review*, 74 (December 1984), pp. 995–1015.

Ferleger, Louis, "Self–Sufficiency and Rural Life on Southern Farms," *Agricultural History*, 58 (July 1984), pp. 314–329.

Field, Alexander James, "The Problem with Neoclassical Institutional Economics: A Critique with Special Reference to the North/Thomas Model of Pre–1500 Europe," *Explorations in Economic History*, 18 (April 1981), pp. 174–198.

Flynn, Charles L. Jr, "Procrustean Bedfellows and Populists: An Alternative Hypothesis," in Jeffrey J. Crow, Paul D. Escott, and Charles L. FLynn, Jr., eds., *Race, Class, and Politics in Southern History: Essays in Honor of Robert F. Durden* (Baton Rouge: Louisiana State University Press, 1989), pp. 81–105.

Frost, Robert, "Mending Wall," in Edward Connery Lathem, ed., *The Poerty of Robert Frost* (New York: Holt, Rinehart and Winston, 1969), p. 33.

Furubotn, Eirik G. and Svetozar Pejovich, "Property Rights and Economic Theory: A Survey of Recent Literature," *Journal of Economic Literature*, 10 (December 1972), pp. 1137–1162.

Gibbard, Allan, "Manipulation of Voting Schemes: A General Result," *Econometrica*, 41 (July 1973), pp. 587–601.

Gordon, H. Scott, "The Economic Theory of a Common Property Resource: The Fishery," *Journal of Political Economy*, 62 (April 1954), pp. 124–142.

Green, Jerry R. and Jean–Jacques Laffont, "Characterization of Satisfactory Mechanisms for the Revelation of the Preferences for Public Goods," *Econometrica*, 45 (March 1977), pp. 427–438.

Groves, Theodore, "Incentives in Teams," *Econometrica*, 41 (July 1973), pp. 617–631.

_____ and John O. Ledyard, "Incentive Compatibility since 1972," in Theodore Groves, Roy Radner, and Stanley Reiter, eds., *Information, Incentives, and Economic Mechanism: Essays in Honor of Leonid Hurwicz* (Minneapolis: University of Minnesota Press, 1987), pp. 48–111.

_____, "Optimal Allocation of Public Goods: A Solution to the 'Free Rider' Problem," *Econometrica*, 45 (May 1977), pp. 783–809.

Groves, Theodore and Martin Loeb, "Incentives and Public Inputs," *Journal of Public Economics*, 4 (August 1975), pp. 211–226

Hahn, Steven, "Hunting, Fishing, and Foraging: Common Rights and Class Relations in the Postbellum South," *Radical History Review*, 26 (1982), pp. 37–64.

Harper, Roland M., "The Natural Resources of Georgia," *Bulletin of the University of Georgia*, 30 (February 1930), pp. 7–29.

Higgs, Robert, "Railroad Rates and the Populist Uprising," *Agricultural History*, 44 (July 1970), pp. 291–297.

Hoffman, Elizabeth and Matthew L. Spitzer, "The Coase Theorem: Some Experimental Results," *Journal of Law and Economics*, 25 (April 1982), pp. 73–98.

Hoffman, Philip T., "Institutions and Agriculture in Old–Regime France," *Journal of Institutional and Theoretical Economics*, 145 (March 1989), pp. 166–181.

Holmes, William F., "The Southern Farmers' Alliance and the Georgia Senatorial Election of 1890," *Journal of Southern History*, 50 (May 1984), pp. 197–224.

Holmström, Bengt and Roger B. Myerson, "Efficient and Durable Decision Rules with Incomplete Information," *Econometrica*, 51 (November 1983), pp. 1799–1819.

Hurwicz, Leonid, "On Informationally Decentralized Systems," in Roy Radner and C.B. McGuire, eds., *Decision and Organization: A Volume in Honor of Jacob Marschak* (Amsterdam: North–Holland, 1972), pp. 297–336

_____, "Outcome Functions Yielding Walrasian and Lindahl Allocations at Nash Equilibrium Points," *Review of Economic Studies*, 46 (April 1979), pp. 217–225.

_____, Eric Maskin, and Andrew Postlewaite, "Feasible Implementation of Social Choice Correspondences by Nash Equilibria," mimeo, Department of Economics, Universities of Minnesota and Pennsylvania, 1982.

King, J. Crawford Jr., "The Closing of the Southern Range: An Exploratory Study," *Journal of Southern History*, 48 (February 1982), pp. 53 –70.

Kousser, J. Morgan, "Making Separate Equal: Integration of Black and White School Funds in Kentucky," *Journal of Interdisciplinary History*, 10 (Winter 1980), pp. 399–428.

Ledyard, John O., "Incentive Compatibility," Social Science Working Paper 622, California Institute of Technology, January 1987.

_____, "Incomplete Information and Incentive Compatibility," *Journal of Economic Theory*, 18 (June 1978), pp. 171–189.

Libecap, Gary D., "Distributional Issues in Contracting for Property Rights," *Journal of Institutional and Theoretical Economics*, 145 (March 1989).

_____, "Property Rights in Economic History: Implications for Research," *Explorations in Economic History*, 23 (July 1986), pp. 227–252.

_____ and Steven N. Wiggins, "The Influence of Private Contractual Failure on Regulation: The Case of Oil Field Unitization," *Journal of Political Economy*, 93 (August 1985), pp. 690–714.

Mailath, George J. and Andrew Postlewaite, "Asymmetric Information Bargaining Problems with Many Agents," mimeo, University of Pennsylvania, June 1988

Mandle, Jay, "The Plantation States as a Subregion of the Post–Bellum South," *Journal of Economic History*, 24 (September 1974), pp. 732–738.

