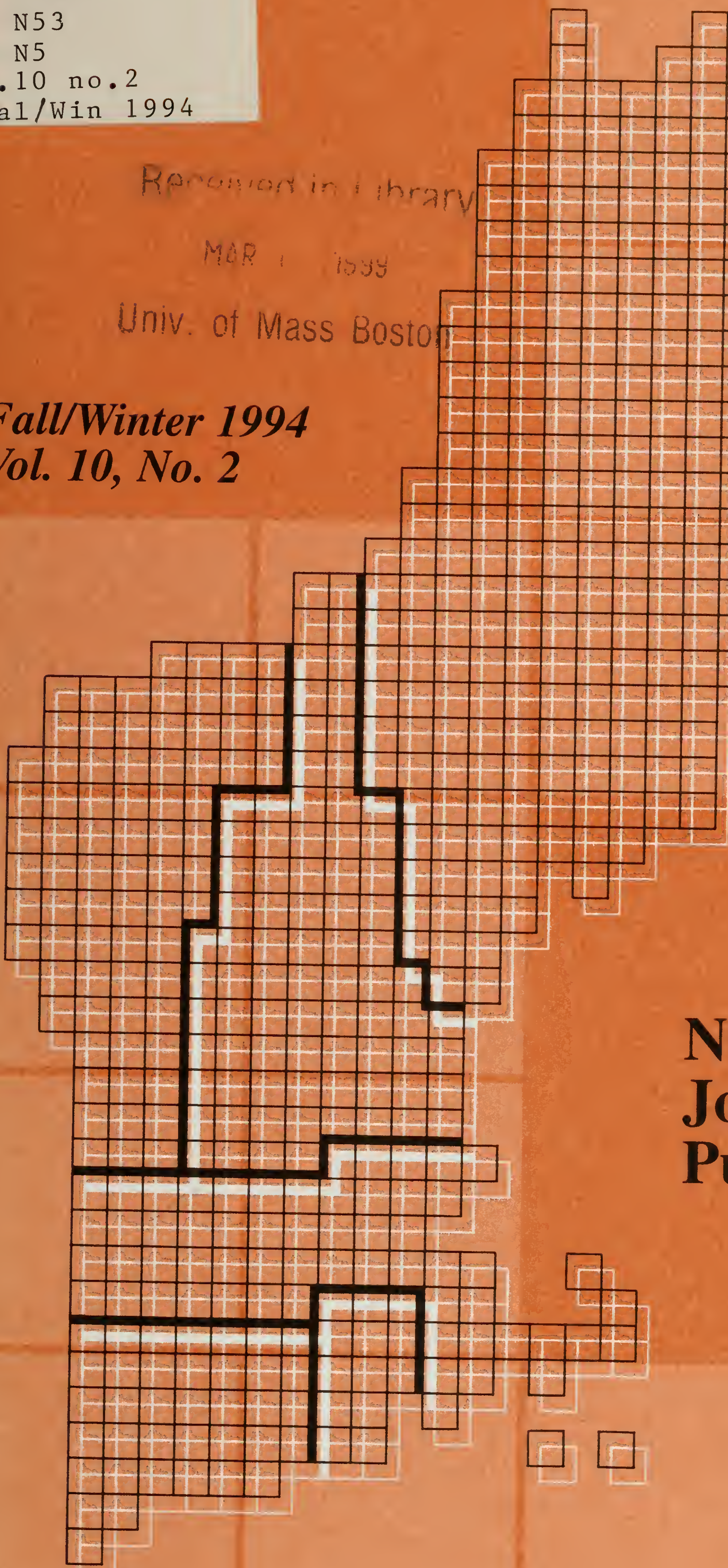
Fall/Winter 1994
Vol. 10, No. 2



New England Journal of Public Policy

A Journal of the
John W. McCormack Institute
of Public Affairs
University of Massachusetts Boston
and the
Center for Policy Analysis
University of Massachusetts Dartmouth

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The John W. McCormack Institute of Public Affairs is named for the Speaker of the United States House of Representatives from 1962 to 1971. John W. McCormack was born in South Boston, less than a mile from the University of Massachusetts Boston Harbor Campus. The McCormack Institute represents the university's commitment to applied policy research — particularly on issues of concern to New England — and to public affairs education and public service.

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The *New England Journal of Public Policy* is published by the John W. McCormack Institute of Public Affairs, University of Massachusetts Boston, and the Center for Policy Analysis, University of Massachusetts Dartmouth. Subscriptions are $100 per year for institutions, $40 per year for libraries, and $20 per year for individuals. Manuscripts and correspondence should be sent to the Managing Editor, *New England Journal of Public Policy*, Center for Policy Analysis, University of Massachusetts Dartmouth, 285 Old Westport Road, North Dartmouth, Massachusetts 02747-2300 (telephone: 508-999-8943; fax: 508-999-8374). See Guidelines for Contributors on inside back cover.

ISSN: 0749-016X

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Editor's Note

Padraig O'Malley

With a great deal of pride, the *New England Journal of Public Policy* is pleased to announce a new partnership. Beginning with this issue, the journal becomes a joint publication of the John W. McCormack Institute of Public Affairs, University of Massachusetts Boston, and the Center for Policy Analysis, University of Massachusetts Dartmouth. Both bring to the joint venture special skills that complement each other; both are committed to holding the quality of the publication to the same rigorous standards that intellectual integrity demands, and both are committed to maintaining the degree of accessibility that has been a hallmark of the journal since its inception.

We believe that complex social issues, which are often beyond the grasp of informed readers when the incomprehensible and often stultifying jargon of particular disciplines is the means of expression, can be brought within their grasp when the language of expression is the language people understand. As we rattle our way down the information superhighway, we should be looking for a shared vocabulary and avoid the temptation to speak in a babble of tongues. We hope that theoretician and practitioner, public servant and elected official, will continue to find the journal, under its new stewardship, a beacon of insight and thoughtfulness that will enhance the quality of public debate and bring new voices into the auditorium of public policy.

The first five articles in this issue have their intellectual roots in an October 1992 Pioneer Valley Regional Conference held at the University of Massachusetts Amherst. Sponsored by the Executive Office of Economic Affairs and organized by the Donahue Institute, the conference brought together nearly two hundred business, civic, and economic development leaders to discuss an economic strategy for the state in the context of the Pioneer Valley — Hampshire and Franklin counties.

A number of papers were commissioned for the conference to jump-start the discussion and to provide a more finely honed frame of reference for the challenges and opportunities facing the Pioneer Valley. The authors of these articles have updated their data in the light of the changing circumstances of the region's economy in the past two years. What is, perhaps, most discombobulating is that so little has changed — almost all those conclusions and recommendations have been ignored by the state or addressed in ways that have ensured their failure to achieve their intended objectives.

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With the world economy making the boundaries of nation-states increasingly irrelevant, and nation-states themselves drawing ever more closely together by communication and trading connections, the driving force of economic change is no longer energy, but knowledge and information. The commonwealth of Massachusetts in general and the Pioneer Valley in particular are in strong positions to capitalize on an education-based competitive advantage. The Pioneer Valley alone houses a major research university and more than a dozen colleges and community colleges.

The University of Massachusetts Amherst is already playing a major role in the economy of the region. First, its payroll, institutional purchases of goods and services, and student spending add thousands of jobs and millions of dollars to the region's economy. Second, its world-class faculty and facilities attract national and international funding for research projects. In a sense, each faculty member, as Nancy Goff so felicitously put it, is a small business supporting graduate students with grants from the public and private sectors. Third, entrepreneurial faculty and students have been successful in spinning off business opportunities directly from their university work. Finally, faculty, staff, and students work directly with businesses and communities in the region, providing information and expertise for solving management, technical, industrial, and economic development problems.

The current state administration's program calls for the deployment of resources in a number of areas, such as providing capital for certain types of new or growing business ventures. Unfortunately, this has not proved to be so simple, illustrating once again the difference between intention and outcome, and politicians' consummate skill in confusing the two for their own partisan purposes.

For a start, the banking industry has undergone major restructuring in the past seven years. Throughout the 1980s, regional banks were subsumed in a rash of mergers and acquisitions. As a result, decision making became centralized in the banks' main offices in the larger cities, and the close relationships between businesses and their local banks dissolved. Adding to the tensions are bank failures over the past decade that resulted from poor lending practices. This has led regulators to be far more rigid in their assessments of bank-loan portfolios. These factors brought about a credit crisis for a number of small businesses whose "numbers" did not qualify them for the stringent loan standards of large regional banks, whose lending officers fear penalties from state and federal regulators if they stray away from conservative practices.

An example: high-technology firms in the Pioneer Valley are proliferating, some as spin-offs of the university's Computer Science Department. Successful companies are developing information retrieval systems, health care management systems, and robotic technologies. However, western Massachusetts high-technology firms have difficulty obtaining financing. One reason is the lack of venture capital firms in that part of the state. Neither the private nor the public venture capitalists in the Boston area operate as if they believe that there are opportunities in western Massachusetts.

Despite the lack of success in attracting venture capital, much of the economic growth in the Pioneer Valley that has occurred in the past few years has been in the small-business sector. As the largest companies have had to downsize in response to economic conditions, small firms have more easily adapted to change. Moreover, most businesses in the Pioneer Valley meet the Small Business Administration's definition of "small" (fewer than 500 employees). Yet conference participants argued that there is a sense of frustration in the business community insofar as it seems that decision makers in government and finance, as well as the general public, do not recognize the contributions of small businesses and are therefore not responsive to their special needs.

In the light of these beliefs, the participants unanimously recommended that state and quasi-state agencies examine their policies from the point of view of small businesses and not focus exclusively on high technology, biotechnology, or other major industries that may be speculative. An example of damaging policy is the difficulty small businesses encounter in obtaining financing under $250,000, a serious problem that has gone unnoticed by agencies which deal solely with larger firms.

On the brighter side, Massachusetts has an abundance of resources and programs to promote economic growth. The many quasi-public corporations that provide specialized technical and financial assistance are a tremendous resource to entrepreneurs and businesses interested in locating or expanding in the state. The system, however, needs fine-tuning. Although regional outreach is important, it is also critical to have regional representation in the decision-making process for approving financial assistance packages. Moreover, because the regions themselves are large, there must also be local access to information through community development corporations, town hall meetings, and chambers of commerce.

Compounding many of the problems the state faces is the fact that staff from many of the state's quasi-public agencies have seldom, if ever, ventured outside the Boston metropolitan area. This results, first, in fewer resources being spent in the Pioneer Valley, and second, in policies that are written to reflect the viewpoint and respond to the realities of urban or Boston-area economic development needs. There is resentment among those in business and economic development about a perceived lack of attention paid by the state to the needs of western Massachusetts.

To remain economically competitive, Massachusetts needs an educated workforce comprised of people who can read, write, compute, and think. The human capital of the state is its greatest asset. A community college is located within thirty minutes of every citizen. As local entities, the community colleges are uniquely positioned to adapt to changing workforce and business needs. These colleges are small, relatively affordable, and their course offerings and scheduling policies are more flexible than those of larger, more bureaucratic institutions.

However, the state's executive branch has not recognized the contributions that community colleges have made and could continue to make in the employment training and retraining arena. The authors repeatedly emphasize the importance of education to the point of asserting that education itself is economic development. They recommend improving the quality of education at all levels, granting more flexibility to the regional employment boards to design programs and standards of success to meet their local needs, maintaining adequate support systems for adult students.

The importance of maintaining and improving the state's infrastructure is raised over and over again, from repairing roads and bridges to maintaining the crumbling buildings of the state's colleges and universities. For instance, a Massachusetts Department of Public Works project to repair Route 116 in Plainfield, was made more difficult by inadequate bridges that could not support gravel-laden trucks. It is far less costly to add to an existing resource than to start a new one. In the long run, it is also more cost efficient to maintain existing resources than to replace them.

Contributors were also at pains to draw attention to how western Massachusetts's assets go unnoticed in the eastern part of the state. To cite but one example, there are four regional airports in the Pioneer Valley — Westover (Chicopee), Barnes (Westfield), LaFleur (Northampton), and Orange. Yet a commission that studied the problem of overcrowding at Boston's Logan Airport concluded that a second major airport was a necessity in metropolitan Boston without even considering the potential for routing some kinds of transport, notably freight, to these or other of the state's existing smaller air facilities.

The sense that western Massachusetts communities and projects do not get their fair share of the tax dollars sent to "Boston" is pervasive. The phenomenon of "trickle west," in the view of all conference participants, provides insufficient funds for the infrastructure needs of that part of the state. One step in the right direction would be to set aside a seat for at least one resident of western Massachusetts on each commission that has a statewide mandate.

Finally, there is the question of the concept of a region. The definition of a region may go beyond the borders of a state. The Pioneer Valley's economic region extends from northern Connecticut to southern Vermont. Economic development efforts must take account of and respond to the reality of the economic region, even when it crosses state lines. Furthermore, when intraregional interests are at odds with one another, as is often the way in cases of controversial highway projects, the state should take an active role in mediating and staying with the process rather than walking away from the table when resolution is difficult. In these instances, leadership from the state, in the role of objective outsider, is essential.

Two articles conclude the issue. Both, by different means, propose mechanisms for dealing with budget shortfalls. In one, the authors illustrate the inadequacy of current cutback management strategies to address significant revenue shortfalls. They have designed what they call a political budget matrix that would help budget policymakers and staffs make educated assumptions about the way categories of programs could be treated during times of severe fiscal stress. The other presents a comparative analysis of the processes and strategies that public sector organizations use to implement retrenchment in the face of continued budget shortfalls. The authors focus on the governments of the fifty states and public institutions of higher education in the nine northeastern states. They conclude that the difference among these institutions in their approaches to retrenchment could be attributed to the differences in organizational culture.

This Editor's Note drew heavily from Nancy Goff's summary of the proceedings of the Amherst conference.

Access to Capital and Technical Assistance

Richard J. Ward, Ph.D.

This article summarizes and analyzes the views of select leaders in business, labor, banking, the government, and academia with regard to the constraints, obstacles, and recommendations to achieve economic growth in Massachusetts. The role of the state government in addressing these issues receives special attention. Access to capital and technical assistance had been regarded by many as the key constraint, particularly during the recession of the early 1990s. The author analyzes inconvenient government systems, bottlenecks, and bureaucracy as throttling the flow of capital to small-business entrepreneurs. The analysis concludes, however, that unless the state cum federal government finds ways to improve the macroeconomic environment, the incentives to invest, expand, and venture will not prove adequate in comparison with the risks. Among other questions, the article asks, In the absence of dynamic and pervasive state policies and programs to improve the state and regional macroeconomy, can the private sector alone stop the investment drain and bring back full employment to Massachusetts and New England?

In the face of poorly performing national and state economies, business access to capital and technical assistance is a critical area of concern. The number of bank failures in recent years and overall vulnerability of the banking system in many states, exacerbated by the sharp drop in value of the extensive real estate assets held by banks, combined with the aftermath of the national savings and loan crisis, forced banks to tighten credit, call loans, and reject potentially creditworthy business loans. The result was the so-called capital crunch.[1] In Massachusetts, the president of the Boston-based Federal Reserve Bank, along with many CEOs of Massachusetts banks, also blames Congress, which pressed regulatory agencies (Comptroller of the Currency, Federal Deposit Insurance Corporation, and the Federal Reserve System) — hence bank regulators — to pursue the practice of forcing all New England banks to cut back on loans to creditworthy borrowers.

Despite these official acknowledgments of the squeeze on loanable funds available to business, some bank CEOs, while sharply criticizing the role of insensitive and rigid out-of-state regulators in stiffening loan/asset ratios and collateral requirements, still

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maintain that their institutions have adequate liquidity (low loan/asset ratios), but that the real problem is one of severely limited volume of financially viable loan projects from the private sector.

In this context, the commonwealth's Office of Economic Affairs, in cooperation with the University of Massachusetts, sponsored regional conferences to engage representatives of local, regional, and state agencies and private-sector financial, industrial/commercial leaders, investors, and marketing specialists in the topic "Ensuring Access to Capital and Technical Assistance."

The conclusions and recommendations derived from several topical conferences around the state provided inputs to the state's strategic economic development plan for the future. The focus of concern for the business community, and in terms of the economic progress for the state as a whole, was primarily on what role state agencies or public-purpose institutions generally might play in stimulating the state economy and, in one specific conference, in filling the gaps in access to capital and technical assistance for the state's business community. This assessment summarizes the views of the business and political representatives, as well as the one expressed by specialists in some of the contemporary literature of reports with respect to the difficulties perceived in accessing capital and technical assistance, recommends a role for the state and its agencies in improving access, and finally, addresses the issue of the role of the state in promoting an economic climate in which both financial institutions and private-sector entrepreneurs can operate more profitably and comfortably with each other.

Critique of the Current Development Environment

The Massachusetts business community, particularly small-business entrepreneurs, venture capitalists, and potential business and financial investors in new or expanding enterprise, has been highly critical of various banking practices. It has alleged that banking practices of late have contributed to the following perceptions:

1. The role of regulators in clamping down on the banks after the horse got out of the barn has been negative. The banks could least afford the stringent requirements during recession, regarding what they were allowed to accept as collateral. Local bankers knew the character and expertise of their clients and should have been allowed to make their own judgments as to the creditworthiness of those clients. A period of house cleaning has dominated the financial institutions, and internal problems, reorganizations, and personnel shifts put a halt for a time to most small-business lending.

2. During the recent recession, banks lost their appetite for tax-exempts, found public-fund deposits dried up, and feared loaning to business. They called in good loans to meet new loan/asset standards, even rejecting sound collateral and good risks. In a number of instances, regulators downgraded or rejected firm receivables, land, and other loan collateral, placing constraints on business opportunity and growth.

3. Working capital is the most critical need for small business. Even as owners have sold their homes to provide such capital, participants felt that banks have not been forthcoming. Lack of such capital forces smaller companies to reject profitable bids on projects, turning away business. This is perceived to show both a lack of creativity and a lack of commitment to the business environment on the part of bankers.

4. Large banks in particular turned away from smaller, more costly loans. There is a need for loans from $10,000 to $50,000 or even $150,000, but the large banks shun these smaller loans as not being worth their time and expense. The minimum amount banks would like to loan is $250,000, but they would prefer and seek to negotiate loans of more than $1 million; that is the lament of small-business people who require less capital.

5. The desperation for smaller-business borrowers has been heightened by the decline in the value, hence equity, in their own homes, as well as decline in other sources of public or private venture capital. In this climate, small-business owners have been burdened with high-cost "loan shark" credit or rescued by prominent and sympathetic local businessmen, who provided credit from their own company resources on concessionary terms. Banks, which need more flexibility in the requirements they set for small business, must provide more asset-based lending and accept receivables as well as the reputation and known character of borrowers against good-risk loans.

6. Banks have failed to provide adequate technical assistance services in preparing loan applications or improving business plans and financial statements. They lack outreach and guidance in their approach to loaning to small entrepreneurs. More mentoring and follow-up with business borrowers is needed, more visiting places of business and acting as genuine partners in promoting the success of their borrowers.

7. Technical assistance may well be widely available through incubators, small-business development centers, or other public agencies, but it is not readily transmitted to those who need it. The many state quasi-publics and local community development corporations (CDCs) and municipal or other community development agencies may be there, but small-business owners seeking such help find it difficult to connect meaningfully and cost-effectively with that technical assistance. Often, small operations go bankrupt for lack of know-how in rescuing their companies or see their product or marketing ideas die for want of knowledge about accessing the expertise.

8. Some entrepreneurs acknowledge that capital can be acquired, but stress the time-consuming tenacity necessary, in the nonpromotional or nonforthcoming climate of the financial community, for small-business owners to get the capital they need.

