

STATE ROLES IN ECONOMIC DEVELOPMENT:
THE CASE OF FOREST-BASED DEVELOPMENT IN MAINE¹

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ABSTRACT

State and federal programs affecting local economic development based on wood have been little studied in the forestry community. There are two broad forms of development programs: (1) cost reduction, business mobility, and (2) entrepreneurial productivity programs. In Maine, all of the customary approaches have been attempted. A strong emphasis has been placed on providing market information, but direct lending to forest products firms has had mixed results. The state's most successful job-creating program with wood has been its electricity rate policies, which fostered the construction of a number of wood-fired electric generating plants employing hundreds of workers.

An early stimulus for forest fire protection and the development of forestry in general in this country was the "negative economic development" that resulted from cut out and get out timber management. Whole counties of stumpfields and shutdown mills devastated local tax bases, employment, and economic stability in hundreds of communities throughout the nation from the Civil War to the 1940's. State governments have been active in the past 40 years in a variety of programs to promote economic development. For a time, these were

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stimulated by available federal funds; more recently, states have been more innovative in devising their own strategies and programs. From an early emphasis on poorly crafted tax and financing incentives, states have considerably expanded their toolkit of policies and the breadth of their focus on economic development.

A review of this topic using Maine as a case study has much to offer us in understanding state economic development strategies. This paper is an initial, tentative essay reflecting on our state's experiences. Further evaluation and analysis would be needed to reach really solid conclusions. This is a very broad topical treatment and cannot note every individual program or activity that is relevant to this subject.

First, we note the importance of forest industry in Maine's economy, we then review the changing diagnosis of the problems facing wood-based firms, and provide a brief history of the tools that have been employed and how state and federal organizations have changed. It has long been recognized that Maine needs forest-based economic development to improve employment prospects in rural areas, to better utilize and manage a growing forest, and to enhance its export base. Achieving this development, however, has been elusive.

WOOD PRODUCTS AND "THE TWO MAINES"

Woodbased manufacturing is of critical importance to the Maine economy (Table 1, 2). For the state as a whole, some 40% of

TABLE 1

FOREST BASED INDUSTRY AND ALL MANUFACTURING, MAINE 1984

INDUSTRY	EMPLOYMENT	SHIPMENTS \$MM	CAPITAL EXPS. \$MM
Lumber & Wood 24	14,211	897.2	47.6
Paper & Allied 26	18,326	3,136.6	240.5
Total for Prods.	32,537	4,033.8	288.1
All Manuf.	110,273	9,457.9	543.7
For Prod % All Mfg.	30%	43%	53%

Source: Maine Department of Labor, Census of Maine Manufacturers, 1984.

TABLE 2

ECONOMIC DATA, PRIMARY AND SECONDARY FOREST PRODUCTS, MAINE 1984

ITEM	EMPLOYMENT	VALUE OF SHIPMENTS \$MM
PRIMARY		
241 Logging	4,843	397.4
242 Sawmills & Planning	3,247	239.8
261 Pulp Mills	1,689	367.8
262 Paper Mills	14,437	2,545.5
Prim. Total	24,216	3,550.5
SECONDARY		
243 Millwork & Cabinets	697	39.1
244 Wood Containers	265	10.0
245 Wood Buildings & MOB Homes	526	47.1
249 Misc. Wood Products	4,642	181.8
251 Wood Household Furniture	603	22
264 Misc. Converted Paper	1,402	141.5
265 Paperboard Containers	561	64.9
Secondary Total	8,696	506.4
TOTAL FOREST PRODUCTS	32,912	4,056.9

Source: Maine Dept. of Labor, Census of Maine Manufacturers, 1984.

manufacturing shipments, almost half of manufactured exports, and 30% of manufacturing employment depend on wood-using industries, while some 10% of Gross State Product is in these sectors (Colgan, Irland, and Benson, 1986). Within the state, wood looms even larger. For example, in the four counties of Western Maine, manufacturing dominates the economy (43% of wage & salary jobs) and paper and wood products dominate manufacturing (57%) (Barringer, et al. 1987, p. 2-6). In Somerset County and northern Kennebec County, forest-based industries have a location quotient of 12.2 for primary and 5.0 for secondary products (LQ is the ratio of the proportion of local employment depending on a given sector to the corresponding proportion nationally) (The Irland Group, 1987, p. 26).

