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PARTNERSHIPS AS A MEANS OF INCREASING INVESTMENT IN HARDWOOD SAWTIMBER PRODUCTION ON NIPF LANDS IN NORTH MISSISSIPPI

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ABSTRACT

North Mississippi has significant hardwood timber resources. Hardwood timber in the region has traditionally been an important source of raw material for furniture and other wood-based industries. In recent years, however, demand has greatly increased for hardwood timber for use in the pulp and paper industry, resulting in increased harvest levels of pole-sized and small sawtimber-sized hardwoods in the region. Increased harvests of hardwood timber have given rise to concerns about the longer-term availability of hardwoods that are large enough in size to be efficiently converted into lumber and other solid wood products. Futures options, futures contracts, leases, and limited partnerships were initially considered for potential application to increase the longer-term production of hardwood sawtimber on nonindustrial private forest (NIPF) lands in North Mississippi. Considering the resource, the NIPF ownership, and the timber markets involved, limited partnerships were chosen for further evaluation. Results of informal discussions involving hardwood sawmill operators, private landowners, and timberland investment firm representatives are presented. A discussion follows, assessing the acceptability and attributes of partnerships in contrast to other possible options such as long-term leases as a positive influence for investment in the long-term production of hardwood sawtimber in North Mississippi.

INTRODUCTION

Increased demand has led to dramatically increased harvest levels for hardwood pulpwood in North Mississippi[1] in recent years. Severance tax records for the region show that hardwood pulpwood removals increased over five-fold between 1985 and 1993-from 16.6 to 88.0 million cubic feet (Bullard et al. 1995). A comparison of the USDA Forest Service surveys published in 1987 and 1993 for North Mississippi reveals that the number of growing stock trees decreased for oaks and other "hard" hardwoods in all diameter classes except the very smallest and the very largest (19 inches and larger). It also shows that, for these species groups, removals exceeded growth for both sawtimber and total growing stock (Bullard et al. 1994). Given these recent trends in the utilization of North Mississippi hardwoods, solid wood manufacturers such as sawmills and furniture producers have become concerned about the possibility of future raw materials shortages (Daniels 1991).

Because of ownership characteristics and production constraints, socially optimal quantities of hardwood sawtimber may not be produced in North Mississippi over the long-run if there are strong local markets for hardwood pulpwood. In this region, 84% of the hardwood timberland is in NIPF ownership (Faulkner et al. 1993), and these landowners do not have perfect, complete information. They may not, for example, be fully aware of future sawtimber values or other marketing options they forego when their timber is sold before reaching merchantable size for sawtimber, veneer or other high-value products. Another reason for potential market failure in hardwood sawtimber production relates to the relatively long time periods involved. For competitive markets to provide socially optimal quantities of a good or service, a necessary assumption is that production be instantaneous. Hardwood sawtimber production obviously violates this assumption, and the rate of time preference for money becomes a critical factor in timber production decions. NIPF landowners generally have relatively high rates of time preference for money (Gregory 1987), and behaving rationally they may therefore harvest timber at an earlier age than would be desirable for society in general.

A market-based means of encouraging NIPF landowners to retain relatively young hardwood timber for future sale as sawtimber is clearly desirable from the perspective of solid hardwood using industries. This is also desirable, however, from the standpoint

[1] "North" Mississippi refers to the 26-county area designated by the USDA Forest Service as the North Forest Survey Unit (Faulkner et al. 1993).

of society in general, if market failures are resulting in less than socially optimal longer-term sawtimber production. A market "solution," of course, must be attractive not only to NIPF landowners but also to solid wood manufacturers and/or private investors.

The overall objective of the present study was to evaluate several market-based approaches to increase hardwood sawtimber production on NIPF lands in North Mississippi. Specifically, we sought to identify whether or not futures contracts, forward contracts, long-term leases, and limited partnerships between NIPF landowners and timber processors and/or investors have potential for increasing long-run hardwood sawtimber supplies in the region.

METHODS

In the RESULTS section, we describe futures contracts, forward contracts, long-term leases, and limited partnerships. As described in that section, however, after preliminary consideration limited partnerships were chosen as having the greatest potential for application to hardwood timber production, and we then conducted a series of informal interviews with owners/managers of hardwood sawmills in the region, NIPF landowners in the region, and with major timberland investment companies.