9. Bank participants declared their commitment to the lending process and stressed the constraints under which they have been operating, but also pointed to the lack of professionalism in loan applications, business plans, balance sheets, and sometimes expertise, of prospective borrowers. It is not cost effective for them to provide all the technical help that business borrowers need, suggesting that such assistance must come from other, probably public sources. Others recommended that more mentoring be provided, not only from banks but from mature companies — to their smaller suppliers, for example — and from numerous public and quasi-public institutions at the municipal, regional, and state levels.

10. Venture capitalists are critical of the withdrawal of banks from cooperating with them in filling the gaps between the equity capital they provide and the full financial needs of new, promising ventures. A study reported that of 848 banks surveyed, only six

reported any interest in lending to high-technology firms.[2] This inhibits the role of venture capitalists.

The Role of the State in Promoting Development and Capital

Direct Role

State governments must be aware that when businesses within their borders realize lower returns on capital relative to alternative returns for banks and venture capitalists, capital seeks higher returns in out-of-state investment. States should assist in offsetting this differential by making available to business — small business in particular — through a variety of public and private institutions, including banks, more liberal access to working and equity capital. However possible, the state should galvanize these organizations to facilitate loans and technical assistance to business. For example, Massachusetts, like most states, has a long list of quasi-public institutions that provide developmental assistance.[3]

States should be more forthcoming in making vast pension fund resources available for venture capital through these agencies and in partnership with existing private venture capital firms, while guaranteeing protection to pensioners. For instance, the Massachusetts treasurer announced a program designed to utilize such funds for affordable housing for low- and moderate-income families. A small percentage of state pension funds could pump $200 million into assisting expansion and new ventures in business, with Michigan and Pennsylvania serving as models.

Michigan allocated 5 percent of its $6 billion public pension fund in partnership with private venture capital firms. The Michigan Treasury Department identified potential start-up companies with promise and committed $300 million to venture seed capital toward assisting the development of new companies. Similarly, the Ben Franklin Partnership Fund of Pennsylvania provides challenge grants or seed money — $5,000 to $100,000 — for research and development, advanced technology, and start-up companies, grants of up to $35,000 to small companies for new product or process development, and seed venture capital funds for working capital and technical assistance for incubator companies.[4]

States could channel some of these funds through the quasis to local banks, incubators, or community economic development offices, enabling them to provide capital and technical assistance to small businesses in their areas. Such funds could also be used to buttress (ensure) collateral support for small-business loans, for example, guarantees against firm receivables, through local banks.

State agencies or quasis should be prime facilitators in providing technical assistance support at local levels, through local incubators, assisted by Small Business Administration bodies, since banks seem to be unable to aid in loan or business plan preparations or in identifying gaps in small-business expertise needed to render business viable.

Provide grace periods on capital gains taxes during start-up of small businesses and other forms of tax relief during development stages, such as relief on workmen's compensation, unemployment insurance, medical costs, and other costs of doing business, where safe and sound state criteria can be met.

Compare commonwealth tax-exempt bond programs with those of other states for effectiveness and improvement. For example, New Jersey has a tax-exempt bond program (private activity bonds) providing low-interest loans of up to $10 million to manufacturers and nonprofits for funding fixed assets, working capital, and loan guarantees of conventional loans up to $1.5 million. New Jersey also provides working capital loans — a revolving line of credit of up to $250,000 per export contract — to promote export marketing.

States can effect reductions in long delays in handling business loan or other assistance proposals, as well as in payment of their own bills to small businesses. Actions through some state agencies and quasis can allegedly take months — far too long to accommodate short time lines and working capital constraints of small-business owners.

Grant more protection for providers of capital to guarantee safe exit of investors from their commitments with close to expected returns. Streamline approvals and turn a more empathetic system toward the service of suppliers of capital. Current regulations inhibit safe return to local venture capital funds, owing in part to the drain of local funds to capital cities and even out-of-state banking institutions. Remote transaction modes put local venture capitalists in vulnerable positions.

Link tax (reduce bank tax to corporate rate) or other relief measures for banks to increase loanable funds and establish a guarantor program for small business or sound start-ups (don't expect banks to provide equity; they are moneylenders).

More forceful use of link deposits (state bank deposits) to encourage banks holding such deposits to offer loans for developmental purposes. States could set up performance measures by which to judge the status of particular banks with respect to the development impact of bank activity. For example, Illinois, through its link deposits, encourages minority business loans; California presses energy-conservation loans; Ohio links its public deposits to institutions inclined to consider loans to small business favorably.

A persistent and pervasive need, as indicated by Massachusetts conference participants, was for simplification and localization of all state and federal services. Small-business owners, in particular, direct their strongest criticism to the absence of one-stop shopping at the local level for their capital and technical service needs. The services of state agencies and quasis, as well as loan services, tend to be Boston-based and so diversified as to confound their efforts to gain sympathetic support for their proposals, projects, capital, and technical assistance. There is a critical need for the state to move its agency and quasi representatives out to the local communities through local bodies such as small-business development centers and other community development organizations or local banks, so that business professionals can gain the information they need locally and from one source. Massachusetts has responded effectively to this recommendation by localizing some of its services to small business, as discussed below.

Indirect Role

Assist banks to localize regulatory function of federal agencies; it has not helped local banks to have "inexperienced and insensitive" regulators and examiners reviewing their portfolios and bank practices. Massachusetts banks were reviewed by regulators from Iowa! "Local," in this case, does not meant from Boston, but agents closer to the regions who understand the areas' special needs, business, and banking practices and tend to grant local CEOs more discretionary management of their credit systems.

The cost of doing business in Massachusetts remains unfavorable in the eyes of business; the state could continue to press through legislative action or moral suasion measures that will reduce costs, that is, workmen's compensation, insurance costs, utility, energy costs, disincentive taxes, while providing tax relief or incentives for investment to produce real growth in the economic base of the state. As to the tax burden, Robert Tannenwald has indicated in his studies that of all of these, only Massachusetts taxes are not out of line with its competitor states.[5]

Urge the banking system to be more aggressive in carrying out the Community Reinvestment Act (CRA), as applied to business. Many banks still hold back. Federal funds can help. For example, U.S. Department of Housing and Urban Development (HUD) Community Development Block Grants are being used by cities to complement and stimulate bank loans to small businesses in economically depressed areas. This includes technical assistance subsidies, direct loans, and loan guarantees. Matching funds from banks are being used for microenterprise loan pools managed by CDCs. HUD also provides, through private contractors, training, technical assistance, and business development activities with a goal of requiring bank involvement.[6] New federally urged geocoding of small-business lending is there to assist the process.[7]

In a review of ten banks in southeastern Massachusetts, for example, examiners rated three outstanding and seven satisfactory (reported at length in the *New Bedford Standard Times*, July 26, 1992). However, not all area business community personnel would agree with all these ratings. The state has an economic (and political) stake in the rating of these performances and should play a proactive role in mobilizing bank activity under the CRA rules in local banks around the state.

Tax increment financing (TIF) is proposed by some Massachusetts industry groups as a means of bringing private-sector needs and the necessity for more jobs and taxes together through public-private partnerships. TIF permits the amortization of revenue bonds issued by the municipality to fund development paid for by taxes generated from the project. Forty-one states already have this legislation, but Massachusetts is not one of them.[8]

State agencies could more aggressively assist local institutions and businesses with knowledge and technical assistance in obtaining federal grants, loans and accounting, bonding assistance, export marketing, legal advice, and special expertise needs. It was anecdotally said that since localized services are readily available for welfare recipients, why can't they be for business?

An example of federal, state, and private-sector cooperative efforts at development is the New York/New Jersey Regional Alliance for Small Businesses. This combines technical assistance inputs from senior officers of private-sector firms with direct loans and loan guarantees from government sources to complement and encourage loans (debt) provided by cooperating banks. Cities help by pledging funds from HUD Community Block grants.[9]

Catalyze private-sector suppliers, especially those in economically depressed regions, by providing incentives for business to supply infrastructure needs like parking garages, industrial park construction, public works commitments on buildings, roads, and other infrastructure, as well as provision of office materials and supplies for public offices and functions. The state voucher system could be expanded to channel this type of business to depressed area suppliers. For example, to the extent feasible, the state bodies highly concentrated in Boston could direct more of their supply orders to firms in other economically depressed localities in Massachusetts. Combining this with large corporations' additional mentoring of their small suppliers in times of distress could sustain many companies during periods of deep recession.

Reach out to county, municipal, and local government bodies to help remedy and reduce costs of complying with regulations, codes, zoning factors, permit systems, fees, licensing requirements, and other obstacles that inhibit doing business in their respective areas.

Make a more significant commitment to higher education in the state, which ranks among the lowest in the country in support of its public system. The quality of the workforce, skills needed, and research results available for business development is directly affected by the quality of the graduates of the public system. This quality has been deteriorating in recent years and state support is critical to turning it around.

In addition to general support for quality faculty, services, and research efforts, the state could initiate industry-oriented industrial parks, incubator-type facilities, health service and health research projects, or centers on or near university campuses. As one source puts it, "States with significant university R&D venture capital and highly skilled labor have the most potential for implementing a successful competitive strategy based on entrepreneurial new firms."[10] A number of campuses have extensive unutilized acres for these purposes. Some university locations could also serve as the one-stop coordination centers for area or regional businesses, under the aegis of the state offices of economic development. One such office, formerly located in Boston, was officially opened by the commonwealth in July 1994 on the campus of the University of Massachusetts Dartmouth. It has a budget of $1 million and projected staff of five to six professionals. Four other such regional offices are being established by the state to bring information on access to capital, technical assistance, and other matters relevant to business — for example, land availability, regulations, export markets, and so forth — closer to the source of the need.

Many models or prototypes at universities around the country could provide the information leading to such mutually beneficial activity between the needs of business and the research potential of higher education. The Research Triangle near the University of North Carolina, the industrial park at Syracuse University, and many others could be replicated in a large number of states.

Once this positive business environment has been put in place with the help of the state, based on a proeconomic development structure of taxation, state and local agency and quasi-publics' support of business, there could follow an active effort to disseminate far and wide that affirmative image as the reason companies should locate in a particular state. Until the positive business climate measures are put in place, however, that invitation will not be very persuasive.

States should avoid duplication of agencies and personnel. It was perceived in Massachusetts that no new agencies or bureaucratic infrastructure are needed to carry out the above improvements in the business environment; the state can utilize existing institutions. In a sense, the current system of service to business is both distant and choked up. It has been likened to the man in the hospital bed, gasping for breath, trying to speak, his eyes wide. His visitor leans over to listen better, only to hear a barely audible whisper: "You're standing on the oxygen hose!"

The economic plan for the state should project to a strategy for implementation at the regional and local levels by empowering local institutions and especially local community leaders and people at that level, not as directives from the state. The state should steer but not row the boat. A state plan without a localized implementation strategy is guaranteed to fail. Models for such implementation abound in states around the country. Pennsylvania, Michigan, New Jersey, Minnesota, North Carolina, and others provide examples of successful implementation and empowerment of the private sector through state guidance.[11] A microcosmic model for such empowerment is Baltimore's Life Sciences Vision, which mobilized the resources of the business community — developers, bankers, business leaders, and other interest groups — to produce a highly successful business climate.[12]

It is the localized focus and convenient availability and implementation of these technical assistance measures, services, and information — hand holding, if you will — and its link to more empathetic sources of capital that the business community sees and feels acutely is part of the cure for this problem.

Obligations and Impacts of the State Role

Some private-sector leaders are concerned about the degree of involvement by state government in directly affecting private-sector business or investment decisions. Should the public sector be investing tax dollars to support private business? What effect do state decisions have on assistance to the private business sector? Do they provide unfair competitive advantage to some, denying it to others? Does the state have a mandate to take risks that should essentially be taken by the private sector? Taxpayers consider technical assistance to private-sector companies a hidden cost of doing business. Are they obligated to pay these costs when such public subsidies seem to help certain eligible firms and not others?

The answers to these questions are that the state is obligated to provide services to businesses that pay taxes. While its constitution precludes the state from investing directly in private enterprise, it can and should stimulate private-sector investment aggressively through the medium of state agencies and quasi-public institutions. Moreover, the state must recognize the economic, social, and political costs of failing to assist private businesses, which generate the tax revenues to support myriad other necessary services and the public infrastructure needed to support society. The following statement concerning the state's role in acting to promote economic growth aptly summarizes the views of many:

> State government can be the major force that determines whether this growth is retarded or accelerated. The most effective way to accelerate the creation of jobs by the private sector is for the state government to provide laws, infrastructure, and incentives and to assist in the financing to aid that growth. State policies which facilitate and stimulate technology transfer from our world-class universities, and commercialization by our businesses will absolutely foster industrial growth and jobs creation.[13]

State Role in Recession: Low-Confidence Environment

The greatest constraint on private investment and economic growth has been the recent recession and the general deficiency in overall spending and demand for durable products, nondurable products, and services. Repeated Federal Reserve reductions in the interest rate have not turned pessimism into unalloyed optimism as far as Massachusetts workers and consumers are concerned. Some bankers have detected positive signs in improvement of loan applications and the business climate. The Bank of Boston's $3 billion special loan fund for business reported receiving 3,000 loan applications, while some financially untroubled local banks claim to have plenty of liquidity for loaning and are seeing better business-loan prospects coming through their doors.

The mergers of New England banks in the past few years, and the mergers with national banks to come, will also have a dramatic impact on the availability of loan funds for business, though not necessarily for small-business loans. Loaning will become much more depersonalized as the sources of funds and approval become more distant from localities.[14] It has also been said that the lack of geographical diversification has often proved fatal to banks. Said one source, "During the 1980s, nine of the ten largest Texas banks failed because of concentrated exposure to their own state's economy. In the late 1980s ten of the largest New England banks failed because of concentrated exposure to their regions' economy."[15] Also, concentration of portfolios on single-industry areas, for instance, real estate, produced disastrous results in Massachusetts. Diversification geographically and by industry seems to be the way of the future; in this way banks increase enormously their loaning capacity and ability to accommodate the bad loans with more access to loans with favorable risks.

At the same time, with many new financial loaning institutions arriving on the scene, brokerage houses, insurance companies, commercial finance/factoring firms, leasing companies, suppliers, venture capitalists, and even giant retail chains, which are allowed more flexibility in loan practices than banks — loans to small business are likely to become less attractive to banks. This process could be accelerated should the federal government secure the small-business loans of all these quasi-financial firms through the "Velda Sue" legislation (Venture Enhancement and Loan Development Administration for Smaller Undercapitalized Enterprises).[16] These trends could become confusing to small-business owners and aspirants; it will be essential for the appropriate state agencies to be readily available to assist business borrowers in ascertaining to which sources of capital small-business borrowers can best gain access.

Many states are still a long way from being out of the recession. For example, in the fall of 1992, the Conference Board's Consumer Index had dipped to 61 percent nationally, but by July 1994 had risen to 91.6 percent; yet the Confidence Index for New England in July 1994 was a low 57.5 percent. Based on 1985 = 100, it reflected the uncertainty and even fear that pervades the general public in New England about the direction of the economy and the security of their jobs.[17]

This makes it difficult for business investors, banks, and other New England suppliers of capital to feel comfortable with the prevailing risk environment. If people are not buying, it is difficult to launch and promote incentives to invest that are inevitably tied to forecasts of final product sales. Entrepreneurs do not want to borrow and bankers resist lending, even at what seem to be highly favorable costs of capital, if the expectation of survival, let alone profit, is in question.

Neither the federal nor state governments can ignore the insufficiency of demand (markets) as a significant source of the jittery prospects for private-sector investment in New England. At the height of the recession, close to 10 million people were unemployed nationally. The numbers who left the workforce or were underemployed were unaccounted for. The recession hit New England particularly hard, owing to the spillover effects of the national decline in manufacturing and the significant manufacturing orientation of the region.[18] Even in 1994, Massachusetts manufacturing firms were still downsizing or closing. With millions unemployed nationwide and continuing losses of jobs in Massachusetts, state government may have to focus on measures to stimulate demand before incentives for stimulating investment (hence supply of goods and services) can become more effective.

Pertinent to the themes raised by area business leaders, one hundred leading economists, including six Nobel laureates, urged the federal government to spend $50 billion a year on investment. This proposal was strongly supported by leading business CEOs around the country. The president and CEO of Sematech, Inc., a semiconductor firm, urged the federal government to invest in technology, research, and start-up prospects; the president of Tenneco, Inc., urged federal use of the peace dividend from defense savings to invest in infrastructure — airports, bridges, rail networks, education, training for skilled jobs, and investment in new fields of technology that promise the greatest growth; the CEO of Thermo Electron Corporation urged government to recognize the value to the private sector of government investments in the aerospace and defense industries, which paid great dividends in the fields of computers, energy, commercial aviation, and the environment, and to switch these funds to investing in new channels of private-sector research and technology development; prominent economists urged utilization of the idle capacity of the many technology firms to carry out federally funded research (formerly supplied by defense industries) for future growth.[19]

The state role in raising consumer confidence and spending, hence demand, may also have to include more direct measures by the state to invest in the following ways.

1. Seeking out every possible source of federal assistance applied to ongoing state programs in housing, enterprise zones, defense niches, HUD programs available to states, highway funds, construction of federal buildings or facilities, and harbor development. For example, speeding up already approved federal spending on the complex and occasionally stalled Boston Harbor project, the new federal courthouse in Boston, federally funded highway construction or improvements, the partially federally funded research-oriented laboratories and planned technical center buildings at our state universities, the numerous federally funded training programs, some already approved for Massachusetts, others needing to be sought after. The state's congressional delegation could be more strongly pressed to identify all federal sources of funding for state programs and activities. Massachusetts representatives are often preoccupied with issues, often international, which, while important in themselves, seem to have little to do with promoting the economy of their home state.

2. The state government could be more aggressive in committing funds to desperately needed infrastructural improvements of roads, bridges, transportation, health, and other sector improvements that can be made now at lower costs than will be the case when the economy — and prices — recover. For example, in fiscal 1993 the state of Massa-chusetts made use of $1 billion in federal highway and construction funds and expects to use about $700,000 million in federal aid for fiscal year 1994, much of it for the new road and tunnel complex through Boston. The state government committed over $100 million of the 1992 fiscal year surplus to accelerate spending on road and bridge repair projects. More of this type of direct job and demand stimulation is necessary and should have been aggressively implemented early in the recession. State economic plans should not hesitate to recognize the inadequacy of monetary policy alone to resolve the staggering economic performance that plagued the recovery in many states and in the country at large.

All these endeavors are necessary; they are not and should not be simply make-work. They represent refurbishing the seriously deteriorated infrastructure of facilities and services in the state which, when carried out, contribute to more cost-effective functioning of the private sector. Such investment is still needed and still lagging in implementation.

More directly to the issue of access to capital and technical assistance, these commitments of federal and state funds will provide jobs, revive spending on goods and services, generate taxable income to the benefit of the state budget, and by raising confidence, spur both private investors and banks to cooperate in a climate of better prospects for returns on investment for both borrower and lender. If the state economy continues to bump along far below levels expected by the public, by bankers, and by private investors, the issue of access to capital and technical assistance issue remains moot.

The "capital crunch" or credit shortage evolved from the recession, which was characterized by the sharp decline of durable and nondurable manufacturing in 1988, the savings and loan debacle, and the attendant collapse of value in banks' real estate portfolios. New England's manufacturing and its banks were hit particularly hard by each of these. A by-product of this phenomenon was the widespread criticism, elaborated here, among area business leaders of the deleterious role they perceived the banks and the state played in shutting off avenues to credit and technical assistance to existing and prospective business borrowers.