In 1982, the Maine State Planning Office issued a ten-year economic forecast which observed that the rural regions of the state were likely to grow much more slowly than urbanized Southern Maine (SPO, 1982, 1986). This triggered a year of debate over the validity and meaning of the concept of "the Two Maines." This term has now become local shorthand for the broader problem of regional disparities in income, unemployment, dependence on social programs, and migration.

No more than any other state has Maine truly come to grips with the problem of the Two Maines. Clearly, wood-based economic development has the potential to improve well-being in rural areas and to enhance the state's economic base. We have no rigorous evaluation on which to base a judgment as to the effectiveness of the many social service, infrastructure, training, and development programs that have been brought to bear in rural Maine.

One of the promising developments of the 1980's has been a far stronger regional orientation in economic development programs. At the regional level, several Regional Planning Commissions have been active for years, as has the multicounty Eastern Maine Development Corporation. More communities have been examining their development problems and organizing local groups to deal with them. One example is the effort now underway in Millinocket, to try and find alternative employment opportunities for paperworkers displaced by machine shutdowns at Great Northern.

The new administration in Augusta has declared its support for a regionally based economic development program. We will see more clearly what that approach consists of when the administration has been able to respond to the recommendations of the Governor's Task Force (Mallar, 1987).

MODELS OF DEVELOPMENT PROGRAMS

Economic development planners have changed their thinking over time on the obstacles to State economic growth. Economic development has been a somewhat faddish field, in which new ideas become trendy for awhile as everyone jumps aboard innovations in a field in which nothing seems to really work very quickly or very well. The ebb and flow of federal programs and funds both influence these trends in thinking and are in turn are influenced by them (see, e.g., Colgan, 1986; CED, 1986; CCD, 1982; Duerr and Vaux, 1953; Irland, 1984; Nothdurft, 1984).

"Economic development" is a rubric under which a wide variety of government policies and programs may be described. The concept is so broadly used, in fact, that its descriptive content is sometimes lost completely. But the concept can be reinvigorated to some extent by examining economic concepts that underlie different approaches to development policy, which permits a rough division of policies into two major "models" of development.

1. Cost Reduction-Business Mobility
2. Entrepreneurial-Productivity

1. Cost Reduction-Business Mobility

The first model may be considered the "classic" approach. The basic assumptions are that businesses seek the site with the lowest operating costs and that businesses are highly mobile. The vision is one of businesses constantly milling about looking for the lowest cost sites, not staying in one place very long if lower costs are offered somewhere else.

This model focuses attention on reducing or keeping land, tax, and labor costs as low as possible in order to attract companies to locate in a state or to keep a company from expanding out of state. The model was developed during the period between 1945 and 1960, a period when the opening of branch plants of major national and regional manufacturing firms was the focus of economic development. The basic premise was thus "growth from without", the principal idea being to attract businesses from elsewhere.

The policy implications of the view are obvious: keep taxes low, provide low-cost land in the form of industrial parks or similar facilities, provide low-cost financing, and avoid promoting unionization. While every state had some version of these policies, no region was as active in pursuing them as the southeastern states.

2. Entrepreneurial-Productivity

If the cost-mobility model is the classical model, this is the "neo classical model". In contrast to the assumptions of business mobility and the resulting policies seeking to influence locational decisions, this model focuses on the process by which new businesses are formed and grow. The emphasis is strongly focused on the processes of innovation and on the needs of small businesses, although recent attention is increasingly being given to the process by which large companies innovate.

The "productivity" component represents a variant on the cost reduction problem. The cost reduction model assumes that the lowest average costs will be attained only by lowering input costs. The productivity model recognizes that average costs can be reduced either by lowering costs or by increased output (sales) per unit of input. Increased productivity provides competitive advantage and thus spurs development.

The policy implications of this view require attention to several factors:

- . Capital availability and cost becomes a critical factor, since capital investments are key to improving productivity and to starting up new ventures.
- . Labor force skills and attitudes are seen as a major determinant of productivity, and education as the key influencing factor. While the classical approach emphasized publicly funded job training programs as a way of lowering costs, the neo-classical approach directs more attention to K-12 and post-secondary education.
- . The growth of the "high technology" (whatever that means) industries has inspired an emphasis on research and development, particularly at public universities.
- . Concern about the management skills of entrepreneurs and the barriers to entry for any start-up company have led to a variety of programs especially designed to provide technical assistance to the start-up firm, including incubator facilities, small business development centers, training programs, etc.

There are two areas of major difference between the classical and neo-classical approaches to economic development. First, one focuses on growth from within and the other on growth from without. The fundamental idea in the cost-mobility school is to attract out-of-region companies into the region. The fundamental idea in the entrepreneur-productivity school is to grow from within.