Mayhew, Anne, "A Reappraisal of the Causes of Farm Protest Movements in the United States, 1870–1900," *Journal of Economic History*, 32 (June 1972), pp. 464–475.

McChesney, Fred S., "Government Prohibitions on Volunteer Fire Fighting in Nineteenth–Century America: A Property Rights Perspective," *Journal of Legal Studies*, 15 (January 1986), pp. 69–92.

McCloskey, Doanld N., "The Economics of Enclosure: A Market Analysis," in *European Peasants and Their Markets*, eds. William N. Parker and Eric L. Jones (Princeton: Princeton University Press, 1975), pp. 123–160.

McGuire, Robert A., "Economic Causes of Lateneteenth Century Agrarian Unrest: New Evidence," *Journal of Economic History*, 41 (December 1981), pp. 835–852.

_____ and Robert Higgs, "Cotton, Corn, and Risk in the Nineteenth Century: Another View," *Explorations in Economic History*, 14 (April 1977), pp. 167–182.

McKelvey, Richard D., "Intransitivities in Multidimensional Voting Models and Some Implications for Agenda Control," *Journal of Economic Theory*, 16 (June 1976), pp. 472–482.

McWhiney, Grady and Forrest McDonald, "Celtic Origins of Southern Herding Practices," *Journal of Southern History*, 51 (May 1985), pp. 165–182.

Myerson, Roger B., "Mechanism Design by an Informerd Agent," *Econometrica*, 51 (March 1983), pp. 1767–1797.

North, Douglass C., "Government and the Cost of Exchange in History," *Journal of Economic History*, 44 (June 1984), pp. 255–264.

_____, "Institutions, Transaction Costs and Economic Growth," *Economic Inquiry*, 25 (July 1987), pp. 419–428.

_____, "The New Institutional Economics," *Journal of Institutional and Theoretical Economics*, 142 (March 1986), pp. 230–237.

_____, "Structure and Performance: The Task of Economic History," *Journal of Economic Literature*, 16 (September 1978), pp. 963–978.

Olmstead, Alan L. and Victor P. Goldberg, "Institutional Change and American Economic Growth: A Critique of Davis and North," *Explorations in Economic History*, 12 (April 1975), pp. 193–210.

Peltzman, Sam, "Toward a More General Theory of Regulation," *Journal of Law and Economics*, 19 (August 1976), pp. 211–248.

Posner, Richard A., "A Theory of Primitive Society, with Special Reference to Law," *Journal of Law and Economics*, 23 (April 1980), pp. 1–53.

Reid, Joseph D., "Sharecropping as an Understandable Market Response: The Postbellum South," *Journal of Economic History*, 33 (March 1973), pp. 106–130.

Robb, Raphael, "Pollution Claim Settlements Under Private Information," *Journal of Economic Theory*, 47 (April 1989), pp. 307–333.

Samuelson, William J., "A Comment on the Coase Theorem," in *Game–Theoretic Models of Bargaining*, ed. Alvin E. Roth (Cambridge, Eng.: Cambridge University Press, 1985), pp. 321–339.

Satterthwaite, Mark A., "Strategy–Proofness and Arrow's Conditions: Existence and Correspondence Theorems for Voting Procedures and Social Welfare Functions," *Journal of Economic Theory*, 10 (February 1975), pp. 187–217.

Schotter, Andrew, "The Evolution of Rules," in Richard N. Langlois, ed., *Economics as a Process: Essays in the New Institutional Economics* (New York: Cambridge University Press, 1986), pp. 117–133.

Shepsle, Kenneth A., "Institutional Arrangements and Equilibrium in Multidimensional Voting Models," *American Journal of Political Science*, 23 (February 1979), pp. 27–59.

Stigler, George J., "The Theory of Economic Regulation," *Bell Journal of Economics and Management Science*, 2 (Spring 1971), pp. 3–21.

Stiglitz, Joseph E., "The New Development Economics," *World Development*, 14 (February 1986), pp. 257–265.

Stock, James H., "Real Estate Mortgages, Foreclosures, and Midwestern Agrarian Unrest, 1865–1920," *Journal of Economic History*, 44 (March 1983), pp. 89–105.

Temin, Peter, "Patterns of Cotton Agriculture in Post–Bellum Georgia," *Journal of Economic History*, 43 (September 1983), pp. 661–674.

Tideman, T. Nicolaus and Gordon Tullock, "A New and Superior Process for Making Social Choices," *Journal of Political Economy*, 84 (December 1976), pp. 1145–1159

Turner, James, "Understanding the Populists," *Journal of American History*, 67 (September 1980), pp. 354–371.

Umbeck, John, "The California Gold Rush: A Study of Emerging Property Rights," *Explorations in Economic History*, 14 (July 1977), pp. 197–226.

Walker, Mark, "A Note on the Characterization of Mechanisms for the Revelation of Preferences," *Econometrica*, 46 (January 1978), pp. 147–152.

———, "On the Impossibility of a Dominant Strategy Mechanism to Optimally Decide Public Questions," *Econometrica*, 48 (September 1980), pp. 1521–1540.

_____, "A Simple Incentive Compatible Scheme for Attaining Lindahl Allocations," *Econometrica*, 49 (January 1981), pp. 65–71.

Weiman, David F., "The Economic Emancipation of the Non–Slaveholding Class: Upcountry Farmers in the Georgia Cotton Economy," *Journal of Economic History*, 45 (March 1985), pp. 71–93.

Wright, Gavin and Howard Kunreuther, "Cotton, Corn and Risk in the Nineteenth Century," *Journal of Economic History*, 35 (September 1975), pp. 526–551.

_____, "Cotton, Corn, and Risk in the Nineteenth Century: A Reply," *Explorations in Economic History*, 14 (April 1977), pp. 183–195.