While bankers acknowledged mistakes in handling the problem, they also suggested that the soundness and qualifications of many loan applications and applicants, the extreme uncertainty of projecting favorable returns on investment in the recession climate, plus the jittery pall cast over the banking system by the S&L crisis, produced an atmosphere of intensified regulation — many said insensitively administered — by national agencies and justifiable caution by bankers. Bankers continue to aver that they have not been opposed to small-business loans and, in fact, insist that "80 percent of the borrowers in any given bank portfolios are small customers."[20] (Many of these, however, include nonbusiness borrowers.) Business leaders also criticized the state government for not being more responsive to assisting small businesses to overcome the credit crunch by promulgating both direct and indirect policies and practices to improve the Massachusetts business environment.

This article elaborates a considerable number of direct actions the state could take within its province, as well as indirect actions to promote a more favorable economic climate, and various incentives that could reach out to regions and institutions within the state that could assist small-business owners. Many business leaders feel that the state should take an even more responsible role in improving the Massachusetts economy so that the prospects of profitable investment will make it easier for providers of credit to respond to loan requests. A state with an anemic economy is in direr need of economic recovery than of credit. The state, it is believed, cannot simply wait for the federal government to bail out its economy; the state must seek and obtain constructive federal aid and programs wherever possible to contribute to a more vibrant level of economic activity. The state's own plans and policies should intercede dynamically to promote full employment evenly spread to cities, towns, and countryside by stepping up its own budget allocations and facilitating access to information and sources of funding for small-business borrowers.

Having elicited views from business leaders, the state and banks have demonstrated some responsiveness to critiques by increasing access to pools of small-business loan funds and establishing agencies that bring information and guidance to small businesses in the localities where they operate.

The rapidly evolving trend toward mergers, consolidations, and geographic industry diversification will undoubtedly strengthen and enhance banks' loaning capacity for both large- and small-business borrowers. Yet owing to the vast and still-growing loaning capacity of new nonbank institutions, which are not bound by typical banking regulations and boundaries, plus the willingness of the federal government to approve legislation to secure nonbank loans and the trend toward nonlocal, depersonalized network banking, the small borrower faces even more complexity and perhaps indifference from the banking industry of the future. This is all the more reason for the state to play a more active role in facilitating access to capital and technical assistance for small business through localized agencies staffed to provide hands-on information and guidance that lead entrepreneurs to the source or courses of capital and business expertise relevant to each particular loan case and process. Massachusetts has undertaken the establishment of one-stop advisory offices around the state and making the numerous quasi-public agencies more approachable.

At the same time, given the continuing lag in the regional economy, with massive layoffs by many large companies — Digital, AT&T, merging banks, defense-dependent industries and bases — and the chronic levels of high unemployment in some New England cities,[21] the state should continue to play an aggressive role in bringing its economy back to a higher level of prosperity and employment so that entrepreneurs can forecast more likelihood of profits in their business plans. This in turn will attract lending institutions, including banks and venture capitalists, to provide the requisite capital. The state has gradually stepped up its role in fostering economic activity by, for instance, allocating highway funds to localities around Massachusetts and working with educational institutions to promote federally funded regional training programs and manufacturing partnerships. Banks, state governments, and increasingly, nonbank financial institutions must be far more cooperative and proactive in meeting the needs of businesses that seek to commence, to expand, to innovate, to contribute their entrepreneurial skills and the resultant job creation they can bring to society. Some real progress is being made in response to frustrations and criticisms voiced by business leaders who were in the throes of recession doldrums. The state government, including the legislature, received the message from the business community and has taken steps to meet at least some of the demands of small business.[22]

The banking community, for its part, is enthralled by its own consolidation and diversifying transformations, which may or may not produce a more abundant and friendly credit environment. Yet especially in New England, and certainly in Massachusetts, there is much more to be done to localize credit and technical guidance to small businesses, to bring in the rapidly growing nonbanking financial institutions in this process, and to stimulate the state economy vigorously to foster an economic environment in which creditable investment and job seekers at all levels can gain their just rewards.

Notes

1. Joseph Peek and L. Rosengren, "The Capital Crunch in New England," *New England Economic Review*, May–June 1992. In contrast to the recent recession-driven capital shortage crunch, the mid-1970s saw a significantly inflation-driven capital shortage. See Richard J. Ward, "The Capital Shortage for Innovation," *Business and Economic Perspectives*, Fall 1976, 9 ff.

2. Technologic Partners, *ComputerLetter*, March 23, 1992, 1. The National Venture Capital Association reports that the 401 companies in its database created 58,000 skilled

jobs in the United States between 1985 and 1990, which required 30 percent less equity per job to create than positions in Fortune 500 companies. They also paid $610 million in taxes. See Coopers and Lybrand, "Second Annual Impact of Venture Capital Study, Executive Summary," n.d.

3. This is only a partial list of Massachusetts development-oriented organizations. Local business personnel are not familiar with all of them, nor with their specific functions and how they can help them. Local small-business development centers or regional bodies could provide this information. Descriptions and functions of these organizations can be found in Lynn Griesemer, "A Legislative Guide to the Massachusetts Quasi-Public Corporations" (Amherst: Donahue Institute, University of Massachusetts, 1989).

4. From an excellent report, "Biotechnology Industry Needs in the 1990's" (Cambridge, Mass.: Forest City Development, January 1992), 30.

5. Robert Tannenwald, "Massachusetts' Tax Competitiveness," *New England Economic Review*, January–February 1994, 31–36.

6. Jerome Groskind and Marcus Weiss, "Regulators Turn Up the Heat on CRA Compliance," *Bankers Magazine*, May-June 1990. See also Weiss et al., *Community Reinvestment Act:How to Implement Your Bank's Program* (Austin, Tex.: Sheshunoff Information Services, n.d.).

7. *CRA Bulletin 1*, no. 10 (July 1992).

8. Ibid.

9. Forest City Development, "Biology Industry Needs," 25.

10. Patricia M. Flynn, "Technology Life Cycles and State Economic Development Strategies," *New England Economic Review*, May-June 1994, 24.

11. David Osborne and Ted Graeber, *Reinventing Government: How the Entrepreneurial Spirit Is Transforming the Public Sector* (Reading, Mass.: Addison-Wesley, 1992). See also other state experiences provided amply in Forest City Development, "Biotechnology Industry Needs."

12. Walter Plosila, president, Montgomery County (Maryland) High Technology Council, "Reconfiguring Economic Development in Massachusetts: Catching the Third Wave," remarks made at a conference, University of Massachusetts Dartmouth, June 30, 1992.

13. Forest City Development, "Biotechnology Industry Needs," 16.

14. Larry A. Fried and Robert D. Hedges, Jr., "The Emerging Bank Consolidation Landscape," *Bankers Magazine* 177, no. 4 (July-August 1994): 20–31.

15. Jean E. Le Grand, "Diversity: Strength in Numbers," *Bankers Magazine* 176, no. 2 (March-April 1993): 65.

16. Cynthia A. Glassman, "The Erosion of Banks' Role in Financing Small Business," *Bankers Magazine* 177, no. 1 (January-February 1994): 52–55.

17. Source: Conference Board, New York, Fall 1992, July 1994.

18. Katherine L. Bradbury and Yolanda K. Kodrzycki, "What Past Recoveries Say About the Outlook for New England," *New England Economic Review*, September-October 1992, 21.

19. *New York Times*, July 10, 1992.

20. "Growth Conference on the Massachusetts Economy" (hosted by Governor William Weld and Senator John Kerry), World Trade Center, Boston, January 28, 1991, 77.

21. Unemployment in New Bedford had reached 17.3 percent in January 1994, although it was still 10.2 percent in April 1994; for Brockton, Lawrence/Haverhill, Springfield, and Fitchburg, the rates were at or above 7 percent. See Department of Employment and Training and Federal Reserve Bank of Boston, *New England Economic Indicators*, June 1994, 13. One must also remember that many of the unemployed are overqualified for the low-skill, low-paying jobs they have been forced to accept in the current environment.

22. Various regulatory reforms, tax relief measures, and tax credits for industry-sponsored research at Massachusetts educational institutions, as propounded in the William Weld–Paul Cellucci *1992 Economic Growth Plan* of January 1992 have been carried out.

Improving Education and Training for Economic Development

Joan McRae Stoia

This article explores the connections between workforce quality and economic prosperity, as well as the role of the Massachusetts education and training system, in developing and preserving that quality and supporting the state's key industries. It includes a review of the most recent employment trend and projection data available from the Massachusetts Department of Employment and Training, information about several business-based workplace education models, and a discussion of the specific education and training needs of workers across the age/skill continuum. For the purpose of this discussion, the education and training system are broadly defined to include existing public, private, and quasi-public agencies and programs, educational institutions, and independent business and community efforts.

Twice during the past fifteen years, the Massachusetts economy has struggled through periods marked by the decline and disappearance of key elements within its manufacturing sector accompanied by tremendous job losses, particularly among older workers. In the late 1970s, many experts and policymakers viewed what was occurring as an inevitable shakeout among hundred-year-old industries that were no longer either competitive or relevant to the state's new economic destiny. The terms used to describe what was happening — "evolution" and "restructuring" — reflected a belief that the changes, though tragic for individual workers, were natural, inevitable, and of a kind Americans had experienced previously. It made sense, this old making way for the new. Even if we had not actually seen it coming, when faced with the need to change we would simply substitute a new generation of goods and services produced in high-tech environments with smarter workers. At least two assumptions informing that response have proved to be false: one, that there would always be enough qualified people to satisfy our manpower needs, and two, that it would take a long time for the new industries themselves to become "mature."

The recession of the early 1990s challenged another assumption — that the new high-tech environments were immune to the kind of disruption experienced by traditional industries. Of the hundreds of thousands of workers to lose their jobs owing to continued restructuring across industries, many were midcareer professionals. Their trou-

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bles are an indicator of how closely global economic forces and the human capital of each individual worker have become intertwined.

A number of innovative programs emerged in the state during the 1980s to ameliorate the suffering of individual workers and stabilize struggling businesses. Programs to help dislocated workers update skills and start new enterprises, to train young people in emerging technologies, to help companies identify sources of new capital, to help the poor become economically self-sufficient, and to create partnerships between businesses and universities formed an education, employment, and training network.

Over a decade later, this loose confederation of schools, employers, government agencies, private contractors, colleges, and universities is still in business. Hard times in the old and uncertainty in the new industries and recurrent periods of contraction and worker dislocation suggest that there are no once-and-for-all solutions to economic problems. We are beginning to realize that there is no particular magic in any one set of industries, but that the answers may be as much in the "who" (workers and managers), the "how" (the way work is organized), and the "where" (a sharply competitive global playing field) as in the "what" (goods and services).

Training and education initiatives that enhance the knowledge base of workers, increase the sophistication of managers, improve quality and productivity, and expand the range of technologies available to businesses are some of the means by which Massachusetts, faced with the worst business climate in a decade, might better manage and ultimately achieve mastery over what we have come to recognize as continual and accelerated industrial change.

Past Trends and Future Directions: A Review of Massachusetts Employment Data

A comparison of employment figures for 1983–1993 published by the Massachusetts Department of Employment and Training (DET) tell the recent occupational and industrial history of the commonwealth and illustrate some of the challenges it faces.[1]

During the entire period, employment in the state's traditional manufacturing sector fell by 30 percent. In contrast, high-technology manufacturing and service sector employment grew by 27 and 26 percent, respectively. In 1984 the government began reporting on a new high-technology nonmanufacturing sector in which the number employed increased 28 percent, representing more than 97,000 workers, by 1993.

Between 1983 and the beginning of the last recession, Massachusetts industries performed well, exhibiting a 16.1 percent increase in overall employment. Construction, finance, insurance and real estate, services, and trade posted the largest gains; within services, health was among the strongest performers. Not even the prosperity of the so-called miracle years could alter an overall downward trend in traditional manufacturing. By the late 1980s, the entire state economy, except for services and high-technology nonmanufacturing, was headed in that direction. Overall, about 300,000 jobs were lost during the recession.

According to DET sources, Massachusetts has regained 150,000 jobs in the last eighteen months. Growth among small and midsize companies in the computer software and hardware, subassemblies and components, telecommunications, environmental, and biotechnology industries and successful diversification into these areas by larger firms is responsible for the positive trend.[2] Much of the increase in employment is attributable to the reabsorption of midlevel managers and other high-skill individuals as consultants or "contingent" workers.

The Massachusetts economy relies on two kinds of workers — high-skill "knowledge workers," whose investment in postsecondary education and training pays high dividends, and low-end service workers, whose jobs require few skills and pay little. Because industries drive jobs, growth in high-technology manufacturing and high-end service industries such as health and business services, as well as pressure for productivity improvements in finance, insurance and real estate, and retail and wholesale trade that use this technology, has created a demand for individuals with sophisticated skills.

In the future, slower job growth is anticipated among most sectors along with further deterioration in traditional manufacturing. Tomorrow's firms will most likely exercise caution before adding new staff. Cost containment and concerns over future legislative action have already slowed and in some cases had a negative impact on employment in hospital-based health care. However, the aging of the population and continued pressure to reduce overhead are expected to contribute to expansion in non-hospital-based services. Biotechnology, in which a number of firms have cut back on "new discovery" research in favor of commercializing existing products, may eventually be affected by health care reform. Concerns over hazardous waste disposal will fuel the environmental industry, and expansion into foreign markets will further drive telecommunications.

Workers with the highest educational attainment levels will continue to benefit from these trends. The recent, though perhaps relative, success of many knowledge workers at recapturing jobs, either in new cutting-edge industries or in traditional industries seeking cutting-edge strategies for remaining competitive, is indicative of how advanced education and training are functioning as the new "safety net."

Unfortunately, that net will also be a barrier to those at the other end of the education and skill continuum. Increased productivity, expansion into new markets, and the rapid advance of technology are some of the imperatives operating against unskilled workers whose proficiency levels have not kept pace with industrial change. According to the most recent government projections, few of the job categories that are expected to grow in the next ten to twelve years will be accessible to those without at least a high school education and good reading, writing, and math skills. Women, who are overwhelmingly clustered in slower-growing occupations, and racial minorities, particularly Hispanics, who have been much less apt than whites to complete high school, are more likely than other groups to remain trapped in low-wage jobs. Hispanic workers are concentrated in low-end services as well as in the declining machine operating and assembly occupations.[3]

Education and training are important because they offer a measure of job security, but perhaps more important, greater mobility, which is particularly critical for workers in declining industries, and a better quality of life. On average, workers who complete high school earn $5,000 a year more than those who do not ($20,573 vs. $15,042) and those with a bachelor's degree earn twice as much ($32,522). The largest number of new high-wage jobs will be created in professional and managerial categories requiring an average 16.4 years of school.[4]

Change is no longer occasional but constant and, as these projections suggest, has created a two-tier job structure based on investments in human capital. When the investment is made, companies, individual workers, and the larger society benefit. When it is not, all the parties are likely to be affected. It is therefore in the best interests of all three to examine their roles and responsibilities vis-à-vis training and education for economic progress.

Policy and the Projections

Economists formulate projections on the basis of their analysis of the past and available information about the forces they expect will drive economic events in the future. Projections, positive or negative, are not determinative, but they are useful as a mirror to reflect the consequences of recent economic policies. In formulating employment and training goals as part of a larger economic plan, we should take a hard look at these data and at the questions they raise.

- Do we like the picture presented by the data? What does it say about the future quality of life in the commonwealth?

- To what extent can employment and training policy change the course of these projections?

- How might demographic, regulatory, environmental, and political factors affect business, and with it, projected demand for employees within specific industries and occupations?

- With continuing declines in manufacturing, how realistic is it for older displaced workers to expect ever again to apply their invaluable know-how — experiential, technical, social — in comparable work settings? Should we try to preserve their knowledge?

- What do we know about the inherent volatility of occupations located in areas projected to grow, such as travel and education? How many of the growth occupations listed among the projections rely on consumer behavior or local tax revenues?

- Does postsecondary training in all fields offer the same degree of opportunity or are some fields better than others?

- What about the rise in temporary employment not reflected in these data? As employers struggle to cut costs and retain flexibility, will some occupations involve more part-time/part-year work than others? How will we identify them?

- How will changes in the scale and scope of firms and productivity and quality measures, such as work teams, have an impact on the kinds of jobs required in the future? Do these projections take any of those issues into account?

- To what extent will corporate restructuring and downsizing continue to have an impact on administrative and managerial jobs? What, if anything, can be done to buffer college-educated workers from future layoffs?

- Given the widening gulf between high-skill/higher-wage jobs and low-skill/lower-wage occupations, how much real incentive exists for the economically disadvantaged to reach higher?

• How well do we communicate labor market information to students, trainees, and other job seekers?

• How well do existing linkages between businesses and employment and training (E/T) service providers in education and government work?

Decisions about the specific elements of an employment and training policy — worker retraining, literacy, entrepreneurship programs, and so forth — will ultimately be dictated by the needs of the industries that Massachusetts decides to nurture. However, it is possible to evaluate the current system to determine its capacity to meet continuing workforce development needs and make recommendations as to the amount of government intervention required by both new and traditional industries. One step in the process is to examine the critical issues that affect workers, managers, and the organization of work across target industries. Another is to assess workforce training needs and survey examples of successful public/private training partnerships that address them. Finally, we should learn what we can from those examples to create flexible change and growth-oriented policies that develop more competitive businesses, smarter workers, and a better employment and training infrastructure.

Training and Education Needs of the Employed

In a nation of immigrants, there have always been basic skill deficiencies and linguistic and cultural diversity among workers. One key difference between past and present is that the way work was formerly organized deliberately compensated for the lack of homogeneity in the labor force. Today, work teams, statistical process control, the need for worker participation in the development of reliable methods, and the size, scale, and complexity of either the goods being produced or the fabrication (or service delivery) process make it impossible to proceed unless everyone is speaking the same language. Language is a useful metaphor for a list of contemporary worker prerequisites ranging from adequate verbal skills, literacy, numeracy, computing, and the ability to operate complex automated systems to a shared vision of an organization's purpose and mission. Organizational culture has been defined as simply "the way we do things around here." Given today's business realities, that will not and cannot ever be the same again.

The most successful organizational cultures will be the ones in which managers are as engaged by the production process as workers, understand and appreciate cultural differences, are result oriented, and view continuous education as an integral part of each person's job. The creation of total learning environments must accompany the development of total quality workplaces.

In turn, employees must also be actively engaged by the work. As with managers, this is not always the case. Old attitudes die hard, but to produce the best goods and services, each member of the enterprise must be prepared to add value and have his or her efforts measured and evaluated in light of the organization's mission and goals and international standards of quality. For many of those who are currently employed, it will not be an easy adjustment to make. Part of the answer to worker motivation will lie in employers' rewarding learning by tying pay increases to measurable increases in skill. Change must be initiated, owned, and managed by individual firms.

E/T initiatives for employed workers should take the following into account:

- While there is no question that Massachusetts possesses an impressive set of training and business support programs, their existence, purpose, and location is not always known to prospective clients. Government needs to catalogue and communicate information about (1) the types of assistance available and (2) the guidelines and regulations for technical assistance. The need for information about English as a second language (ESL) and basic skills programs is particularly pressing.

- Coordination between business clients and service providers is critical. Because it is possible for an employer to require the services of more than one agency, there has to be a method, similar to the case management system in human services, whereby several agencies can work together smoothly at the same site to shield clients from bureaucratic red tape.

- Although economic survival is a powerful motivation, tax incentives for businesses and individual workers may help stimulate and sustain continuous education.

- Joint worker education programs developed at community colleges in partnership with local businesses should be better funded.

- Colleges, universities, and businesses should be encouraged to offer training in so-called soft skills for managers.

- Finally, because the number of companies currently engaged in self-assessment and improvement is woefully small, government should stimulate more business involvement by offering low-cost assessment services and finding additional ways to publicize and reward examples of excellence within each industry.

Training and Education Needs in Declining Industries

Many of the same concerns affect declining industries, in which workers and firms are under great pressure to survive. Is manufacturing decline inevitable? What conditions cause an individual manufacturer to lose ground, and once identified, can these conditions be reversed?