Discussions with sawmill owners/managers served to identify whether or not these firms perceived a future raw material shortage. In addition, the discussions determined how the sawmills were preparing for the anticipated shortage, and whether or not limited partnerships with NIPF landowners would appeal to them. NIPF landowners who made timber sales within the past four years were then identified by timber deed searches at county courthouses. Six counties were chosen that were near the Tennessee-Tombigbee Waterway and that had annual removals that exceeded annual growth in the lastest forest survey (Faulkner et al. 1993). These counties were: Lee, Itawamba, Monroe, Clay, Lowndes, and Oktibbeha. These discussions determined if the landowners were aware of the anticipated hardwood sawtimber shortage, why they had chosen to sell their smaller hardwoods, and whether or not they would have considered a limited partnership to be an attractive alternative. Finally, informal discussions were conducted with representatives of four major timberland investment firms. These discussions were used to determine the firms' positions on hardwood timber investment in general, as well as and on limited partnerships with NIPF landowners.

RESULTS

Four market-based approaches to encourage hardwood sawtimber production on private lands were initially considered: futures contracts, forward contracts, long-term leases, and limited partnerships. As described in this section, limited partnerships were chosen for further consideration; in the present section, therefore, we also discuss results from informal interviews with NIPF landowners, sawmill owners/managers, and with timberland investment company representatives.

Futures Contracts

A futures contract is a contractual agreement to purchase or sell a commodity at a future time. These contracts are highly standardized to facilitate a high volume of trading. They are traded on organized exchanges that are governed by fixed trading rules and have relatively short terms to execution. The high volume of trading associated with these contracts promotes liquidity and price discovery within the market. These contracts allow for the transfer of risk, specifically that of price, to individuals or businesses who choose to bear it. Futures contracts are written on commodities such as gold, wheat, and lumber. They are also written on various financial contracts such as treasury bills, treasury bonds, and stock market indices.

A futures contract written on hardwood timber would guarantee a landowner a specific dollar amount for the timber at a future time. Hardwood timber, however, may take decades to progress from pulpwood to sawtimber size classes. The time frame for a hardwood commodity would therefore be well beyond that of any currently traded commodity. The maturity problem also entails uncertainty about the quality of the wood over time. The market for hardwoods in relation to price and desired species is too unpredictable to allow for a futures contract to be of much use to an investor. A futures contract written for a specific species may be viable, but the problem of time still exists. Futures contracts can be written on lumber because even though there are many species, the final product is relatively uniform.

The wide variety of hardwoods used as raw material in North Mississippi would compromise a standardization needed for a futures contract to generate a sustainable trading volume. The problem of whether or not there would be enough interest or activity to sustain the commodity in the trading market remains even with establishing a futures market for only a single species of hardwood. An example of what happens when there is insufficient trading volume is the failed attempt to write futures contracts on real estate in England. London Futures and Options Exchange initiated a futures contract on real estate prices in the United Kingdom in May, 1991. After months of disappointing trading volume, the market closed in October, 1991 (Case et al. 1993). Lack of trading volume has also affected futures markets in the United States. Futures contracts on broilers, eggs, and potatoes have all ceased trading due to lack of volume (Ross 1994).

Forward Contracts

Forward contracts are similar to futures contracts in that the contract is for delivery of a certain commodity at a future date, usually within one year. The main difference is that the terms for a forward contract are custom made, while the futures contract is standardized. Because of the uniqueness of each forward contract and the fact that they are often for relatively small quantities, they are not traded as are futures contracts.

The flexibility associated with writing the terms of this type of contract may make forward contracts more attractive than futures contracts. However, as with futures contracts, the problem of time is still a major factor when dealing with hardwoods. Hardwood prices are too volatile to accurately predict an extended future value. This is true even if the contract is written on a single species. Forward contracts may therefore not be a viable option for hardwood timber for the same reasons given for futures contracts.