Secondly, there are profound differences in the underlying view of the role of government. The cost-productivity model is clearly the

"least government" model; the less government does, the less it needs to tax and the lower business costs will be. The entrepreneurial-productivity model just as clearly sees a role for government expenditures, or at least certain kinds of expenditures. In Maine, we have pursued a number of programs following the cost reduction model.

COST REDUCTION MODEL

Capital Gaps

During the 1970's much thinking was devoted to the view that capital shortages were hindering business growth. Especially in the depressed New England economy of the mid 1970's, there was considerable acceptance of this view as people observed savings bank portfolios loaded with California mortgages and saw the difficulty faced by traditional manufacturing firms getting financing. Even as these conditions existed, credit-worthy businesses found their financing out of state. In considerable measure, this was because states of a million people or less, as we have in northern New England, do not support large or sophisticated financial sectors. Also, it was because of weak market prospects and weak managements in many traditions, mature industries. Especially considering import competition, many of these firms were marginal loan prospects.

Maine has carried out its share of "capital gap" studies which usually concluded that some form of publicly assisted financing was needed (Brace, 1977). More recently, the focus has shifted from debt to equity, as in a recent study for the Financial Authority of Maine (FAME)

of natural resource firms (Maine Tomorrow, 1985). Here, the result was that family firms were not interested on sources of outside equity but were interested in low interest rate long-term debt—predictably enough. Public financing programs have provided considerable financing aid to Maine forest products businesses.

Infrastructure and Taxation

Classic state programs for implementing the cost reduction model are provision of infrastructure and selective reduction in taxation. The ability to meet needs for roads, industrial land, sewer connections, and water and power can be critical to local business attraction efforts. But typical wood products firms do not use normal industrial park space so that the wood industry has not made extensive use of these programs. In Maine's forest industry, paying for the damage done to rural roads and bridges by overloaded log trucks and chip runs has been a major policy issue that state policy makers have actively dodged so far.

Tax breaks for industries have been controversial in the economic development literature, but have not been extensively used in Maine. Therefore, Maine's experience has little light to shed on this more general issue.

PRODUCTIVITY MODEL

More recently, Maine has developed a wide range of programs based on the productivity model.

Training and Education

In the early 80's, Maine's unemployment rate fell below the US for the first time in a generation and its economy set out on a strong growth path. This growth was strongly influenced by defense spending, growing service employment, and land speculation and development, so it may not be long sustainable if larger national forces shift. But it brought about labor shortages and coincided with a national movement to upgrade education at all levels.

— This led to a new emphasis on using employment programs as an industrial attraction tool and upgrading training programs across the board. The Vocational Technical Institute system was reorganized and over a few years given much improved facilities. A major blue ribbon commission on education was followed by a high-level outside review of the University of Maine system. Both groups recommended significant changes and additional funding. Both saw clearly the importance of investment in human capital as a key ingredient of economic development policy. Today it is fair to say that Maine now has a strong appreciation of the role of education and training in economic development. The Administration recently created a Cabinet Level team to oversee the programs of the many agencies involved.

Interestingly, forest product sector interest in this subject has not been very high. There are two VTI offerings in logging as well as a few secondary programs. The paper companies do much of their own training and do not very much need the public postsecondary vocational training

programs. This is in strong contrast, for example, to neighboring Quebec, where training is provided for lumber graders and many other skills important to the forest sector.

Export Assistance

Quite a number of programs exist to assist firms in developing export markets. The state funds the Maine World Trade Association to serve business needs in this area, and an array of state and federal programs exist. Trade missions have been conducted, and more are planned. Firms now exporting are likely to be specialized producers who have made an investment to develop overseas markets, or very large manufacturers with worldwide operations. Considering its size and location, Maine's participation in wood products exports is not large. The high dollar exchange rates prevailing through 1985 were a powerful discouragement—it was simply not possible to compete based on price. Export assistance could help build the current large role played by wood in Maine's manufactured exports.

Technology

Economic development thinkers have long known that technology and technical weakness were a major cause of industrial decline, and that new technologies often create new businesses and jobs.

In the early 1980's, a new emphasis on "industrial policy", "competitiveness", and "high-technology" became visible both at the state

and federal levels. State after State created huge high-tech programs of research, capital assistance, and business assistance. Maine officials began to notice that it was home to a few high-tech firms and research capabilities, and wondered what to do with this new development idea. A Technology Strategy Task Force recommended a focus on export-base industries, improving training and education, using technology to strengthen existing firms, and creating a the Science and Technology Board as a policy focus for technology (MDF, 1984). The new Board has existed for several years. One of its principal programs is a small grant program fostering priority technology transfer programs for Maine industries.