Clearly, the cost, availability, and preparedness of the workforce are critical factors. In an earlier era, the education system prepared young people from a variety of linguistic and ethnic backgrounds for assembly-line jobs. Whether it continues to support national business objectives or does something else entirely is arguable. Whatever the reason, there is a wide disparity between the basic skills, English language proficiency, and work habits that businesses require and the competence level of many prospective workers. While no comprehensive or vocational high school in the world can produce graduates who are familiar with all the practices of individual firms, there must be more emphasis in school on "learning how to learn on the job." Learning to add value, to head off problems before they occur, to contribute new ideas, and to adjust to changing circumstances will make it less likely that employees will be laid off in the first place, and easier for them to find new work when layoffs occur.

While employers have legitimate concerns about the basic skills and trainability of workers, it is not clear that they are doing enough to develop their personnel. Once a firm is on the ropes, it is difficult to influence management's thinking about the value of training. Ironically, troubled firms are precisely those which should make a commitment. Given that the pace of technological change and foreign competition will not go away, management has no other choice than to begin operating differently. Government has both a facilitation and a direct service role in the process. Recommendations for such firms and workers include a mix of government intervention and private sector initiatives.

- Better understanding of the needs of business by the educational system;

- Long-range improvements in elementary and secondary schools that allow employers to get out of the basic-skills business and concentrate on providing firm-specific training and education;

- A buildup of educational resources targeted at firms with the most acute literacy problems, including reading and writing tutorials and English language classes for workers who need them, and programs that help firms assess and prioritize service needs before embarking on a particular course of action;

- Information sharing, reciprocal plant tours, and shared briefings in technical advances in other countries to encourage companies to talk to one another; less concern by businesses about training their workers for the competition;

- Cultivation of new and existing businesses by the state; monitoring conditions and practices inside each of its major industries and faster response to early signs of trouble. Industry should be stewarded like any other renewable resource.

Training and Education Needs of Displaced and Disadvantaged Workers

Significant barriers to employment among the poor, the uneducated, and the economically disadvantaged and obstacles to the reemployment of displaced workers can be addressed by appropriate mobilization of E/T resources.

The problems of the poor and disenfranchised with respect to employment are well documented. Massachusetts has done a great deal to help citizens trapped in the cycle of helplessness and dependency train for and obtain good jobs. However, business and community leaders, educators, and local government officials question whether current efforts are numerous and comprehensive enough to meet the growing needs.

While persistent unemployment among African-Americans, Hispanics, and Southeast Asian immigrants may once have seemed an isolated social problem, it has come to be a great deal more central to the long-term viability of state businesses. In the coming years, more than 50 percent of new entrants to the job market will come from minority groups. Chronic joblessness and low educational attainment rates among the poor is bad business. Problems that begin in junior high and high school make their way to the job market, where the ability to obtain and hold good jobs that support families is diminished by inadequate academic preparation, such fundamental needs as day care, transportation, clothing, and so on, information gaps about job search strategies and world of work skills, and psychological problems such as substance abuse and low self-esteem. Finding the right mix of services is often difficult because employment programs do not always address poverty issues, and E/T programs designed principally to alleviate poverty sometimes fail to take industry demand and labor supply issues into consideration. Improved coordination and service delivery are indicated in at least five areas.

- Greater flexibility in the duration of time allowed for worker reeducation, basic education, and job training;

- Coordination and consolidation of the alphabet soup of poverty and unemployment programs, evaluation of those programs to determine their effectiveness, and more coherent organization of services at the state level;

- School-to-work transition programs such as cooperative education, apprenticeships, and work-study programs (provided they do not shorten the school day) for current students and short-term training programs in key technical areas for unemployed high school graduates;

- Incentives such as tuition reimbursement or loan options similar to the student loan program for college students to provide a living wage during training;

- Job training that links young minority males to employers and offers meaningful work at an adequate training wage to provide the kinds of skills and experiences that lead to good permanent jobs and undermine any attachment to the underground economy.

At the opposite end of the spectrum are skilled employees, blue-collar and professional, who are experiencing unemployment for the first time. Many do not understand the fundamental shifts in the workplace that caused them to lose their jobs and continue to make it harder for them to find work elsewhere.

Many have spent years in compartmentalized jobs within large organizations, where they may actually have become deskilled in key areas such as office and plant automation. Responsible for families and caught in the poor housing market, they are limited in how far they can go to look for work. Programs offered by worker assistance centers and postsecondary institutions for these individuals should include the following strategies:

- Peer support groups for networking and sharing productive job search strategies; more information about self-employment;

- Workshops on new workplace realities, training in business software, résumé writing and job seeking, and job fairs designed to bring the unemployed into direct contact with employers;

- Better information about high-demand occupations and the short- and long-term training programs required to qualify for them;

- Changes in curriculum design and delivery, for example, evening and weekend classes that make it possible for people to work at least part time while they train for new careers.

Training and Education Needs of Future Workers

Tomorrow's workforce should be both educated and trained to make high-value contributions to high-value-added jobs. To do this, Massachusetts will require an entirely different kind of educational system.

One of the problems with the discussion about the education and training system is that it is not a single program, but a collection of agencies with different missions that do not always work together well. Beyond vocational education and the community colleges, elementary, secondary, and postsecondary education have few direct connections with business. About twenty-five years ago, educators, parents, and students, with good reason, rejected the assembly line's influence over teaching and the curriculum but put nothing in its place. The space race of the 1950s and the emphasis on youth's physical fitness in the 1960s are two of the only times in recent history when a larger social imperative had an impact on educational policy.

The educational and occupational experiences of the baby-boom generation, with its enormous influence on attitudes and the culture, eventually drove a wedge between education and employment. Ready access to low-cost higher education and the promise of well-paying professional careers made it possible for high school students who did even moderately well academically to attend college. Students who performed poorly in school went to work. Colleges absorbed huge numbers of high school graduates, and large government and private-sector organizations gobbled up the college graduates. A college degree became both a credential and a certification. Until the late 1980s, college graduates who wanted jobs were usually able to find them, which obscured a fifteen-year decline in their earnings and in the quality of positions outside certain technical and business specialties. Today, a significant number of bachelor's level generalists hold jobs similar to those once intended for high school graduates and are almost as ill prepared for the challenges of the workplace as the non–college bound.

An educational system that minimizes rote learning and emphasizes individual potential can open students up to a world of unlimited possibility. The danger is that without a clearly articulated mission and goals, education for anything can become education for nothing in particular. Lacking educational leadership that shares a larger national, and even international, vision, that develops clear standards for individual and group achievement and practical strategies for helping students embrace and master a complex world where science, technology, and commerce are part of their lives, our young people will continue to get half of what they, and we, need. We will continue to see an insufficient number of students intellectually engaged by math and science, fewer children of color persisting through and beyond high school, a limited understanding of the occupational and personal outcomes of education, and little recognition of the importance of lifelong learning and the continuous pursuit of new skills.

The place to begin is at elementary and secondary education, with reforms that include the following:

- The establishment of goals for kindergarten through twelfth grade that include mastery of advanced academic skills, measurement against national test scores, higher completion rates, and comparisons to achievement levels among students in other advanced countries;

- The development of new methods for financing education;

- Elimination of artificial barriers between working and learning by integrating practical experience and the classroom, promoting discussion between teachers and business practitioners, and improved career guidance for students.

Workplace Education: Three Case Studies

The following narratives describe the experiences of three typical employers and a variety of current and prospective workers from a range of backgrounds.[5] The employers represent both emerging and traditional industries. Their experiences cut across program types and agencies and have implications for statewide policy development.

Biogen

Biogen is a fully integrated pharmaceutical firm that creates products from genetically engineered organisms for use as alternatives to traditional pharmaceuticals. Its mission is to develop products from inception through clinical trials to commercialization. According to company representative Christine Carberry, Biogen, like most biotechnology firms, began as a collection of scientists who "did everything from washing test tubes to writing scientific papers." On its way to developing a workforce of more than four hundred, the company identified two principal challenges: the need to continuously upgrade its employees' scientific knowledge and to recruit appropriately qualified manufacturing workers. It employed the following strategies:

- College and university courses funded by the company through tuition reimbursement;
- A heavy in-house training investment — 10 percent of its total manufacturing hours — in collaboration with institutions of higher education;
- The creation of a unique internship program that allows workers in declining industries to train for entry-level positions in biotechnology.

In 1992, 50 percent of Biogen's employees availed themselves of tuition reimbursement to take courses.

Biogen's original involvement with the Massachusetts employment and training system was as an internship site for a grant-funded certificate program designed to upgrade biological science and math skills of prospective biotech employees. The internship is a required component of biotechnology programs offered at Minuteman Vocational-Technical High School, Middlesex Community College, and Aquinas Junior College, which lead either to a certificate or a two-year associate's degree.

Hiring workers who graduate from the program has done a great deal to lower recruitment costs. During the past two years, the company has hired 86 percent of the participants who interned with it, people who, according to Carberry, "we would not otherwise have hired." Participants are displaced workers, many of them single mothers, who are older and "nontraditional" consumers of postsecondary programs. Eager and grateful for a second chance, graduates are competent and well motivated. Once hired, many former interns use the company's tuition reimbursement plan to obtain further education and training. Eighty-six percent are promoted within twelve months on the job.

According to Carberry, some of the critical success factors of the biotechnology retraining program are its short-term nature, accountability by host institutions, and the amount of industry input into the design, implementation, and ongoing evaluation of the curriculum. Extensive use of the DACUM (developing a curriculum) job-analysis process, industry surveys, and advisory boards are common. Of concern is the entrance of more schools into the biotechnology training field and a possible glut of candidates. "Someone needs to take a look at quality and graduating class size" to maintain the relative balance that existed between candidates and available openings, she says.

In addition to becoming invested in continual learning, Biogen has also realized that it has a stake in science education at the high school level and in helping students and parents see biotech as an attainable career.

As the company continues to grow, Carberry anticipates that it will continue to use educational partnerships to identify, train, and develop workers, despite what she calls the quirks of working with the job-training system.

United Electric Controls

Under pressure several years ago to survive amid declining markets, the only course of action for this sixty-year-old sensor and temperature control manufacturer was change. United Electric (UE) had to improve quality and respond to market forces by adopting a philosophy of continuous improvement. At that time, 40 percent of the UE workforce had limited English proficiency. The firm realized from the start that the development and practice of reliable methods could not begin until all its employees shared a common language.

Committed to creating a continuous improvement environment, the company took the following action:

- In-house ESL instruction for employees whose first language was not English;

- Ergonomic training for workers, offered with the aid of a government grant;

- A skills development program to qualify workers for each pay grade;

- Forty hours of classroom training a year for each employee;

- Two-day seminars at the plant for customers and suppliers to share information on quality standards.

UE transformed itself, cutting lead time from ten weeks to one week, improving due-date delivery from 60 to 90 percent on time, reducing inventories, and ultimately receiving a Shingo award for manufacturing excellence in 1990. It achieved its status as a continuous improvement company by becoming a continuous education employer whose every employee is both a learner and a teacher. According to the company's vice president for human resources, Fred Ritzau, the new philosophy at United Electric Controls recognizes that "workforce development goes hand in hand with economic development."

TempPro Company

A much smaller member of the temperature-sensing industry, TempPro of Northampton faced similar due-date and inventory problems, along with an underprepared workforce. Of particular concern was the fact that employees lacked familiarity with the company's product lines. To improve production methods, ensure quality, and upgrade worker skills, TempPro adopted the following strategies:

- In-house and external training courses developed in conjunction with local education institutions;

- A three-week training program for new hires that promotes sharing of new information from worker to worker;

- Tuition reimbursement for job-related course work at the University of Massachusetts Amherst and local community colleges;

- A certification process for workers, developed with the help of the local Private Industry Council;

- Management refresher courses in legal and contemporary management issues, offered by the local employers association.

TempPro is a valuable addition to the area economy because it employs, in addition to computer operators, unskilled production workers and machinists, two job categories that are rapidly disappearing and offer a chance to high school graduates with few marketable skills. For this company, progress meant changing manage-ment's attitude toward the costs associated with training. Investing in workers, positioning the company in the market rather than being controlled by it, and emphasizing outcomes as well as high-quality processes has proved to be a successful formula.

Recommendations

The three companies represent two generations of technology, present and futuristic, and a shared need for more sophisticated skills than the labor market can currently deliver. What they have in common are six beliefs that form a truly revolutionary credo for any company that would be excellent and serve as prerequisites for successful employer participation in a Massachusetts employment and training system:

- Proactive management, a top-down commitment to changing the organizational culture and ownership of the process by everyone in the firm;

- Appreciation of the barriers to recruitment, employment, and job performance created by low basic skills, gender, economic disadvantage, culture, and language differences;

- Adoption of a worker as learner and teacher philosophy that promotes a sense of interdependence among all in the firm;

- Incorporation of education and training as an essential part of the job ,a realization that if employees are not engaged in continuous learning, they are falling behind;

- Recognition of the importance of external stakeholders to the success of the enterprise — customers, suppliers, parents, students and other prospective workers, and even competitors;

- Emphasis on evaluation and outcomes.

In turn, government, educational institutions, and training agencies will need to commit to

- A complete assessment of the state resources currently devoted to education, training, and business stabilization;

- Better coordination of the services we decide to continue after this assessment and better publicity about their existence, mission, and requirements;

- Workplace and community-based ESL and basic-skills programs to address the short-term needs of employers for able and contributing employees;

- A clearly articulated mission for elementary, secondary, and postsecondary education that addresses the long-term needs of learners and the economy and recognizes the centrality of work to both the development of the individual and the overall health and security of the commonwealth;

- The expectation that educational institutions at all three levels share the responsibility for preparing young people to lead productive lives as workers and as citizens;

- The establishment of measurable academic performance and achievement goals that take into account international standards of excellence;

- Dramatic improvements in the dissemination of occupational information and delivery of career education and job-placement services in public high schools and colleges;

- Insistence upon the development of school-to-work transition programs at the high school and college level;

- A system of accountability that measures individual academic progress and institutional effectiveness in fostering individual achievement;

- The development of programs and educational strategies that emphasize lifetime employability among prospective workers;

- Government-funded assessment services for businesses wishing to examine their practices and tax credits or other incentives for businesses to engage in continuous improvement;

- Tax credits or other incentives for employees who engage in continuous education.

A number of these suggestions were incorporated in a government blueprint for job creation and economic growth entitled "Choosing to Compete," prepared by the state's Executive Office of Economic Affairs and the University of Massachusetts. Sixteen months after the publication of this statewide strategy, progress was being made in the employment and training arena, most notably in terms of improved communication between the various players.

In education, the process has been articulated for charter schools and curriculum reform, two of the means to infuse more accountability into the system. Standards for math and science curricula have been published and more are under development. The Bay State Skills Corporation will soon begin efforts to coordinate schools and social service agencies. Technical preparation programs are beginning to close the gap between secondary schools and community colleges, ensuring that more of the students who do not immediately enter four-year degree institutions understand and have access to post-secondary programs that meet their needs.

In employment, plans are being made to implement a placement accountability system to track employment and earnings and monitor the effectiveness of workforce development programs. The Massachusetts Jobs Council is working closely with regional employment boards to improve coordination and access by prospective business and education partners.

Employers in emerging high-technology industries such as telecommunications, biotechnology, and the environment have founded formal industry associations that, among other functions, provide central contact points for prospective education and government partners.

Finally, investments in state government's information infrastructure and the infusion of new federal moneys for school-to-work training and education initiatives will stimulate further gains. The key to continued success is ongoing assessment, program design based on input from partners and training "consumers," better marketing of those programs, and evaluation and dissemination of program results. The education, government, and vendor components of the education and training system, as well as businesses, must adopt a continuous improvement philosophy that anticipates change and offers its constituents high quality and measurable results. ❧

Notes

1. "Where the Job Engine Is Revving Up," *Connection 9* (Spring 1994): 33–34.

2. Ibid.

3. Massachusetts Department of Employment and Training, "Massachusetts Occupational Projections, An Analysis of Employment by Occupation to 2005" (Boston, 1993).

4. Ibid.

5. I chose to describe these three companies during a conference organized by the Massachusetts Executive Office of Economic Affairs and the Maurice A. Donahue Institute, at the University of Massachusetts Boston, July 23, 1992. I updated the information where possible.

Economic Growth Issues in Massachusetts Rural Areas and Small Cities

Nancy Goff

In developing a strategy for economic development, state government must consider the special needs of its small cities and rural areas. Well-meaning policies crafted for metropolitan areas have unintended and often negative consequences when applied statewide. This article is a revision of the author's topical discussion paper for the August 6, 1992, Conference on Rural and Small City Development at Mount Wachusett Community College, Gardner. It was used by the Massachusetts Executive Office of Economic Affairs and the University of Massachusetts in developing a statewide economic development strategy.

As the "miracle" economy of the 1980s gives way to the harsh dislocations of the 1990s, Massachusetts is experiencing some of its worst economic times in more than half a century, and according to its Division of Employment and Training (DET), the worst job loss of any state since the 1930s. The boom-and-bust business cycle of the past decade has been truly extraordinary. DET analysis shows that during the 1980s, nearly 400,000 jobs were added to the Massachusetts economy; the unemployment rate dipped to 3 percent, depicting essentially a full-employment economy. However, the past three years have witnessed the complete unraveling of this growth. Virtually all the job gains have been lost, and unemployment rates have reached double-digit levels in many areas of the state. Job loss in the construction and manufacturing industries has been particularly severe, with over 100,000 jobs lost in each of these sectors alone. Since 1988, one in five manufacturing jobs has disappeared, representing a staggering 12 percent of the state's base employment.[1]

It is important to note that this trend of declining employment in manufacturing did not begin in this recession. Indeed, such employment fell throughout the 1980s, although the losses were disguised in state employment statistics by the rapid rise of service-sector jobs. However, in those regions where traditional manufacturing industries such as paper, plastics, metalworking, and machining were important elements of the economic base, the impacts were severe. For example, in the small cities of the Northern Tier — Athol, Gardner, Fitchburg, and Leominster — service jobs did not

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replace manufacturing as a new economic base. Because manufacturing still accounts for nearly a third of all employment — almost twice the state average — the current recession has hit these communities, which lack the cushion of service-sector jobs, especially hard.

This article examines the economic difficulties faced by small cities and rural towns, highlighting both their similarities and differences. I explore the following four issues, which are integral to the formulation of a state economic strategic plan.

- How can the state address the particular problems of economic decline and dislocation in small cities and rural areas?
- How can state agencies do a better job of encouraging economic development?
- What must be done to nurture and expand the state's base industries?
- What is an appropriate role for state government in this process, given political realities and fiscal limitations?

Similarities and Differences: Rural and Small-City Massachusetts

Although Massachusetts is geographically a small state, each of its 351 cities and towns enjoys a unique character and political tradition. While some of these differences may be more apparent than real, the distinction among types of communities — major metropolitan centers, small cities, and rural towns — are more compelling.

Many changes have occurred in Massachusetts communities during the past decade. As the building boom of the 1980s brought residential growth to outlying areas of the state, many rural towns and small cities became commuter or bedroom communities for the larger metropolitan centers. The job growth and increased tax base that did occur in these small districts rarely kept pace with the influx of new residents, resulting in increased demands for additional or expanded services and altering the character of many of them.[2]

Changing state and national political agendas also affect small cities and rural communities. Local government must underwrite the costs of programs that state or federal laws mandate but do not fund. Reductions in state financial assistance to towns, coupled with the difficulty of raising additional local property tax revenues — because of Proposition 2½ limitations and recessionary impacts on individual incomes — have created further burdens for local government in small cities and rural towns. Some argue that the impacts of reduced state aid are more severe on rural towns, because most small cities have a broader tax base. However, all are feeling the pain, as state government, as well as private industry, downsizes its workforce and its role in supporting local government.