Long-Term Leases

In contrast to futures and forward contracts, the duration of most long-term leases on timberland varies from ten to ninety-nine years (Butler 1980). In addition, long-term leases do not deliver the asset via ownership. A comprehensive study of leasing practices in the South revealed that ninety percent of existing lease agreements fell into four broad categories: lump-sum agreements, cutting contracts, land lease with timber purchase, and lease of both land and timber (Siegel 1973). However, the majority of these contracts were made for lands stocked with pine or land that would be converted to pine (Butler 1980). Only a few hardwood manufacturing firms leased hardwood stands exclusively (Butler 1980), mainly because until recently the availability of hardwood has not been a problem. The primary problem with long-term leases of hardwood timberland today is the fact that the majority of manufacturers that use hardwood as a raw material are relatively small operations, or are focused on producing only one general product. Hardwood sawmills and furniture manufacturers in North Mississippi are examples of these types of firms. These businesses may not have the financial backing or the expertise to facilitate extensive forest management practices that may be involved with leasing hardwood timberland.

Limited Partnerships

A limited partnership is a contractual agreement between two or more parties in a business or investment endeavor. At least one partner is considered a general partner and at least one partner is considered a limited partner. The general partner is responsible for the management and decision making involved with the business or investment, and can also have liability in excess of his or her investment. The limited partner(s) typically does not participate in the management or decision making involved with the business or investment. Because they give up this control, their liability is generally limited to their contribution to partnership assets. A limited partnership requires a written agreement and state certification, and must comply with state law.

A current example of a limited partnership is Vardaman Pine Plantation Partners, or VPPP. This is a program conceived of and implemented by James M. Vardaman & Co. Inc., with financial backing provided by limited partners (Vardaman 1994). This program offers two options to landowners. Under the first alternative, VPPP buys an interest in the timber and pays the landowner a per-acre cash fee according to projected yields. With the second option, the landowner provides just the land and VPPP pays for regeneration. Under this option, VPPP maintains a percentage interest of future timber sales in addition to making smaller annual payments to the landowner. The landowner is allowed to buy back VPPP's interest at any time during the rotation. However, as with most long-term leases, Vardaman & Co. deals exclusively with pines, preferably established plantations.

Limited partnerships in timberland are not a new idea. In 1986, at least 9.1 million acres of timberland in the U.S. were held by limited partnerships (Howard and Lacy 1986). Limited partnerships were being formed as far back as the 1960's to acquire USDA Forest Service timber contracts in the Pacific Northwest (Howard and Lacy 1986). Since then, limited partnerships have been formed both as corporate defenses against hostile takeovers and investment vehicles (Howard and Lacy 1986). However, a limited partnership in timber ownership involving NIPF landowners is a relatively new concept. What this paper proposes is the formation of a limited partnership in hardwood timber ownership between a landowner and investors for a specific local market, namely hardwood sawtimber in North Mississippi, for the sole reason of increasing long-run hardwood timber supplies in the region.

This proposed solution is not without potential problems as well. Healy and Bristow (1989) have identified several problematic issues involved with the marketability of shared ownership rights. First, the value of a proportional share of a fee simple title may be hard to determine. Second, partial rights in land are rarely resold on markets or are only infrequently traded; hence, partial rights are very difficult to appraise and liquidate. Third, lending institutions are reluctant to accept partial rights as loan collateral due to the absence of reliable appraisals and regular markets.

Two additional problems may be lack of interest and apprehension by NIPF landowners. NIPF landowners may simply be unwilling to participate in partnership agreements. Also, people are often apprehensive about participating in something new and untried; an example is the failed attempt to establish a cooperative of landowners to supply pulpwood to a newsprint facility in Grenada, Mississippi in the 1970's. Although there is no documented proof as to why the plan for a cooperative was never realized, apprehension to participate in the plan by NIPF landowners is probably an important reason (Monaghan 1995).

A joint partnership involving only the ownership of timber would eliminate the problems associated with multiple interests in a fee simple title. The partnership would be based in the timber only, which is easily valued for stands of merchantable size. For pre-merchantable hardwoods, Zinkhan (1995a) proposes using put and call options and their pricing methods to determine value. By basing the partnership in the ownership of the timber, a market could easily be created in which proportional shares could be resold and/or traded This would require the limited partnership to be classified as a master limited partnership. Master limited partnerships differ from limited partnerships in that the ownerships of the limited partners can be publicly traded. Appraisal and liquidity problems would thus be eliminated. A possible outcome of this market could be the creation of put and call options on the proportional shares themselves. The issue of valuing these types of options was recently addressed by Zinkhan (1995b). With the establishment of markets and value for the joint partnership shares, lending institutions would be able to accept these as loan collateral.