Market and Wood Supply Information

A key public development strategy has always been provision of market trend and marketing information. In Maine, a number of efforts have been undertaken.

Plant Feasibility and Market Scans

One is the traditional plant feasibility study that reviews plant capital costs, production costs, and markets and tries to ascertain the degree of promise in a particular plant for a particular locality. Several have been publicly supported in Maine, including the Woodchip project in the 70's and a recent EDA-funded analysis of the potential for a waferboard plant in central Maine (Neill and Gunter Moeltner International, 1987). Closely related was the brief flurry of interest

in the "Scandinavian Fiber Gap" of which so much was written ten years ago. This Fiber Gap yielded a short study in Maine, too (SIAR, 1976).

Another form of analysis is the sectoral scan for promising products. Several of these have been conducted. One for paper, printing, and wood products (MDF, 1982) found there were few opportunities but they were worth pursuing to some extent. The UMO College of Forest Resources contributed a scan of wood products opportunities for the current Governor's Task Force on Economic Development (Maine Development Foundation, 1987) which identified a number of promising products. Under EDA funding, a major opportunity scan of wood products markets is currently being conducted by A. D. Little under contract to the Eastern Maine Development Corporation.

These opportunity scans are useful in obtaining up to date data on market trends and in identifying promising leads for development agencies to pursue. There is little evidence, however, that they are acted on or even read by private firms. It would be most useful to pursue this question further, to see if there are ways to increase the yield on the public investment in such studies.

A final form of market analysis deserves consideration. This would be an intermediate level of study that would go beyond the minimal detail in the traditional opportunity scan yet cost less than a full-fledged plant feasibility study. The opportunity scans do not contain enough information for a business to make decisions, yet fullblown feasibility studies are too costly. An intermediate approach has recently been

advocated by a group in a study of development prospects for Western Maine. An example was prepared for railroad crossties (Monahan, 1976).

Wood Market Trends

Wood using firms can make decisions in greater confidence if they are able to follow trends in raw material production and prices. Maine has long provided periodic summaries of stumpage and delivered wood prices. In addition, the Maine Forest Service has provided annual estimates of wood harvests by species and exports of logs. While these data have their weaknesses, they were able to give wood uses a level of confidence that they understood what was happening in the marketplace. States that are interested in providing real support to wood-using industry should consider market information first.

Wood Supply Information

Maine's wood supply has not been a constraint on economic growth until very recently, but a history of wood resource inventory supporting economic development goes back a long way (Irland 1986). In the mid 70's, Project Woodchip evaluated supply potential for a range of wood using industries, primarily large scale sawmilling. Later, as part of its forest planning process, the MFS provided an interim analysis of the state's forest resource situation and related economic development issues (Joseph, Irland and Howard, 1980).

Concerned with the effects of the spruce budworm outbreak, and under USFS pressure to better justify spray programs, the MFS funded a major spruce fir timber supply forecast, published in 1982 (Sewall, 1983), and

when the 1982 Survey was complete, it conducted a thorough review and reformatting of the data (Young, 1984). As part of the 1982 survey, Maine contributed funds for plot intensification and arranged to maintain the full data base at the Department of Conservation for ready access by Maine users.

It then conducted a 1986 resurvey of the spruce fir resource to ascertain the extent of the decline in the resource, and now has underway a re-estimation of the earlier timber supply models to update the forecasts (MFS, 1987). In addition, the State funded a broad review of the supply-demand outlook for Maine timber (RISI, 1987).

These efforts were consistent with a view of information provision as a major state responsibility. Someday, a thorough review should be undertaken of the effects on private investment of public timber data and forecasts. I have no doubt that the impacts would be large.

The Family Company

There have been many studies of the capital, technical, labor, marketing, and management problems of small companies in relation to economic development. Many are the state conferences and local studies of problems in logging and the wood industry that identify suggested barriers to growth or even to firm survival. But repeatedly they have failed to come to grips with basic facts about small family businesses. These businesses are usually more of a way of life than a business, especially in rural, resource-based industries. Labor relations policies

often emphasize long term company loyalty and responsibility to the community. Financial policies emphasize minimizing debt and retaining family or closely held control. Marketing and product policies often reflect habit and tradition more than aggressive pursuit of growth.