The character of rural towns and small cities is distinctly different from that of the commonwealth's major population centers. These smaller communities do not face the same type or level of social problems, poverty, and violence encountered daily in cities such as Boston, Worcester, Lawrence, and Springfield. On closer examination, however, the problems of rural towns and small cities differ from one another. The employment base of a rural town is often dispersed and distant, typically to a larger regional center — for example, a small city — where there are factories, a state hospital, or other major employers. Thus, many small towns have no direct influence over their economic base, whereas small cities typically have an employment base within their jurisdiction. Conversely, a small city may depend on an outer fringe of rural communities for its workforce and retail market area.

Another important difference between rural towns and small cities is in the organization of government functions. Small-town government is characterized by volunteer boards and town meeting decision making, while small cities usually have professional staff capacity, with policy decision making carried out by a city or town council.

These differences can be significant for economic development, because it is difficult and more time-consuming for a business to access a local government with no staff available during business hours to answer questions or to provide necessary permits. Further, the planning board, board of health, or conservation commission may meet only twice a month, making the permitting process frustratingly slow. These problems often combine to make economic development in rural communities an extended and cumbersome process. Developers with the resources to "wait it out" can succeed, but their projects can be large and overwhelming to local volunteer boards. This situation is not conducive to the small-scale economic development projects that might be more appropriate in a rural setting.

One way small cities and rural communities can and do succeed in their economic development strategies is by cooperating in regionally based organizational efforts. A countywide community development corporation or regional chamber of commerce can often keep abreast of economic conditions, help the business community to circumnavigate the permit process, and coordinate economic development programs on behalf of its constituent communities. In this way, small districts, where neither local government nor the business population is large enough to support economic development staff, can participate in economic development activities.

The Issues

1. Recognition of the existence of rural areas and small cities in the commonwealth of Massachusetts.

Critical to the success of the state's economic development strategy is the recognition that the state's economy is comprised of urban, metropolitan, suburban, and rural areas. While the cities of Boston, Worcester, and Springfield are major economic forces and population centers, the growth of smaller cities and rural towns across the commonwealth has outpaced that of the central cities over the past decade. These smaller areas are vital to the state's economic future. Yet their needs and characteristics — different from those of the urban core — must be acknowledged and accommodated if they are to become active participants in the state's economic recovery.

Key to the success of any statewide economic strategy must be the recognition that different tools are needed to solve the unique economic problems of rural areas, small cities, and urban centers. It is not simply a difference of magnitude, but also a difference in kind. The assumption of homogeneity among places has made ineffective many well-intentioned state and federal policies and programs.

2. Recognition of the need for a regional approach to economic development.

The commonwealth of Massachusetts is comprised of a number of diverse and unique regions that are economically, politically, and historically distinct from one another.

Strong forces link communities into economic regions. The interrelationships among businesses, communities, and institutions, financial, educational, and so forth, override the issues of rural town versus small city. The role of separate communities within an economic region may differ — one place may be a retail center, another a bedroom community — but the overall health of the economy is dependent on the existence of this regional linkage.[3]

These regions — identified in the structuring of the 1992 conferences throughout the state[4] — have different economic needs that must be recognized if economic strategy is to succeed. Where Cape Cod, the Islands, and southern Berkshire County rely on tourist dollars for their economic well-being, in the rest of Berkshire County, northern Worcester County, and the Blackstone Valley, traditional industries such as plastics, paper, and machining are critical. These areas stand in marked contrast to the reliance of Metropolitan Boston on high-tech and information service industries. Many of the common problems faced by businesses within a region, relating to need for infrastructure improvements, transportation systems, technical assistance, capitalization, employee training, and so on, can be addressed in a regionally defined strategy for economic growth. Because the particular obstructions to economic growth vary among regions, each must develop its own solutions. One statewide policy or economic strategy will not "fit all."

Further, the kinds of organizational players involved in economic development are different for the Cape, the city of Boston, and the town of Greenfield, for instance. For a regional strategy to succeed, the critical players representing public and private interests in an area must be identified and convinced to participate.

The political reality is that communities compete within and between regions for economic growth and state support. Because the property tax base is local, not regional, it can be in a community's best fiscal interest to site as much development as possible within its borders, but to shift as much of the infrastructure costs of that development onto others. For example, locating an industrial park or shopping mall on a community's border might shift some of the costs of traffic congestion to the neighboring town. Unraveling this state of mind is important, because it discourages communities from viewing their problems regionally and encourages them to compete rather than cooperate with one another.

3. State coordination of regional economic strategies.

An important obstacle to economic growth is the lack of cooperation and communication among the many economic development players within a region. The profusion of players — chamber of commerce executives, local government officials, nonprofit corporations, educational institutions, regional planning authorities, and community development corporations — often fail to communicate or coordinate their service plans adequately.

The process of developing a regional economic strategy can bring these various groups together to discuss their programs, share their visions, and work out their differences. This process is not an easy one, and the state must provide leadership as well as financial incentives — perhaps a small amount of seed money to cover the costs of organizing a process — combined with some type of sanctions for not completing a job. The state must also develop clear guidelines describing the kinds of linkages that should be forged among the players.

The benefits of a regionally based development strategy are many. First, the overall plan recognizes each community's role in its economic subregion, ensuring that no community is "left out" of the game. Second, the process brings together the business community, residents, and members of neighboring communities to discuss their common economic futures. This means that issues such as growth, quality of life, land use, and infrastructure capacities are considered in a regional, not just local, context. The region may want to consider zones for highly intensive growth, moderate growth, and no growth. The collaboration of neighboring towns is essential for this kind of approach to work. Finally, the obvious advantage of a regionally developed plan over a state-mandated one is that the regional plan is more reflective of local concerns and political realities, and thus is more likely to be implemented.

4. The need for coordination among commonwealth agencies.

Agencies dealing with economic development, educational, and regulatory functions, the quasi-public services, and local economic development groups lack an organized system of communication with their potential clients.

Massachusetts has an abundance of resources and programs to promote economic growth. The many independent quasi-public corporations that provide specialized financial and technical assistance are a tremendous resource to entrepreneurs and businesses interested in locating or expanding in the state. The public higher education system also has the capacity to provide employee training, as well as specialized management, engineering, and other technical industrial support to Massachusetts companies.

There is, however, a major problem with the system — it is not a system at all. Instead, this patchwork of programs and resources is available only to those aware of it and who know how to access it — even many economic development professionals have difficulty getting at and understanding these "alphabet soup" programs. Scattered among various addresses in the Boston metropolitan area, statewide among the college and university campuses of higher education, and in various state agencies — DET, EOCD, MOBD (Massachusetts Office of Business Development) — in regional locations, the commonwealth's economic development programs are wide-ranging — and widely misunderstood. The problem is particularly acute in the more remote areas of the state. With few staff resources in rural areas, virtually no one has the time to learn about the many and frequently changing programs offered by the state, the educational institutions, and the quasi-publics. The net result is that many of these offerings do not serve the entire state, and in many areas the clients these activities were designed to assist — entrepreneurs and companies — are not receiving the assistance they need to prosper and grow.[5]

What is necessary is a coordinated delivery system that recognizes that while each of the institutions is independent, they serve the same public. Several programs, notably the Small Business Development Center, MassPort, and the Massachusetts Land Bank, have opened regional offices in the past few years. While this is helpful, it is not enough. The agencies should join together to make it easier to access their services. More decentralization is needed so that the state can offer a coordinated effort to assist companies that might be located anywhere in the state. The essential idea is to provide "one-stop shopping" through local offices or a toll-free phone number that businesses and local economic development officialscould call for current accurate information about all the business services available in the state.

Restructuring the System

1. Eliminate duplication and find the gaps in services.

Massachusetts has a poorly organized system of job education and training. Indeed, its problems have been the subject of numerous studies and commissions,[6] so only a few issues will be touched on here.

Education and training programs cover a broad spectrum of activities, ranging from job placement and training to educating managers about organizational issues, providing technical assistance to industry, and offering entrepreneurial development to new business start-ups. Service locations vary, too, from vocational high schools and community colleges to private schools, regional skills centers, and on-site job training. Linkages need to be forged among these institutions, local primary schools, and colleges and universities, the businesses that are seeking a well-trained workforce, and the individuals who require education and training for continued employment.

The need to organize this system to make it accessible to all those who have to use it, and comprehensible to those who work within it, cannot be emphasized enough. The "system" has only weak links with other economic development efforts, so that agencies providing the services are often unaware of the economic development activities of others.[7] Some of the institutions within it, specifically the colleges and universities, may not even recognize that they have can a significant and direct role to play. Further, there is circumstantial evidence that job training offices vary from region to region within the state in their interpretation of regulations, as well in their service offerings.

Structural problems also abound. The policy that requires a trainee to be placed in a job within three months does not provide either the agencies or their clients sufficient time to assess whether the particular job is appropriate to the client's requirements. The net result is that clients are often placed in jobs they dislike; consequently they do poorly, quit or are fired, go back to the public welfare system, and get back into line for another placement. The business community is not well served by this system either, because employee turnover is costly. Finally, it perpetuates the notion of a fragmented and inefficient government bureaucracy.

Other issues stem from the need for agencies to apply annually for funding, so a disproportionate amount of time is spent in fund-raising. Multiyear contracts would make the funding process more cost effective, allowing agencies to expend more of their efforts on service delivery.

It is most often in the area of education and training that social welfare issues intersect with economic development activities. The state can have an important role in forestalling the need for retraining programs by developing a "prevention policy" that would sustain early enrichment programs such as Head Start, support day care and after-school programs for children of working parents, maintain school breakfast and lunch programs, and work to keep children in school through the end of high school.

2. Restructure the state tax code to facilitate economic development.

Proposition 2½ severely restricts the ability of communities to raise tax money for prospective economic development. With limits placed on the total property tax levy, large and small communities are unable to raise the funds necessary to make infrastructure improvements for planned future industrial development. These communities are struggling to meet their current fiscal requirements. The political and economic climate has severely limited the availability of state and federal funds for this purpose.

One of the unexpected impacts of Proposition 2½ is that communities are accepting growth wherever they can find it, whether or not it seems appropriate for them. Because "new growth" is exempt from the levy limit, communities can raise additional property tax revenues based on the valuation of new construction. Poor planning and land-use decisions are often the result. Thus, even if a community would prefer to slow or control certain kinds of growth — for example, commercial strip development that hurts its downtown business area — it may not be in the town's fiscal interest to do so. Moreover, even if the long-term fiscal cost of growth is greater than the short-term gain — for example, development in environmentally sensitive areas that eventually results in the need for additional sewer capacity — it may be in the town's short-term fiscal interest to accept the development.

It is important for communities to maintain and upgrade their existing infrastructure. Older areas of a rural entity, such as the center of town, may be the only places with public sewers and water. Yet the pressure for development may come from its outlying districts. There are no economic development tools that encourage reuse of vacant buildings or reinvestment in existing infrastructure.

Various bills currently before the Massachusetts legislature would authorize communities to provide tax increment financing on specified infrastructure improvement projects for economic development. Structured as a betterment fee, tax increment financing would allow communities to fund physical betterments, perhaps in designated areas such as enterprise zones but outside the limits of Proposition 2½. The cost of the improvements would be paid by the beneficiaries, with charges phased over time.[8]

3. Structure state programs for rural areas as well as urban centers.

Too often, those who set the policies for economic development programs have only an urban perspective. Officials should make regular visits to the more remote areas of the state to experience personally the character of nonurban communities. They would become more directly aware that rural areas lack the professional staff support of cities. Rural towns are run by part-time volunteer boards. Thus information about new state initiatives, programs, and agencies may never get through to them or be difficult to obtain or understand, because no one at the local level has time to make the necessary connections or fill out the necessary application forms. Similarly, development is hampered because a business needing information has no one to call on. Local decisions are often made slowly because there is simply no professional staff to support and advise the selectmen, planning board, board of health, or conservation commission. This, too, has an impact on the business community, which has to make decisions quickly.

An example of a policy whose urban focus causes hardship in rural areas is the statewide wage-rate requirement for job placements from education and training programs.[9] This policy does not reflect the reality of lower-paying rural jobs, making appropriate placements for employment scarce in remote areas. Changing state regulations to refer to a local or regional rather than statewide wage rate would create more employment opportunities for people in job-training programs in rural areas.

4. Provide state funding for programs that directly benefit rural communities.

The concept of several towns sharing administrative staff was popular several years ago. The Circuit Rider Program was a state initiative, funded by the Executive Office of Communities and Development, which allowed two or three communities to share the services of a professional staff person.10 It worked well, but unfortunately state funding was cut; through subsequent fiscal crises, many communities have been unable to sustain their financial share of the administrator's salary. Restoring funding to this small program would go a long way toward helping rural communities with economic development needs.

The Agricultural Preservation Restriction Program is another state initiative whose benefits are important to rural areas. By deciding to purchase the development rights to agricultural lands, communities can help to ensure that their agricultural base is maintained. The implications for open space preservation are obvious. The farms themselves are part of the region's economic fabric, so in supporting them, other rural businesses, such as farm equipment suppliers, machinery mechanics, and local trucking companies, also benefit.

Additional Issues

1. Change the liability for sites with existing hazardous waste contamination (21E violations) to encourage the reuse of old industrial buildings.

The problem of liability for vacant old mill buildings that may be major or minor hazardous waste sites has to be addressed. The liability issue and the uncertainty of the cost of cleanup makes it very difficult to sell or rehabilitate old, vacant industrial buildings that are otherwise structurally sound. The current recession removes what little incentive there might have been during boom times to reuse these buildings, which are a blight on communities and a potential danger, since many owners do little to maintain them. Communities have been advised not to take them for tax title, because of possible of expensive cleanup costs.

One unintended impact of the hazardous waste cleanup stipulation is that development is occurring on new land which is more remote from town centers. Where an old mill may be linked to public water and sewer, a new development is increasingly costly because of the need to extend these services. There are state and federal programs to pay for these infrastructure costs.[11] However, it might be more in a community's interest to reuse the existing building, upgrade the existing infrastructure, and clean up the site.

2. Recognize that many types of industries will be able to grow and prosper in the state's diverse economy.

The state should not rest its economic strategy solely on the potential growth of such "new" industries as information, biotech, and high technology. Instead, a policy that also promotes innovations and expansions in the nation's "mature" industries could benefit the small cities where workers are accustomed to such jobs. Either through attraction strategies to locate expanding firms or local expansion strategies to encourage their growth in Massachusetts, it is important to recognize the strength and potential of mature industries.

3. Help business and development organization personnel to attend trade shows in this country and abroad and encourage exports to Canada and Mexico.

The implications, challenges, and opportunities arising from the North American Free Trade Agreement are as yet unknown.[12] Massachusetts can share information, foster discussion, and formulate policies to assist state businesses in dealing with foreign trade in the future.

Trade shows can be a successful means for a business to expand its market. Many small firms are unaware of how lucrative this approach can be, and they need help and encouragement to attempt it. The state should encourage such firms to attend trade shows and provide information on preparing for and selecting appropriate U.S. and foreign exhibitions. The state could also assist by coordinating firms to share space or by sponsoring a state booth. While MassPort currently helps businesses in this way, the state's role might be to ensure that the link-up occurs and that MassPort has the resources to serve the smaller firms of the state.

The nearby Canadian market, with fewer political, transportation, and language barriers to entry than overseas markets, is perhaps a good starting point for small firms seeking export opportunities.

4. Recognize the importance of tourism to the state's economy; consider it an "export industry."

The Cape, the Islands, and the Berkshires are rural regions with well-developed tourist industries. It is important that these areas have the resources to market themselves — especially to increasingly distant "customers." Many Canadian tourists visited Cape Cod in 1994, yet the state's promotional efforts to draw them seem minimal to some observers. Increasing the quality of promotional materials to more distant markets is seen as important to sustaining the tourist industry.

It is unclear whether the state's tourist regions and agencies themselves could do a better job in coordinating their institutions and businesses to attract more visitors or encourage them to prolong their stays.

5. Encourage industrial, retail, and financial businesses to develop their competitive advantage through finding and exploiting a market niche.

Some companies are successfully growing through the Massachusetts recession by targeting their efforts toward a specific market. For example, downtowns are increasingly becoming populated with retail shops that specialize in particular items or styles in response to competition from large-scale regional discount retail operations like Costco and Wal-Mart. Manufacturers can also pursue a specific market niche, for instance, the woodworking company that switched its product line from colonial- to contemporary-style furniture in response to a changing market. Software firms can specialize in educational programs for PCs or business applications for minicomputers. Finally, in the current banking crisis, one success story is a local lender that specializes in commercial loans to small companies in central Massachusetts. The important lesson is that the successful firms are those which have defined themselves in terms of their market and effectively adapted themselves to meet its demands.

6. The state should monitor the Community Reinvestment Act requirements of banks to ensure that the needs of small-city and rural-area businesses are met.

During this recession and banking crisis, some small businesses are having particular difficulty locating financing. A gap seems to exist in the $25,000 to $75,000 range of loans, especially for mature industries and newer companies. There is concern that banks are unable to make such medium-size loans because small manufacturers need funds for equipment and working capital. The local loan funds that operate in the state cannot service requests of this magnitude, yet the state's public financing programs need larger-scale loans to cover their transaction costs.

The reasons banks are not making these loans are not entirely clear. On one hand, the problems of risky loans gone sour in the past make bank officers shy away from writing loans that are not well secured. On the other hand, lack of capital is a significant impediment to business growth and can lead to the demise of a firm, so that in a sense the lack of available resources is creating a self-fulfilling prophecy.

In developing a strategy for economic development, state government must consider the special needs of its small cities and rural areas. Strategies crafted by policymakers from urban or metropolitan areas can cause unintended, often negative consequences when applied statewide.

Since the 1993 publication of the state's economic development strategy, "Choosing to Compete: A Statewide Strategy for Job Creation and Economic Growth," a number of positive changes have come about. The quasi-public financing agencies have increased their visibility and accessibility to businesses in western Massachusetts. The Massachusetts Office of Business Development has expanded its Springfield office to offer one-stop shopping services to new or existing businesses, providing information about all state programs available for business assistance. The University of Massachusetts is developing an enterprise development initiative to provide information on technical and management issues and financial support to young technology-based firms.

The more remote areas of western Massachusetts where economic development efforts are flourishing depend not so much on state programs as on local agency cooperation and persistence. In the northern Berkshires, for example, plans to create an arts-related economy were launched in the mid-1980s with the development of the Massachusetts Museum of Contemporary Art at the former Sprague Electric complex. Over the years, state support has fluctuated for this controversial project, but with local leaders steadfast in their resolve, it is slowly moving forward. In Franklin County, a coalition of economic development organizations have joined together to form the Franklin County Economic Development Task Force, holding conferences to discuss local opportunities for growth and working to coordinate their services. The role of Massachusetts in these places is seen as most useful when it supports local efforts, funds planning as well as implementation, and takes into account the diversity of Massachusetts communities. ❧

Notes

1. Facts about the Massachusetts economy were presented by the Massachusetts Department of Employment and Training at the Conference on Rural and Small City Development, August 6, 1992, at Mount Wachusett Community College, Gardner.

2. The fiscal implications of residential growth on communities have been widely studied. The Center for Economic Development at the University of Massachusetts Amherst has developed a fiscal impact model for Massachusetts communities.

3. Topography, geography, and other factors such as the location of highways, airports, and rail and utility lines certainly play a role in determining a community's economic base. However, communities themselves either implicitly or explicitly encourage particular types of development by their attitudes toward business or industry, in their zoning bylaws, and in their property taxing policies.

4. The seven regions are Berkshire, Pioneer Valley, Central, Northeast, Greater Boston, Southeast, and the Cape and Islands.