Hardwood utilizing firms would benefit from the formation of this type of limited partnership because they would be assured a future supply of raw material. However, for this solution to work, it must be attractive to the parties involved in the limited partnership as well. The landowner would benefit by receiving money now in addition to annual payments and a share in future harvest value. This satisfies a high time preference for money as well as establishing future cash income. Investors would benefit in that timber investments are an exceptional hedge against inflation, and they also provide a means of portfolio diversification (Zinkhan et al. 1992).

By visiting hardwood sawmills in the region, it was confirmed that these firms expect to face a severe shortage of high quality hardwood sawtimber in roughly fifteen to twenty years. Some of the ways they are preparing for this shortage include land acquisition and investment in more efficient equipment to increase productivity. If current trends persist, these firms realize that some will definitely go out of business. These discussions determined that the idea of a limited partnership is feasible and attractive. However, these mills felt that the landowners would require a substantial "up front" payment for a share of the ownership rights to their timber. Sawmill operators felt that this would prohibit them from entering into partnerships extensively because they do not have the capital base to provide large payments.

A series of informal telephone discussions with NIPF landowners provided a wide array of views on the current and future hardwood timber situation. The majority of the landowners said they had cut their small hardwoods because they wanted to receive money now (or at the time of the harvest) and that they wanted to regenerate pine for future cash flows. Most were aware of the anticipated shortage of hardwood sawtimber as well as the potential future price increases in hardwood sawtimber. However, most viewed pine as a virtual guarantee to future cash gains and felt hardwood was "just not grown as a cash crop." When asked about the possibility of selling an ownership interest in their timber, most said they would have considered the concept, the key element being an initial cash payment equal to the price they had accepted for selling their timber. The majority of the landowners felt the concept of a limited partnership would have been an attractive alternative to selling their timber.

Finally, representatives from four of the major timberland investment companies were contacted for an informal discussion of their views on hardwood timberland and limited partnerships with NIPF landowners. These firms were: Hancock Timber Resource Group in Boston, Massachusetts; Wachovia Timberland Investment Management in Atlanta, Georgia; Forest Investment Associates in Atlanta, Georgia; and Prudential Timber Investments, Incorporated in Boston, Massachusetts. Representatives of the firms were found to be well aware of the future potential value of hardwood sawtimber in North Mississippi. All of these firms have acquired hardwood stands of various types and are implementing or considering active management of hardwoods. However, the idea of limited partnerships with NIPF landowners was not viewed as an attractive alternative at present. Basically this is because the firms would not want to give up any management control of the timberland. In addition, most of the firms felt long-term lease agreements would be more attractive than limited partnerships, again because of the control issue. None of the firms' representatives said that limited partnerships might not be considered in the future, but as for now, the idea was not attractive. They felt that limited parterships with NIPF landowners may have potential in the South in thfuture, however, particularly as southern timberland becomes increasingly harder to acquire.

CONCLUSIONS

The informal discussions just described revealed nothing we did not anticipate except for the timberland investment firms' reluctance to enter into limited partnerships with NIPF landowners. From the other viewpoints, however, it appears that limited partnerships may be an attractive approach to help ensure a long-term supply of hardwood sawtimber. The landowners would benefit by receiving a sum of cash in the present that is at least equal to what they would receive for selling the timber, in addition to receiving more money when the timber is finally harvested. The solid wood utilizing firms in the region would of course benefit from the increased rotation periods resulting from the formation of these limited partnerships.

Limited partnerships in timber ownership appear to be an acceptable "solution" to the impending problem of a hardwood sawtimber shortage in North Mississippi. The potential exists for individual investors to be sought out and matched with NIPF landowners in the region to form limited partnerships in hardwood timber ownership. A limited partnership between an NIPF landowner and a group of investors would not only benefit the two parties involved in the partnership, but also the solid hardwood utilizing firms in the region. Although timberland investment firms are hesitant to enter into limited partnerships with NIPF landowners at present, the potential for market-based approaches to encourage longer-term production of hardwood sawtimber on NIPF lands will remain high in North Mississippi, as hardwood timber demand increases in the South, and as more investors enter the timberland investment arena.

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