In some instances, these firms are hampered by heirs of the founders who lack interest or business skills. In others they are consciously managed as cash cows to provide leisure and secure incomes and social status to owner/managers. In few cases do these firms really desire growth or change for their own sake. Typically, assuming the risks that go with a greater debt load or with taking in outside equity has little appeal.

For many of these firms, public programs designed to expand output and employment are simply irrelevant, until a point is reached where the mill burns down, a regulatory threat appears, or foreign competition threatens destruction.

These statements must not be read too broadly. There are many aggressive, entrepreneurial firms in the wood business which do not fit this characterization. Such firms respond to new technology and new market opportunities; they see debt and outside equity as management tools and not as threats. In assessments of the potential for growth or for firm survival. In wood based industries, these traits of small family firms need to be carefully considered. These traits are, of course, widely shared in the American economy and are not unique to the forest-based sector.

Entrepreneurship

It is clear that a larger number of aggressive, risk-oriented market-oriented entrepreneurs could make a difference in many mature industries in rural America. The entrepreneurship - productivity model of development emphasizes the critical role of management in business success. This model would place the potential role of government policies like taxation and subsidized lending in a secondary position.

Recognition of the importance of entrepreneurship is expressed in more courses for small business owners and in proposals for "incubators" and similar facilities. A strong emphasis on entrepreneurship would certainly be useful for the wood-based sector. A good deal of experimentation is called for.

Protection from Trade Threats

The deluge of imports of recent years has boosted the trade deficit to \$144 billion in 1986 (merchandise trade balance) and has hastened the closure of many marginal plants in the wood using industries. State governments have been called upon to support local industries in the convoluted Washington processes for providing import relief as well as in fashioning the annual blockbuster trade bills. In Maine, two leading issues have been involved. First, Maine state government supported the appeal of the clothespin industry for escape clause relief from imports in the form of a quota. But in the highly contentious softwood lumber case, state government did not take a position. Ironically, Maine

shingle producers are benefitting from the 35% tariff on Canadian western redcedar shingles and shakes, but it is not clear yet just how the 15% lumber duty has affected Maine mills.

Maine has a strong interest in the current bilateral trade negotiations with Canada, but it is far from clear yet how or if the outcome will affect the state.

MAINE DEVELOPMENT PROGRAMS: ORGANIZATIONAL SETTING AND CHANGES

Over the years, organizations for economic development have changed significantly. During the 1970's, the New England Regional Commission was an important source of research and analysis and funding for particular activities as well as for capacity building in state agencies.

Federal programs for economic development including EDA, SBA, and Farmers' Home Administration have been aggressive in Maine. Maine has been eligible for large dollar amounts from these agencies because of its counties with chronic and persistent unemployment. Beyond this, aggressive local administrators have always been able to bring into Maine even larger amounts by taking advantage of funds not used promptly elsewhere.

The Reagan years have seen some changes, cutbacks, and modifications in how these programs work, but not wholesale large cutbacks in support. Programs of loans, guarantees, and grants for public infrastructure as

well as direct to businesses still exist. The elimination of the Regional Commissions has ended a useful source of funding but has not been a serious problem.

In the consolidations of state-local grants of the early 80's, the CDBG program was created. This program is administered by the State with federal funding. It funds local public works and housing projects, as well as loans to businesses that are administered through local communities or counties.

State agencies have changed over time as well. During the Longley Administration, the State Development Office was created to replace the Department of Commerce and Industry. SDO was used as a staff to the Governor for personal sales pitches to bring in companies, and to manage a small informational and promotional program. During the Brennan years, 1978-1986, the Office grew and added functions and staff, principally in tourism and business assistance. The new McKernan Administration has reorganized the office into a cabinet-level Department of Economic and Community Development, which now includes several functions formerly administered by other agencies.

The state had accumulated a series of small business finance agencies over the years. In 1983, these were reorganized into the Finance Authority of Maine (FAME). This agency was taken out of the normal state personnel system to enable it to hire skilled people with financial backgrounds. It now has a high credit rating (Aa, AA-1) and has provided

\$600 million of business loan guarantees in the last three years (FAME, annual report).

In 1981, the Maine Capital Corporation was created, a non-profit venture fund based in Portland designed to provide risk capital to Maine firms. This firm has grown and has created a new vehicle, the North Atlantic Capital Corp. (capitalized at \$15 million) to serve Northern New England needs. An effort to create a resource-oriented venture firm, the Natural Resource Capital Corporation, has been temporarily shelved at FAME.