5. For example, a western Massachusetts farm was unsuccessful in its attempt to locate expansion financing for its goat milk products line in 1992. Yet this type of business is appropriate for rural areas, it preserves land and a rural lifestyle, offers employment, and adds income to small local economies. Public financing programs were not interest ed in providing a loan because the scale and the financial return were too small, and the financial package was too large for local enterprise funds.

6. For an overview of the issues, see Joan Stoia, "Improving Education and Training for Economic Development," in this issue.

7. The situation is improving with the siting of the state's sixteen regional employment boards in Private Industry Council offices. The REBs coordinate and oversee job training and job education programming as well as programs for dislocated workers in their region. This structure helps to minimize duplication and eliminate gaps in services.

8. The Massachusetts business incentive legislation, which authorized tax increment financing, was passed by the Massachusetts legislature in March 1993. It allows real estate tax abatements that communities can use to encourage developers to improve property in economic target areas. The bill allows a declining five-year tax abatement on the value of the improvements. The legislation also includes an allowance for increasing the invest ment tax credit (up to 5 percent) for businesses in economic target areas that make capital purchases of machinery, equipment, or buildings.

9. The difficulties engendered by statewide wage-rate requirements were discussed at the Conference on Rural and Small City Development by Arthur Schwenger, executive director of the Franklin/Hampshire County Private Industry Council. Subsequent to the conference, the requirement was changed to wage rates based on labor market area averages. While this does not entirely solve the problem in low-income pockets of LMAs, it is an improvement over using a single statewide rate.

10. The Circuit Rider program is now a part of EOCD's Municipal Incentive Program. Towns without staff may apply funds to cover administrative salaries for a period of time, after which the town or towns pay the full share.

11. Federal and state programs for industrial infrastructure improvements include the Rural Development Administration (formerly Farmers Home Administration) of the U.S. Department of Agriculture, the Economic Development Administration of the U.S. Department of Commerce, the U.S. Department of Housing and Urban Development, and the Massachusetts Executive Office of Communities and Development.

12. The North American Free Trade Agreement, ratified in 1993, eliminates trade barriers, such as tariffs, on goods and services imported from Canada, Mexico, and the United States. It is too soon to judge the effectiveness of the treaty, whose purpose is to stimulate trade between the nations for the benefit of businesses within each country.

Investing in Economic Infrastructure

Paul W. Shuldiner, D.E.

The economic returns that the commonwealth of Massachusetts enjoys from its investments in transportation and other physical infrastructure result from the jobs that are created by these investments and from the enhanced utility of land that public works create. The integrative property of transportation in particular makes the comprehensive planning of transportation facilities an inordinately complex and essential public function. This function was the focus of the July 1992 workshop sponsored by the Executive Office of Economic Affairs and the University of Massachusetts. Among the principal themes the participants addressed were how the state's interest in economic development should be expressed; how local, regional, and state interest might be balanced; and how public and private investment relate to each other. The author presents conclusions and recommendations concerning these and closely related workshop themes. The significance of developments that have taken place since the workshop, especially those concerning a second major airport and Routes 2 and 7, are also reviewed.

Of the many issues that were discussed and debated at the July 21, 1992, workshop on Investing in Economic Infrastructure, the one point on which there appeared to be widespread agreement was that continued investment in infrastructure is essential to the continuing economic development of the commonwealth. This position is supported by a 1990 Federal Reserve Bank of Boston study, "Financing Capital Expenditures in Massachusetts."[1] But consensus was not nearly so universal regarding the specific applications of this general principle. A variety of views was expressed on such essentials as what the state's interest in economic development should be and how this interest should best be expressed; how local, regional, and state interests and concerns might be balanced and articulated; how private investment relates to public actions; and even on just what is meant by "infrastructure." These and other themes arising from the meeting are summarized in the following sections.

The Nature of Infrastructure Investment

The term "infrastructure" is used here to mean those physical structures and systems which facilitate the use of land and the movement of people, goods, and information

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from one place to another. This rubric includes highways, airports, rail and other transportation facilities, water supply and sewage treatment systems, and telecommunication networks. Among categories not included are so-called soft infrastructure systems such as education, public service, and finance.

The economic impact of infrastructure investments is threefold. In the first instance, investments in infrastructure create jobs as a direct consequence of the planning, design, and construction activities necessary to bring physical facilities into being. These first-order economic impacts are subsequently reflected throughout the economy in demands for goods and services necessary to support these primary investment activities. In both direct and indirect economic impacts, infrastructural spending adds to the commonwealth's economic product much as any other capital expenditure would do. But it is through the function as *facilitator* of other economic and social activities that infrastructural investments play a uniquely powerful role in fostering economic development.

Infrastructure creates time and place utility. Without water and sewerage systems, the efficient use of land would be impossible; without adequate transportation, our integrated productive structure would be little more than a set of isolated cottage industries employing local labor and distributing their products within a geographically limited market; and without modern telecommunications, many of the social and economic interactions that we take for granted simply could not take place.

The integrative functions of infrastructure are what make investment in these facilities and systems such a potentially powerful economic force. It is this integrative property that also makes effective planning of infrastructural investment so essential and so inordinately complex. Plans for infrastructural investments cannot be made in isolation. Major infrastructure systems have wide-ranging impacts whose effects are manifested over long periods of time. We today are the beneficiaries of infrastructural investments that were made decades ago; our investments, in turn, will profoundly affect the economic well-being of future generations.

The State's Interest in Infrastructure Development

The nature and extent of the state's interest in infrastructure and development depend on the specific type of infrastructure being considered. Traditionally, the construction and maintenance of major highway facilities has been deemed to be an essential state function. The Massachusetts Highway Commission (now the Massachusetts Highway Department), the oldest state highway agency in the nation, was established well before the 1916 federal law requiring the existence of such agencies as a precondition for receiving federal highway moneys. The state's interest in other public works, such as regional transit systems and rail and airport facilities, although not always as direct and clear cut as in highways, is also well established.

The nature of the state's interest in major transportation initiatives may be seen by surveying two distinctly different examples: relief of excessive congestion at Logan Airport through the construction of a second major airport or other facilities and elimination of long-standing barriers to the free flow of passenger and goods movements in sections of western Massachusetts by means of improvements to Routes 2, 7, and 8. Three issues are covered: integration of planning for complementarytransport modes; the dynamics of local, regional, and state interests in transportation investments, including both "quality of life" and transportation access considerations; and the raising and use of highway revenues.

A Second Regional Airport

The need for a second regional airport has been predicated on current and anticipated congestion at Logan Airport. Initial estimates prepared by the Massachusetts Port Authority in 1990 forecast a capacity deficit of 5 million passengers per year, assuming an annual growth rate in demand of 3 percent; at a growth rate of 4 percent, the deficit is expected to reach 19 million passengers per year. These rates are lower than the 5 percent annual growth rate that Logan has experienced over the past twenty years.

The initial estimates of demand for air transportation were the subject of intensive review in light of the New England Transportation Initiative[2] and renewed regional interest in high-speed ground transportation. The latter includes possibilities for much improved passenger rail service between New York City and Boston and ultra-high-speed magnetically levitated (Maglev) trains between Boston and other major cities in the Northeast. The potential impacts on demand at Logan of increasing use of telecommunications and economic and political developments in Eastern Europe and Pacific Rim countries were also factored into this reassessment, as were the implications of new air quality requirements embodied in the Federal Clean Air Act Amendments of 1990[3] and the Intermodal Surface Transportation Efficiency Act of 1991.[4]

Consideration had been given to accommodating anticipated increases in air transport demand through expansion of other New England regional facilities such as Pease Air Base in New Hampshire and T. F. Greene Airport in Providence and linking these outlying facilities by high-speed rail or Maglev to Boston. At first glance, integration of expanded regional air facilities by a high-speed ground transport network is an attractive prospect. However, there are several serious problems with such an approach. In the first instance, 70 percent of the region's air traffic is centered in Massachusetts. The airlines that serve this traffic much prefer to concentrate their facilities at one, or at most two locations rather than maintain duplicate facilities and services at several sites. Furthermore, Pease Air Base could not accommodate the anticipated traffic growth even if expanded to the full extent of its potential capacity, and even limited expansion of T. F. Greene Airport would impose severe noise impacts on surrounding communities.

Regardless of its location, a second regional airport would impose severe growth pressures, high volumes of ground traffic, and a measure of noise pollution on neighboring communities. In anticipation of these inevitable impacts, the primary objective of the second airport study[5] was to identify one or more sites of 5,000 acres or more that could be reserved well in advance of construction to accommodate staged development to serve future air traffic demands from an initial level of 5 million passengers per year to an ultimate capacity of 30 million. (Logan presently handles 22 million passengers per year on a 2,400-acre site.) The minimum of 5,000 acres for a new facility was chosen in the interest of limiting off-site noise impacts to the maximum extent feasible.

Two potential locations were tentatively identified: Fort Devens, at which a total of 9,000 acres could be made available at the central and south posts, and a 5,000-acre site in Winchendon and Gardner. Early identification of a specific site to be reserved for future development would be essential to allow the surrounding communities the opportunity to plan for the growth that would inevitably attend the creation of so large a facility. In this regard, a regional approach to growth management would be essential. It might even be necessary, therefore, to reconstitute the existing regional agencies into a form resembling the recently established Cape Cod Commission.

The strategic assessment by the Massachusetts Aeronautics Commission not only reexamined air traffic demand forecasts in the context of potential development of high-speed ground transportation alternatives, but also analyzed the benefits and costs of reserving large tracts of land now phased for development in the future.[6] Although public and private investment in a major regional airport would have to be considerable, anticipated economic activity spurred by such investment could be expected to be substantial. In general terms, air access is essential for economic development. A Dow Jones survey, cited in the "Second Major Airport Siting Study,"[7] revealed that good air service is the single most important consideration in selecting a location for corporate headquarters. In more immediate and specific terms, a major airport is a powerful "economic engine." The Aeronautics Commission report estimates that, when operating at a level of 10 million passengers per year, a second regional airport would generate between $1 billion and $2 billion in economic product a year and create between 10,000 and 20,000 new jobs; at a traffic level of 30 million passengers per year, the economic impacts would rise to as much as $5 billion and 50,000 jobs. Logan, with 22 million passengers per year, employs 16,000 workers on site at an average annual wage of $30,000 per employee.

Major Highways

As with major airport development, the state's role in planning, funding, and constructing major highway facilities, and the importance of such facilities for regional growth, is generally acknowledged. Two major projects served as the focus of discussion at the 1992 workshop: upgrading Route 2 to four-lane-divided standards between Phillipston and Route I-91 and construction of a major north-south artery in the Berkshires between North Adams and the Massachusetts Turnpike. Both projects have been under consideration for many years. In both instances, local environmental and economic concerns have prevailed over regional and state interests, with the result that neither project has moved beyond the planning stage.

Impasses of the sort described above highlight the continuing need for a transportation planning process that, somehow, can overcome perceived differences among competing state, regional, and local interests. But even with all parties working together, major highway and other transportation projects take as many as eight or more years to plan, design, and construct. If transportation investments are to contribute in a timely fashion to economic development goals, ways must be found to expedite the state's procurement process, and accommodations to state and federal environmental regulations must continue to be developed. It will also be necessary for the state to move expeditiously, in concert with local communities and regional agencies, to meet the various planning performance requirements imposed by the Intermodal Surface Transportation Efficiency Act of 1991 as a condition of approval of federally aided transportation projects.

Given the long lead time involved in constructing new facilities on new rights of way, a prudent transportation investment strategy is seen as one which includes a mix of projects: new construction, particularly facilities that would provide good access between city and town centers and other major traffic generators and interstate highways; reconstruction or rehabilitation of older facilities; and maintaining existing inventory in serviceable conditions. Investments should focus primarily on strengthening existing centers, building upon infrastructure resources already in place.

There was strong support among those at the workshop with an interest in a vigorous highway program for funding such a program through gasoline taxes and user fees dedicated to the exclusive use of highway investment, and for moving expeditiously to bring the outstanding $400 million highway project authorizations to contract. All highway programs must compete directly with other programs under spending caps established by the state Office of Administration and Finance. Separate authority for highways, backed by adequate gasoline taxes and user fees, would provide relief from such restrictions, allow highway investments to be seen as clearly distinct from government social programs, and help ensure that expenditures on highways would more closely meet established needs. Furthermore, although the appropriateness of bonds to finance long-lived capital investments was acknowledged, participants were concerned about the high cost of debt service, the per capita cost of which is now higher than that of any other state. Currently, 25 percent of Massachusetts highway expenditures are for interest charges.

Coordination of Economic Development

Massachusetts is seen not only as lacking a comprehensive plan for economic development, but also as being ill organized and ill equipped to create such a plan. However, there appears to be little interest in having the state develop the specifics of an economic development plan from the top down. Rather, some workshop participants called for development by the state, in consultation with regional agencies, chambers of commerce, and other local and private-sector interests, of a general policy and strategy. Once established, this policy would guide state actions for an ex-tended period of time, independent of changes in administration. A geographic-specific plan could emerge from the integration of regional plans developed by regional agencies working with their own communities and private interests under general policy guidance at the state level. For regional agencies to be effective in this role, they would need both political and financial support from the state.

Once developed, this articulated set of policies and regional-level plans could serve as a pragmatic, factual basis on which the state could market developmental potential. The process itself would provide evidence to prospective firms that we "had our act together" and help position us to secure a maximum of federal funds to support economic growth. An aggressive marketing program supported by a realistic budget and adequate staffing was seen by participants as a necessary ingredient in the process. The 1992 promotional budget of $400,000 was considered to be much too small; something more in the order of $3 million was suggested.

A logical counterpart to an integrated set of economic development initiatives would be a related, comprehensive plan for transportation facilities and services. Such a plan would ideally be guided by proposed economic initiatives and be fully multimodal, considering not only potential trade-offs among logically competitive modes, as is being done for air transport and high-speed ground transport in the strategic assessment study, but also the complementarity of modes and their physical integration , such as the integration of automobile parking and bus and rail transit at the Alewife terminal. The full realization of this comprehensive approach to transportation investment planning would be advanced by close collaboration among all agencies concerned with the provision of transportation facilities and services at state, regional, and local levels.

A View from the Other Side

The preceding discussion focused on the role of the state as a provider of infrastructure, mainly transportation facilities. But, as been emphasized, the fundamental, sustained contribution that infrastructure investments make to economic development is through their capacity to facilitate the productive use of land. Consideration of development from the entrepreneur's point of view supports this assertion.

Workshop participants identified two of the most important factors in a firm's choice of location to be (1) the availability of a public sewage system and (2) good transportation. Public sewerage has become especially important since the passage of Chapter 21E, which imposes considerable potential liability on firms that do not have access to wastewater disposal and treatment facilities. The meaning of "good" transportation depends on the specialized accessibility needs of a given firm. Commercial development, for example, requires ready access to customers, often via public transportation as well as highways. Agglomeration of commercial enterprises is often sought as a means of creating a concentration of demand sufficient to support good public transportation service. Most new manufacturing is focused on research and development, for which ready access to major educational and academic research centers is considered to be essential. High-speed, high-capacity telecommunication data links are vital components of such access. This position is supported by responses to a 1991 survey of 340 major corporations, which cite a state's support of infrastructure — including water and sewage treatment facilities, adequate transportation for people and goods, and modern communication technology — as among the most important considerations in a firm's location decision.

Nonstructural Infrastructure

In addition to its role as a provider of physical infrastructure, Massachusetts can play an important coordinative role in facilitating what are essentially private-sector transactions. The commonwealth's part in the consortium of interests that led to the successful conclusion of the Genzyme relocation was often cited by conference participants as an example of this facilitative capacity.[8] The various activities of the Massachusetts Government Land Bank were also recognized as supporting private initiative. Another function in which state and private-sector collaboration was encouraged was in providing information to firms seeking sites on which to locate. Not much favor was found with arrangements that place the major burden for maintaining the requisite up-to-the-minute site information file on a state office. Rather, it was suggested that the state serve as the initial point of contact, referring applicants to the appropriate local chamber of commerce, regional agency, or public utility consortium for the specific information being sought. State support for the development of geographic information systems was also called for. Such a system could combine information about available industrial sites with data on the transportation and other infrastructure available, local labor force and industry structure, environmental constraints, and other considerations.

Recommendations

The following conclusions and recommendations are drawn from the July 21 meeting. As such, they are intended to represent the wide variety of views that were expressed; they should not be seen as necessarily representing the position of a given individual or institution.

1. The effective use of scarce public resources requires comprehensive planning, detailed analysis based on sound, current data, and a coordinated investment strategy. Massachusetts lacks the ability to address its infrastructure needs in such a broad and coordinated way. It is therefore essential, as a matter of highest priority, that the state develop the capacity, in concert with its regional agencies, to plan infrastructure investments comprehensively across all modes within the context of a larger vision embracing a plan for economic development and land use. The establishment of such a capacity and its use in articulating a comprehensive approach to public investment undergirds each of the more specific recommendations that follow. This approach to transportation investment planning is not only fully compatible with the requirements of the Inter-modal Surface Transportation Efficiency Act of 1991, but much of it is required by this legislation.

2. Greater managerial and financial integration of state transportation agencies is consistent with, but not a necessary concomitant of, the comprehensive approach to transportation investment planning and economic development recommended above. The benefits to be sought through more centralized management of transportation revenues and expenditures must be weighed against the expectations of economic efficiency and perceived equity associated with the dedicated application of gasoline taxes and user fees to the source of those revenues. Limitations imposed by federal legislation on the use of both federal and state highway and airport user taxes must also be considered. It is unlikely that these opposing views will be easily reconciled. Nevertheless, a thorough study of the ways in which transportation revenues are generated, invested, and distributed among modes and regions in the commonwealth should be undertaken as part of the comprehensive planning initiative called for in recommendation 1.

3. The network of transportation facilities needed to support an active, growing economy throughout Massachusetts is incomplete and inadequate. Ongoing studies directed toward rectifying these deficiencies, principally identification of major state highways as links in the federally mandated national highway system; the multimodal New England Transportation Initiative; the strategic assessment/second regional airport study; and an assessment of telecommunications links, should be coordinated and vigorously pursued in the interest of developing a well-articulated system of mutually supportivemodal facilities tied to the larger New England regional complex of which they are a part.

4. The port of Boston will not fulfill its potential as a center of national and international trade until it is more fully competitive with the other ports along the eastern seaboard. The comprehensive study called for in recommendation 1 should include a realistic assessment of the latent demand for the use of Boston as a port of entry and exit and a detailed analysis of the appropriate mix of public and private investments that would be needed to reduce costs and improve access through the port and beyond to the point where this demand can be realized.

5. Although the eventual completion of the Central Artery and Third Harbor Tunnel projects will materially facilitate highway movements within and through Boston, major deficiencies will persist in other parts of the state. Debates over upgrading Routes 7 and 8 between the Massachusetts Turnpike and North Adams and Route 2 between

Phillipston and Route I-91 must consider the impact of these improvements on the economic well-being of the western and north central regions of the commonwealth. Selected improvements between town centers and major industrial and commercial traffic generators and the interstate highway system are also important in many areas.

6. Construction of major improvements in the state highway system has, in critical instances such as Routes 2 and 7, been thwarted by local concerns regarding the impacts that such construction would have on community and environmental values. Although it is essential that Massachusetts continue to take the lead in coordinating the planning and construction of state highway facilities, regional agencies should be encouraged and adequately funded to work actively with affected communities in seeking compromise locations and designs that satisfy regional and interregional transportation needs safely and expeditiously while reflecting due regard for local concerns. Full advantage should be taken of recently adopted federal procedures that give the state wider latitude in applying geometric design standards that are compatible with local settings.

7. Transportation investment should not be thought of solely in terms of the construction of new facilities on new rights-of-way. A balanced approach should be adopted that includes maintenance of existing facilities, conversion of existing assets — especially rail rights-of-way — to a mix of freight and passenger service, and disinvestment through the conversion of superfluous facilities to alternative public or private use. Focusing on obtaining the fullest use of existing infrastructure will maximize the economic impact of limited public expenditures.

8. The de novo construction of a second regional airport in central Massachusetts would involve unprecedented impacts on the community or communities in which this facility would be located and on neighboring towns. A thorough study of alternative ways of accommodating anticipated air transport demand — such as the strategic assessment currently being conducted by the Massachusetts Aeronautics Commission — should be completed prior to embarking on so massive and problematic an enterprise. This study should include a detailed, realistic analysis of the relative costs and benefits of various combinations of actions, including economic incentives to both freight carriers and general aviation to relocate operations away from Logan, and high-speed ground transport, including Maglev technologies, for the movement of passengers and high-value freight over short and intermediate distances.

9. Recommendations 1 through 8 deal explicitly with public infrastructure investment strategies that should be considered by the state in the interest of promoting its economic growth. Such a comprehensive infrastructure investment plan would, in itself, be seen by firms as practical evidence of the state's understanding of businesses' need for a sound public infrastructural base upon which to build private investment. The improvements that would result from the implementation of the plan would provide further direct support to specific firms seeking to locate in a given area. In addition to facilitating the movement of people and goods through improvements to the state's transportation infrastructure, public investment in and support of other forms of infrastructure would significantly enhance the state's ability to attract and retain commercial and industrial activity. Examples include:

- Developing, in collaboration with the regional planning agencies, a geographic information system to provide both private interests and public agencies with a comprehensive, geographic-specific data base, including land use, economic and demographic data, public improvements, and natural features.

- Establishing a highly visible point of contact through which firms seeking site information could be referred to the appropriate local or regional agency or public utility for current information regarding available sites and associated community characteristics.

- Aiding communities or groups of adjacent communities to develop wastewater transport and treatment facilities consistent with state and federal laws governing the disposal of commercial and industrial liquid waste.

- In concert with universities and private industry, develop a supercomputing facility and a supporting statewide network of high-speed, high-capacity data links providing access to universities, research facilities, data-intensive industries, and public agencies.

- The state should proceed expeditiously to move the entirety of the $400 million in highway project funding from the authorization state to the contract stage. Full and prompt implementation of this highway program would serve not only to move badly needed funds into the economy, but would also provide an important signal to the business community that the Massachusetts economy is moving again.

Coda and Update

The previous discussion is an attempt to capture the essence of the interests and concerns of the participants at the July 1992 workshop, who represented local, regional, and state agencies, developers, public utilities, chambers of commerce, and a variety of other public and private interests. It is revealing of the economic and political processes that influence the course of infrastructure development to consider the changes that have taken place with respect to those issues of primary concern to the workshop participants in the two years since the workshop was held. The following is a brief review of the current status of the second regional airport and the related New England transportation initiative, improvements to Routes 2 and 7, and highway funding and the Central Artery/Harbor Tunnel Project.

The Second Regional Airport and the New England Transportation Initiative

The results of the strategic assessment that was designed to reassess the region's long-term air transportation and related high-speed ground transportation needs were released in July and November 1993.[9] The conclusions of this study differed in at least one major respect from those of the "Second Major Airport Siting Study." Although both studies accepted the premise that additional transportation facilities will be needed in Massachusetts to meet future demands for high-speed intercity transportation, the *Strategic Assessment Report* concluded that a second major airport would not be necessary. Rather, a combination of capacity enhancements at Logan, such as those called for in the Boston Logan capacity enhancement plan,[10] and other regional improvements, among which might be high-speed rail or magnetically levitated ground transportation facilities, a large regional reliever airport, or vertiports for use by vertical takeoff and landing aircraft, would be adequate to meet future intercity high-speed travel demands, which the strategic reassessment determined would be significantly less than those posited by the original second major airport siting study.

The findings of the *Strategic Assessment Report* are consistent, in most essentials, with the thrust of the New England Transportation Initiative, a study of existing and potential demand for high-speed intercity transportation services in the region and of various technological alternatives that might be employed in meeting these demands. The initiative, an ongoing study that currently enjoys a half-million-dollar budget contributed by the commonwealth of Massachusetts and the other contributing New England states, is predicated on an initial assumption of high potential demand for high-speed intercity transportation services. This assumption would seem to be at variance with the strategic assessment's finding that "demand for high-speed travel will be significantly less than previously forecast."

Improvements to Routes 2 and 7

Essentially no progress can be reported with regard to Route 2. An attempt by state senator Stanley Rosenberg to include funds in the 1994 transportation bond legislation for the widening of the least controversial section of the Phillipston-Greenfield route — the portion between Phillipston and Orange — was not successful. Although improvements to Route 2 are included in the Franklin County Transportation Improvement Plan, it is unlikely that, without state funding, much, if anything, will be done in the near future.

The Route 7 situation is considerably more complex. During a reception in Pittsfield in the spring of 1993 at which the state's strategy for job creation and economic growth was presented,[11] Governor Weld expressed support for improvements to Route 7, including the construction of an interchange of it with the Massachusetts Turnpike in Stockbridge. However, Secretary James Kerasiotes of the Executive Office of Transportation and Construction, who was not present at the reception, was unconvinced that sufficient support existed among the communities that would be directly affected by proposed improvements to the route to warrant moving ahead with this project. As an alternative, a task force was established of some sixty mayors, selectpersons, and other officials in the Berkshire County cities and towns that would likely be affected by improvements to Route 7 — and to route 8 in the event that the entire north-south corridor from Stockbridge to North Adams were to be improved — to seek a clearer consensus.

The task force continues to meet in its search for consensus. In the meantime, the question of improvements in the Routes 7 and 8 corridor, known as the Western Bypass (west of Pittsfield), was placed on the November 1993 ballots in Pittsfield and North Adams. The results of the referenda were quite definitive: the vote in favor of the Western Bypass was 3-1 in Pittsfield and 9-1 in North Adams. This position was reaffirmed by voters throughout Berkshire County in the November 8, 1944, election, when a ballot measure instructing state representatives to vote in favor of the Western

Bypass, including a connection to the Massachusetts Turnpike, passed by a more than two-thirds majority.[12] Voters in thirty of the thirty-two communities in which the measure appeared on the ballot voted in favor, the majority in North Adams being almost 90 percent. Only Stockbridge and Mount Washington voted against this measure.

Highway Funding and Central Artery/Tunnel Project

Although Massachusetts was successful in bringing the balance of the fiscal year 1993 highway project authorization to contract, as called for by many workshop participants, the problem that concerned these participants persists. Almost all the money spent on transportation by Massachusetts public agencies — state, local, and regional — depends on funds authorized by biennial transportation bond bills; even federal moneys are made available as reimbursements for prior state expenditures financed by bonds. The most recent transportation bond bill, first introduced in the legislature in October 1993, failed of passage. Refiled in January 1994, the funding bill was partially passed in late August. Meanwhile, the cities and towns have been on short rations, and highway contractors must cope with a much truncated construction season.

Given the recurring highway funding problems faced by local communities as a consequence of the way the commonwealth currently finances transportation, it is not difficult to understand the workshop participants' interest in separating highway funding totally and unambiguously from other elements of the state's budget and supporting this fund through gasoline taxes and user fees dedicated to this purpose. The concerns of local communities, especially those outside the Boston ambit, however, go deeper than the problems imposed by the uncertainties in the timing of funding that attend the current financing process.

Competition for resources between geographic regions of a state is more the rule than the exception: New York City vies with upstate New York, northern California contends with southern California, and Boston competes with much of the rest of the state. In states such as Massachusetts, where the government center is located in the predominant metropolitan area, this competition for resources tends to favor the metropolis. This often causes the cities and towns outside Route 128 to feel that they receive less than their fair share. A persistent focus of this concern is the Central Artery/Harbor Tunnel Project.

Although there is general agreement throughout the commonwealth that the project is essential for the economic well-being of Boston and its immediate neighbors and that it will provide benefits to highway and airport users from the rest of the state, long-standing concerns of local officials over its enormous cost intensify as estimates of the cost-to-complete continue to rise.[13] These fears would seem to be justified in light of the state's proposals to devote large proportions of noninterstate federal-aid surface transportation program funds to the "big dig."

Reflection on the foregoing events suggests that the way in which the state approaches the development of transportation infrastructure depends strongly on the nature of the facilities being considered and the institutional setting in which their planning, financing, and construction take place. This seems to be particularly true in the context of the comprehensiveness of a statewide vision of transportation as a tool of economic development. Overcrowding at Logan Airport, for example, is treated as posing a threat to the state's economic well-being. As such, the problem has been approached at the state level in a comprehensive way that includes consideration of a mix of ground and air technologies in cooperation with interrelated regional interests. In contrast, improvements to Routes 7 and 8 that would go a long way toward relieving the economic isolation of the western part of the state, and are of especial importance to Pittsfield and North Adams, seem to be viewed as an essentially local problems to be dealt with as just another element of a continuing program of highway betterments in which a state-wide view is found mainly in what appears to be a rather unequal competition for a state-administered pool of funds. A comparison of the state's singular dedication to Bo-ston's Central Artery/Harbor Tunnel Project with its apparent reluctance to invest in the Western Bypass corridor seems to confirm the view that decisions to invest in public in-frastructure are essentially, and quite properly, political decisions. Therefore, it appears to confirm the words of that consummate politician Tip O'Neill: "All politics is local." ❧

Notes

1. Alicia Haydock Munnell and Lea M. Cook, "Financing Capital Expenditures in Massachusetts," in *Massachusetts in the 1990's: The Role of State Government*, Research Report No. 72, November 1990, Federal Reserve Bank of Boston, 295–364.

2. The New England Transportation Initiative is an ongoing study of existing and potential demands for high-speed intercity transportation in New England and of various high-speed ground and short-haul air transportation technologies intended to serve such demands. The initiative is a joint effort of the several New England states.

3. U.S. Government, Clean Air Act Amendments of 1990, PL 101-549.

4. U.S. Government, Intermodal Surface Transportation Efficiency Act of 1991, PL 102-240.

5. Commonwealth of Massachusetts, Massachusetts Aeronautics Commission, "Second Major Airport Siting Study, Part A Report," December 1990. The intended follow-on study, in which environmental analyses of candidate sites were to have been undertaken, was never initiated.

6. The strategic assessment was conducted on behalf of the Massachusetts Aeronautics Commission by Arthur D. Little, Inc., of Cambridge, Massachusetts. The study's findings were released by the commission in *Strategic Assessment Report, Volume 1: Executive Summary* and *Volume 2: Final Report*, on July 21, 1993, and in *Volume 3: Committee Comments*, on November 17, 1993.

7. Dow Jones and Company, *Business on the Move*, 1978, as reported in "Second Major Airport Siting Study, Part A Report," 45.

8. The facilitative assistance and financial accommodations provided by the state and Boston's Allston section, among others, are credited with helping to convince Genzyme's management to commit to the Allston location.

9. U.S. Government, Federal Aviation Administration, "Boston Logan Capacity Enhancement Plan," October 1992.

10. Commonwealth of Massachusetts, Massachusetts Aeronautics Commission, *Strategic Assessment Report, Vol. 2. : Final Report*, July 1993.

11. Commonwealth of Massachusetts, *Choosing to Compete: A Statewide Strategy for Job Creation and Economic Growth*, May 1993, produced through the collaboration of the Executive Office of Economic Affairs and the University of Massachusetts.

12. The ballot measure read: "Shall the State Representative from this District be instructed to vote in favor of legislation requiring construction of a Western Bypass alternative Road in Pittsfield with a connection to the Massachusetts Turnpike as described in the 1993 County Transportation Plan?"

13. Escalations in the anticipated cost to complete the Central Artery/Harbor Tunnel Project arise primarily as a result of three factors: design changes required by accommodations to environmental/community concerns, modifications introduced as a result of more detailed engineering data than were available at the outset of the project, and inflation, a time-dependent phenomenon not unrelated to the first two causes.

The Economy and the Regulatory Environment

In Search of a New Paradigm

Zenia Kotval, Ph.D., AICP
John Mullin, Ph.D., AICP

This article focuses on the economy and the regulatory environment. The economic downturn over the past six years has taken its toll on Massachusetts. At the same time, there is immense pressure on the part of the electorate to ensure that our quality of life is protected and enhanced. It is clear that the business community, citizens, and our elected officials are searching for a new paradigm. The concept of a policy of sustainable development is emerging — political and corporate actions that produce well-paying jobs, that create a competitive business climate and improve life within the context of our existing communities. The authors believe that this new paradigm, a mixture of vision and pragmatism, is achievable through collective will.

The framework for this article emerged from a conference on the Massachusetts economy and the regulatory environment held at the University of Massachusetts Amherst on July 30, 1992. Attendees included environmentalists, business officials, academics, conservationists, chamber of commerce officials, and public officials. Its intent was to provide ideas, concepts, and approaches that the state could develop into economic initiatives.[1] Some of the thoughts generated by the participants were ultimately incorporated into a statewide strategy for job creationand economic growth and published in a report entitled *Choosing to Compete*.[2] Many ideas were underplayed or were not included. We believe that the ideas, concepts, and approaches, as a package, still have merit. We offer them in this article to further stimulate the debate on future economic policy directions.

We chose the subtitle "In Search of a New Paradigm"[3] because we believe that Massachusetts must seek out fundamentally new directions if its economy is to prosper, its environment is to be protected, and its quality of life is to be maintained and enhanced. It is not a time for timidity, incremental change, or pressure politics. It is time for comprehensive, bold actions that create a new way of thinking about how and where we work, live, and play.

We focus on the economy and the regulatory environment. Nowhere is the battle ground so well staked out as with this issue. As much as one hates to use dichotomies,

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the fact remains that there are still powerful groups that consider our regulations too restrictive and equally powerful groups that think they are too liberal.[4] While we see some erosion of these positions and a desire for mutual cooperation, the divisions are still strong. It is our hope that this dichotomy will cease to exist and that a spirit of mutual need will emerge. We are convinced that the policies explained below can help.

The article is divided into three parts: the first is an expression of concerns and responses to the economy and environmental reform inquiry, the second a commentary on ten policy initiatives that could improve the regulatory environment, the third our thoughts on the long-term implication of these policies.

Responses to the Economy and Environmental Reform Inquiry

Given the state of the economy and the need to attract jobs and enhance the tax base while maintaining a sense of quality and community character, regulatory concerns are important to all players involved in either generating new or retaining existing businesses. The following four key themes emerge constantly.

- There is a need to improve the speeding of the permitting process. Some in the business community perceive that there are burdensome and unnecessary delays in implementing the review procedure. It should be noted that this is not a plea to weaken existing procedures, but simply to decrease the time required to complete them.

- There is a need for consistency. An expressed opinion maintains that the application of rules and regulations varies extensively among state agencies, regions, and localities.

- There is a need to develop a new mind-set that promotes sustainable development. This mind-set must start at the top of state government, be proactive, and involve several cabinet-level departments. It will take the power of the state to subvert the existing dominant paradigm.

- There is a need to clean up our urban areas first. We can no longer waste the industrial resources in our cities while converting valued open and agricultural lands for other uses. Indeed, our urban areas offer "win-win" opportunities: we can preserve our heritage, provide needed jobs, maximize infrastructure investments, and maintain open space.

Participants were encouraged to discuss and voice their opinions on the role of government within the realm of regulatory reform. When asked how the state's regulations and regulating process could best support economic development, they most commonly cited the following:

- The need for partnership in an integrated, coordinated process with all players at the table.

- The need for compatibility. Regulations must be meaningful and in context with development. They must be neither overly harsh nor lenient. They must be risk-based.

- The need for consistency. Regulations must be clear, understandable, and meaningfully measurable.

- The need for predictability. The standards, process, methods of evaluation, and time required in the process must be clearly stipulated and understood.

- The need to privatize and use the regional planning agencies to speed up the regulatory review process.

- The need to review regulations periodically to ensure that they are still meaningful and necessary.

- There is a need to change the image of Massachusetts as an antibusiness state.

- Technical assistance, outreach, and education for the business community, local boards, and commissions, and the regulators themselves, is essential.

- There is a need to define a vision for the types of businesses that are welcome in Massachusetts.

On the role of state government in ensuring economic growth in the context of the Clean Air Act, the responses may be summarized as follows:

- The need for coordinated and integrated actions at the cabinet level.

- There is a need to reduce traffic by creating restrictions for automobiles and incentives for mass transit.

- It is far better to develop inner cities than to build on open land.

- The state must play an oversight role, decentralizing implementation, providing needed information, and ensuring business participation in the creation of regulations.

- The question of open-ended liability concerning hazardous waste must be addressed.

Three key points emerged in a discussion of ways the state government can help to encourage the growth of environmental industries.

- Massachusetts has a decided competitive advantage in the environmental industries, which should be positively exploited.

- We have to build on our strengths and provide state resources to further nurture these companies.

- We must continue to look at new techniques, test them, and provide information on the results to our communities.

Policy Initiatives

The ten policy initiatives that follow represent a balanced synthesis of the perspectives outlined in the first section. We believe they are important in terms of improving the regulatory environment.

1. It should be the policy of the commonwealth of Massachusetts to ensure that environmental and economic interests are integrated and coordinated at the highest level of government, with maximum regard for the long-term interests of the state.

This recommendation stems from the observation that stovepipe decision making often results in conflicts, delays, and lost opportunities. If, for example, the secretaries of Economic Affairs, Agriculture, the Executive Office of Communities and Development, Environmental Affairs, and Transportation and Construction prepared joint position papers on investments in infrastructure, there is little doubt that inner-city areas would benefit, that areas subject to hazardous waste (21-E) problems[5] would be improved and environmentally sensitive areas and farmland more easily protected. While we are not espousing state control of land use or development decisions, we are declaring that the state must coordinate its "carrots and sticks" to ensure the guarding of our quality of life.

A Hatfield, Massachusetts, case study illustrates our point. When C&S Wholesale Grocers requested permission to build a 335,000-square-foot (approximately 8 acres!) warehouse in the town, it was granted. This rural community is highly dependent upon the fertile Connecticut River Valley for its economic base. By all accounts, the Department of Food and Agriculture (DFA) and the Pioneer Valley Regional Planning Commission have been attempting to maintain a healthy agricultural base in the valley.[6]

Yet this warehouse is being placed right in the center of the state's most productive agricultural area. Further, and perhaps most important, it is being done through a grant provided by the Executive Office of Communities and Development (EOCD). Who are the winners in this case? Clearly Hatfield will gain tax revenues, its citizens will have new job opportunities, and its farmers will have a new market. On the other hand, while there are suitable vacant sites in surrounding urban areas and greater need for jobs in the cities, a major concern is that the warehouse is likely to attract other similar businesses that will further change the character of the land to nonagricultural uses. In the short term, this decision has clearly benefited the local community; in the long term, it will do little to ensure the enhancement of the quality of our built environment.

Clearly, the decision on issuing the permit to C&S Wholesale Grocers should have been considered jointly by DFA and EOCD only after a careful determination of its long-term impacts. Unfortunately, this did not occur. We are not naive about the problems of policy integration. Different agencies have different constituencies. But there are too many examples like the C&S case to allow flaccid decision making to continue.

2. It should be the policy of the commonwealth of Massachusetts to actively pursue greater private-sector participation in deliberations concerning future regulations.

This should not be perceived as an attack on the state environmental organizations. They have accomplished wonders and contributed immeasurably to our quality of life.

The fact remains that there is a perception (at least) that the business community has been underrepresented, but it must also be noted that many business organizations are involved — small business, big business, defense business, the High Tech Council, the unions, Associated Industries of Massachusetts, and the Environmental Business Council, among others. It is crucial that a much broader degree of private-sector participation be pursued.