Compared to many other states, Maine offers only a modest range of state economic development financial incentives (MDF, 1987, App. C). It does not offer property tax breaks or heavily subsidized plant and facilities investments such as were seen in the famous packages prepared by other states to attract the VW and Saturn plants.

UTILITY REGULATION: THE CASE OF WOOD ENERGY

Perhaps the most successful development program based on wood, in terms of economic activity and job creation, has been the use of PURPA rates as incentives for investment in wood fueled electric generating plants. The Public Utilities Regulatory Policies Act (PURPA) of 1978 required utilities to buy power from private generators at prices set by the Public Utilities Commission according to the "avoided cost" of the next marginal power source (Office of Energy Resources, 1987, p. 57-60).

Because Maine's avoided cost was set with a large proportion of costly power from the Seabrook reactor in New Hampshire, its avoided cost rate was quite high. A complex set of provisions was devised by the PUC and the utilities to allocate access to these rates. The policy objective was to avoid building costly new centralized power stations as demand grew and to increase local self-sufficiency in electricity.

Several large cogeneration facilities were built by paper companies taking advantage of simultaneous sale-buyback provisions. In addition, however, a whole new industry of privately financed plants swiftly arose. Because of the importance of this market for low grade wood and for generating income and employment in rural areas, the Maine Department of Conservation assigned a senior person to assist potential plant builders in obtaining the information they needed.

As a result of this rate structure, investments have been made in some half dozen free-standing plants, and a dozen or so others integrated into other facilities. Others are in planning stages (Office of Energy Resources 1987, p. 59). The wood consumption of these plants when all that now have contracts are generating will approximate 3 million tons per year. If half of this is from roundwood (as opposed to mill residues), it would increase the state's wood harvest by 8%. Employment generated will be substantial (Resource Policy Center, 1986). In fact, following the pullout of Maine's largest utility from Seabrook, the avoided cost rate has not been reassessed in light of new conditions. But the costs of the wood plants are beginning to be rolled into electric

rates. Expanded use of wood for energy has been considered (State Planning Office, 1987).

Maine's wood-based electricity sector was created not as a matter of forest policy or even of economic development policy, but primarily as a matter of energy policy. This development has profound implications for forest resources and forest policy. Concern is rising among some interest groups about possible destructive effects of whole-tree chipping. This concern has already manifested itself in legislation imposing obligations on powerplant operators buying woodchips to see that the harvesting is supervised by foresters. Some see the germ of a forest practice act in this requirement.

OBSERVATIONS

As much as state governments have grappled with promoting employment based on wood, we have little proven analysis to show whether our many activities have succeeded. There has been a serious lack of objective evaluation of our experience in this area. On the basis of a broad review of Maine's experience over ten years or so, we can offer a few observations:

- First, while the Maine rural economy needs more wood-based jobs, we cannot readily identify the best ways to create those jobs, or even to retain jobs in existing threatened firms. Many of the standard methods of promoting industrial locations with tax breaks and industrial parks are not readily applicable to most primary wood using firms.

- Our experience with government backed grants, loans, and guarantees has never been carefully analyzed to see how well it has really met needs in this sector. There have been enough difficulties to suggest that state lending programs will continue to be controversial and difficult to implement and evaluate.

- Despite a number of market and product-oriented research studies, we do not know if they have led to sound business decisions by companies. Are they even read? Is this kind of information worth developing at all? If so, how and in what way?

- Wood does not by itself draw economic development. This is because wood itself is rarely the key constraint in employment growth. Markets, competing products, competing countries, and other factors dominate but Maine's firms are probably now entering a more resource-constrained future.

- While individual skill areas can be identified as needing attention, it is not clear whether a strong emphasis on worker training would improve the position of Maine wood using firms.

- It does appear that Maine state government has played an important role in providing useful information about the state of the forest resource, to the public, to the industry in general, and to individual firms through customized data management systems. This work has been used by industry and some feel it deserves to be expanded.

- Maine's most successful single program of job creation based on wood has been the electric generating industry created by a favorable utility rate and regulatory climate for such investment. While no overall social cost-benefit analysis is available for this industry, its

potential benefits for forestry and forest landowners are large. Its immediate employment creation has also been significant.

- Especially considering the extent of family firms in the wood business, the issue of entrepreneurship is important. Increased emphasis on entrepreneurship has been seen in Maine's development policy, but it remains unclear just what programs will be effective in drawing forth a greater supply of entrepreneurs.

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