For too long, the business community has been left out of the process of environmental policy development. The net result is that the owners are typically distrustful of the environmental movement and frequently resist efforts to protect the quality of the environment.[7] Nowhere could this be better observed than through a review of the Rivers bill, which would impose reasonable restrictions on development within 150 feet of rivers and streams. The governor is a strong supporter of the bill as are all environmental groups. A *Boston Globe* editorial bluntly stated that the bill, after five years of floundering in the legislature, deserved to be passed. Yet the Associated Industries of Massachusetts, the Massachusetts Bankers Association, and the Greater Boston Real Estate Board all have lobbied against the bill. To date they have been successful, as the bill remains tied up in the House Ways and Means Committee.[8]

There is no logical reason why the bill should threaten businesses. If anything, its enactment would add value to property and increase our quality of life. We believe the fear is a knee-jerk reaction and that careful analysis would cause the business community to change its perspective.

It should also be noted that the environmental community is at times just as fixed in its positions as the business community. We have rarely seen the Audubon Society, for example, show any degree of flexibility in its opinions. We have also observed the Conservation Law Foundation's pursuit of what we would consider frivolous court actions designed simply to delay and add cost to a project the group opposes. The point is that the coming together of the environmentalists and the business communities can only help to improve the quality of life of all Massachusetts residents.

3. It should be the policy of the commonwealth of Massachusetts to ensure that all its environmental regulations are necessary, understandable, measurable, predictable, standardized, consistently applied, supported by business communities, and regularly evaluated to ensure that they are meeting their intent.

There have long been overlapping regulations. For example, whenever we deal with the environmental prospects associated with the revitalization of an old mill, we are required to go through processes involving three federal agencies — the Department of Housing and Urban Development, the Environmental Protection Agency, and the Army Corps of Engineers — as well as the state Department of Environmental Protection and the local conservation commission. While each organization has its own charge, there are areas of significant duplication.[9] There is no reason for developers to repeat the same steps again and again.

Control over the resale of sludge is an example of a regulation that the public and business owners don't understand. The standards require sludge to be cleaner than over-the-counter compost, yet the parties removing it cannot sell it. The rationale that it may still be tainted simply doesn't make sense.[10]

The questions of measurability center on the perception that tolerance levels are often set beyond people's ability to measure them. The increased sophistication of scientific measuring instruments has resulted in the ability to determine microscopically whether negative environmental impacts are occurring on a site. In a very short while, we have made major advances from measuring parts per million to parts per billion and beyond. However, the significance of these measurements is not understood. In short, measurement must define risk understandably.

Concerning predictability, standardization, and consistency, it is important that the rules remain constant, that the same treatment is given to all parties, and that changes do not occur in midstream. Unfortunately, there is a perception that this is not the case. More specifically, there is a belief that local boards of health and conservation commissions have often used their powers to block growth (rather than protect wetlands), provide advantageous rulings to local developers (as opposed to those from elsewhere), and have sliding scales on "orders of conditions" depending on the popularity of a project.[11] Finally, there is a need to gain the support of the business community before a regulation becomes a rule. The opinion of an overwhelming number of businesspeople is that environmental regulations are necessary and important. However, methods of application are a different story.

4. It should be the policy of the commonwealth of Massachusetts to assist, train, and educate the business community in the application of regulatory procedures.

No one denies the need for inspection and, in cases of noncompliance, the application of punitive measures. Overwhelmingly, however, the business community is willing to comply with the letter and spirit of environmental regulations. A concern frequently emerges because businesspeople do not know what is expected of them. Providing technical assistance, training, education, and a constant flow of information can help to eliminate many of these problems.

The key apprehension centers on the role of inspectors and the interpretation of rules. Do inspectors visit factories to find mistakes and punish offenders or to help protect the environment? If we accept the premise that business wants to comply, inspectors' visits should be directed toward helping businesses to comply. Carefully trained, articulate, and knowledgeable inspectors can improve the compliance rates of factories and enhance the environment. In many cases, we are arguing that inspectors should follow the procedures of the army's inspector general: the army informs organizations of what will be inspected, when it will be inspected, and the criteria for meeting the standards. Announcements are made months before planned site visits occur, and the organizations gain assistance from others as they prepare for evaluation. Punishing a company doesn't help anyone; providing knowledge to it helps everyone.

In the interpretation of rules, too often one inspector is overzealous and the next overly lax. It is vital that the standards for evaluation be clear, the methods understood, and the range of personal interpretation narrowed. Only then can business communities gain a clear understanding of what is expected of them.

5. It should be the policy of the commonwealth of Massachusetts to establish risk assessments in dealing with environmental regulations.

There are differences in degree between survival, critical, major, and minor environmental problems, yet many find too little distinction in the actions taken to solve problems. The trite phrase "using a jackhammer to kill a gnat" comes to mind. There are two key issues here. The first is the impact that the phrase "chemically dirty site" has on the development community. If one is trying to revitalize an old mill property and tests reveal even minor contaminants in the soil — or produce even rumors of contaminants

— lenders almost instantly are reluctanct to finance the site. One cannot blame them. After all, business owners who feel they cannot make a site work walk away from a project and turn it over to a lender who in turn inherits at least some responsibility for the report. Further, if a potential buyer has the choice between a new clean site or a clean site that was once labeled chemically dirty, our experience has shown that, all things considered, the buyer is inevitably drawn to the new one. The point is that there is a tendency for the public and potential buyers to treat all environmental problems as severe.

The second issue is the fear that changes in measurement and technology will result in a never-ending search for more contaminants. This is the "parts per million/parts per billion" conundrum: a site that is clean at the former level is not at the latter. Should the new technology be applied after an investment has been made, both the community and the owners are harmed. There is a clear need to create a well-understood risk-grading system in which the public can feel confident. If this is established, fears can be at least partially minimized.

6. It should be the policy of the commonwealth of Massachusetts to return its economic assets to a high degree of environmental quality.

A strongly held belief is that hazardous waste regulation 21-E and local zoning regulations, among others, result in abandonment, blight, and urban decay. As previously noted, when the cost of cleanup becomes too high, owners frequently walk away from the property, turning it over to a bank and allowing it to rot. There are millions of square feet of existing mill space in that condition with more being added monthly. Unless attention is given to this problem, our urban economic base will further erode and our businesses will continue to build on green lands. While some reforms have been passed (e.g., 21-J), they are not enough to stimulate recovery or stop disinvestment. More is required.

Moreover, not all old mill buildings should be saved. Few presently meet health, sanitation, flood plain, or building and occupational safety standards. Further, the nature of manufacturing production is increasingly linear. We have been told that the price of a multifloor process production typically adds 25 percent to the cost of a unit produced. Thus, with the need to bring these buildings up to standard and to find companies that can overcome the costs of multifloor operation, one can understand why green-field locations with modern buildings can be so appealing.[12] One can also appreciate the necessity to demolish buildings that are beyond help. As long as they stand, they are symbols of decay and defeat. Once they are removed, some of the acreage can be put back into productive use.

7. It should be the policy of the commonwealth of Massachusetts to ensure that our future growth is accomplished in a concentrated manner and in communities where it is most needed.

There is little support for the indiscriminate spread of business and industry across the Massachusetts landscape. We have substantial industrial, commercial, and service facilities and infrastructure in our built-up areas which, once environmentally revitaized, could meet our growth needs for years to come. Unfortunately, we have chosen to ignore such assets and are allowing them to decay. Vermont's Act 250 offers one model, at least in part, for our future.[13] There is extensive concern that, if unchecked, green-field development will ruin the uniqueness of the built environment of the commonwealth.

Two critical issues are apparent, the first centering on the state of our inner cities. Increasingly the homes of the poor, the aged, immigrants, minorities, and the less educated, they are less and less able to meet their obligations. At the same time, because jobs follow people, we see increased economic growth in suburban and rural areas. The second issue is that of home-rule. The local government powers Massachusetts grants its communities, among the strongest in the nation, have resulted in the placement of strong economic borders between and among communities. These powers have also created a sense of competition among communities as they search for new companies to expand their tax bases. We regularly find instances of companies' moving from center cities to suburbs, thereby gaining access to government grants. Who wins and who loses under these circumstances? Clearly, the companies and the receiving suburbs are the big winners. Just as clearly, the cities lose vital industrial companies, tax revenues, and employment opportunities. Too often,given the age of most of our urban industrial structures, the space abandoned by a departing company is never again occupied.

8. It should be the policy of the commonwealth of Massachusetts to promote mass transit across the commonwealth via infrastructure development and incentives while discouraging the use of private automobiles.

The extension of the MBTA draws great praise. Similarly, the maturation of regional mass transit systems (e.g., MART and PVTA) are hailed. But more needs to be done, particularly ensuring that rural areas receive increased mass transit assistance.

The extension of mass transit in all areas of the commonwealth makes sense. In fact, the provisions of the Intermodal Surface Transportation and Efficiency Act and the Clean Air Act will require the commonwealth to make even greater efforts toward reducing automobile dependency. Indications are that there will be a dramatic increase in federal funds to the state for transportation improvements. If these funds are spread across the commonwealth, all of us will gain. However, we fear that they will remain in Greater Boston and that the rest of the state will be neglected.

9. It should be the policy of the commonwealth of Massachusetts to encourage the growth of environmental industries through strong incentives.

Ironically, one of the by-products of the commonwealth's strong environmental regulating system has been the creation of an emerging environmental industry. A look at the environmental *Green Book* reveals hundreds of Massachusetts-based companies.[14] In many ways these industries, which are in the forefront of environmental reform, are technologically superior to those in other states and nations. They form what Michael Porter calls an industrial cluster and a competitive advantage to the commonwealth.[15] It is crucial that we capture this advantage and exploit it for economic purposes.

10. It should be the policy of the commonwealth of Massachusetts to continue testing new technologies and procedures that are designed to protect the environment, help industry, and provide alternative development options for communities.

While there is little political support for small-scale package treatment plants or individualized alternatives to septic systems at this time, technological advances continue to be forthcoming. Similarly, there are steady technological advances in detecting hazardous activities. We must continue to promote any and all technologies that could improve our quality of life. It is also important that we test these advances in the field before allowing them to be applied to our communities.

Policy Implications and Action

This ten-point plan will neither create an economic panacea in Massachusetts nor totally or quickly correct our environmental problems. It will, however, place us in a position where, over time, our economy and our environment can be sustained.

We began this article with a comment concerning the need to integrate environmental and economic interest at the highest levels of government. If this occurs, it will signal that a new paradigm is in place. Curiously, this first step would not be that difficult or costly. All it would require is the will of the governor! In essence, the shift has to begin with the person at the top, after which the public could begin to shift.

The pervasive power of the executive should also be applied in terms of bringing the private sector into the fold. We remember that the governor's conference with business leaders about how the state can serve them better was a tremendously effective forum. We urge the governor to sponsor a similar conference in which the business community and environmental leaders determine on which areas they can agree quickly and which will take time to resolve. As with the need to employ the top-down powers of the governor to induce public-sector change, there is a need to gain the support of key business leaders. Ignoring them will result in no change.

Perhaps the most far-reaching element is that which urges a focus on existing settlements. It will be costly, time-consuming, and disruptive, yet it is not open to choice. The industrial areas in these settlements will continue to decay unless government undertakes actions. The old television advertisement in which a repairman says "Pay me now or pay me later" comes to mind. Settlements that we regard as special are deserving of protection and revitalization. As long as we allow industry and retail firms to build
in green fields with minimal concern for our settlement pattern, they will. If, on the other hand, we develop a carrot-and-stick system built on the Vermont model, we can indeed make a difference.

Finally, the policy implications of encouraging research into new environment-related technologies will result in a twofold gain for the commonwealth. It will produce a healthier environment for its citizens and reinforce our growing cluster of environmentally oriented firms.

In short, it is clear that we cannot continue business as usual. As long as business is the perceived enemy of environmentalists and environmentalists are perceived as zealots, as long as any community has the power to "beggar" its neighbor, as long as we continue to ignore our brown fields and destroy our green fields, we will have an erosion of our quality of life. We have the technology and means to bring change.

Where do we go from here? We started with the premise that all we require is the collective will, and there is some evidence that it is emerging. For example, there are movements to improve the application of environmental regulations, there are new center city development incentives, and there is increased cooperation between business officials and regulators. There are also new legislative initiatives, such as the proposed planning and development act, which are working their way through the General Court. However, until the barriers between the business community and regulators are removed, progress will be too slow, too incremental, and too muddled to bring about the new paradigm.

For this reason, we argue that a regulatory commission be formed and funded with the intent of developing a three-year legislative agenda. The commission would include representatives from the Audubon Society, the Associated Industries of Massachusetts, the Massachusetts Chamber of Commerce, the Massachusetts Association of Conservationists, the Conservation Law Foundation, and academia. Its charge would be to identify those areas where agreement can be quickly realized and where the perspectives of the various organization can become known to the legislature. We are not naive about this approach. Top-down, it is removed from the will of the voters and represents rule by interest groups. Nonetheless, we have seen it work tremendously well at the U.S. Department of Defense, where interest groups developed common agreements on defense cuts and informed Congress that common approaches had been developed. Congress was delighted, for it meant that it would not have to "jerry build" a budget to please everyone. This approach can work in Massachusetts. Will it happen? We believe it will, because there is no choice. A new paradigm is necessary. ❧

Notes

1. The conference was cosponsored by the Massachusetts Executive Office of Economic Affairs and the University of Massachusetts, Maurice A. Donahue Institute.

2. Commonwealth of Massachusetts, *Choosing to Compete: A Statewide Strategy for Job Creation and Economic Growth* (Boston: Executive Office of Economic Affairs, 1993).

3. Professor Ken Geiser (University of Massachusetts Lowell) focused his conference keynote address on the need to reconceptualize environmental and economic values and emphasized the need for a new paradigm that would result in sustainable development.

4. Contributing factors in this debate are conflicting economic and environmental goals and objectives. We emphasize the creation of wealth by exploitation and tend to separate product development and waste creation. Denmark and Germany are developing an industrial-ecological linked system in which one company's waste could become another company's raw material.

5. See Massachusetts General Law, *Chapter 21E, Massachusetts Oil and Hazardous Material Release Prevention and Response Act* (Boston: Office of the Secretary of State, 1986).

6. See Pioneer Valley Planning Commission, *The Strategic Plan for the Pioneer Valley* (West Springfield, Mass.: 1991), 10.

7. Although the skepticism about industry of special interest groups is well documented, little of the fears and mistrust of industrialists and developers is addressed to them. These real concerns have to be articulated as well.

8. See "The Damned-up Rivers Bill," *Boston Globe*, July 25, 1994, 10.

9. This point is made in a report prepared by the WestMass Area Development Corporation, *MEPA Maze: The Trial by Ordeal of One Company Working to Prepare Land for Development in the Late Twentieth Century in the Commonwealth of Massachusetts* (Springfield, 1991). Also see Craig L. Moore and Edward Moscovitch, *The New Economic Reality: Massachusetts Prospects for Long-Term Growth* (Boston: Massachusetts Taxpayers Foundation, 1994), 58.

10. New York City ventured on a pilot program to give free sludge to farmers in Colorado to introduce them to the fertilizing qualities of the product.

11. The use of environmental protection as a method to block growth is not a new argument. The powers of the Board of Health are stipulated in Massachusetts General Laws Chapter 41-1,41-2, and 111. Also see Andrew J. W. Scheffey, *Conservation Commissions in Massachusetts* (Washington, D.C.: Conservation Foundation, 1969).

12. See Zenia Kotval and John Mullin, "The Greenfield-Brownfield Debate: A Balanced Approach to Industrial Development," *Economic Development Commentary* 17, no. 2 (Summer 1993): 18–23.

13. Vermont Act 250 says in effect that new development should occur contiguous to existing growth centers, be in keeping with the character of the community, and have no adverse impact on traffic, infrastructure, fiscal capacity, environment, and community character.

14. See Daniel K. Moon, ed., *The Green Book: New England, 1993–1994* (Andover, Mass.: Green Book Inc., 1993).

15. See Michael Porter, *The Competitive Advantage of Massachusetts* (Boston: Office of the Secretary of State, 1991), 124.

Budget Policy and Fiscal Crisis

A Political Matrix

Francis J. Leazes, Jr.
Robert Sieczkiewicz

A study of 134 Rhode Island programs, administered during the state's budget crisis in the fiscal years 1987 to 1991, yielded a number of important lessons. The more mandated formula spending there was in a budget, the more uncontrollable was the budget. There is a spending bias ingrained in the political culture. Some nonentitlement spending can be difficult to curtail. Cutback management strategies are inadequate to address significant revenue shortfalls. The authors present a political budget matrix designed to assist budget policymakers and staff in making educated assumptions about the way categories of programs may be treated during times of severe fiscal stress. The matrix takes into account such elements as formulas, labor intensity, and position on the political agenda.

"What a revolting development!" declared Riley, the beloved 1950s television character, as he faced yet another family dilemma. He summed up the feelings of northeastern state legislators and their budget staffs as they struggle with endless red ink. Tough choices continue to face the lawmakers — cut spending and/or raise taxes.

Budgeting is a political act. Our budgetary matrix is designed to help budget policymakers and staffs make educated assumptions, perhaps even forecasts, about the way programs may be treated during periods of fiscal stress. The matrix can also assist in understanding the degree to which incrementalism remains in place during fiscal crisis. And, to assess the results of decremental budgeting, it determines whether the budget produces marginal downward spending adjustments or a more fundamental shift of resources from one program to another. We used the budgetary results for 134 Rhode Island programs for fiscal years 1987–1991 to develop the matrix. With each program having a more than $1 million appropriation in FY 1991, the total made up 95 percent of all state spending. The matrix subsequently was used to assess the budget outcomes of FY 1991–1992.

Four general lessons that have universal applicability for state-level budget policymakers emerged from the analysis. The first is not new, having been discussed at length in budgeting literature: the more mandated formula spending under current law, the more uncontrollable the budget.[1] A budget that is heavily entitled cannot be readily

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adjusted nor can outlays be controlled through the annual appropriations process. The budget is vulnerable because, when appropriations are left open-ended to accommodate formula requirements and cost of living adjustments, the government becomes less able to respond to unfavorable revenue forecasts and economic projections.

Another key lesson, also not new, is that a clear governmental spending bias is ingrained in the political culture.[2] That bias remains in place in times of fiscal crisis, even when political "no new taxes" promises have reduced a state's revenue-raising capacity. In this study of five fiscal years, more than half the state's spending, including nonentitlement expenditures, occurred at rates exceeding any reasonable definition of incrementalism — the habitual small, upward-creeping tendencies of budgets so often associated with public budgeting.[3] Rhode Island's spending continued unabated throughout the early years of the fiscal crisis.

The third lesson is that nonentitlement programs which are high on the political agenda, and in which there is significant political elite involvement, are as hard to control as entitlements. However, while it can be difficult to control nonentitlement spending, far more nonentitlement programs can be cut.

The fourth lesson is that short-term cutback strategies are woefully inadequate to address significant revenue shortfalls.[4] Our analysis begins with this last, but important point.

Traditional cutback management techniques were dutifully used to address the crisis. Once these tough-choice avoidance strategies were exhausted, policymakers turned to program reductions. The matrix describes succinctly the outcomes of their eventual choices.

The Political Response to the Emerging Budget Crisis

Rhode Island was a victim of its own success in raising revenues and expanding services during the 1980s. A sudden early-to-mid-decade boom economy flooded the state treasury with new revenues. Yet state government spending outpaced its revenues as spending initiatives blossomed (see Table 1). The governor and legislature showed no inclination to restrain their largess during that period.

Table 1

Comparing Revenues and Expenditures
Fiscal Years 1986-1990

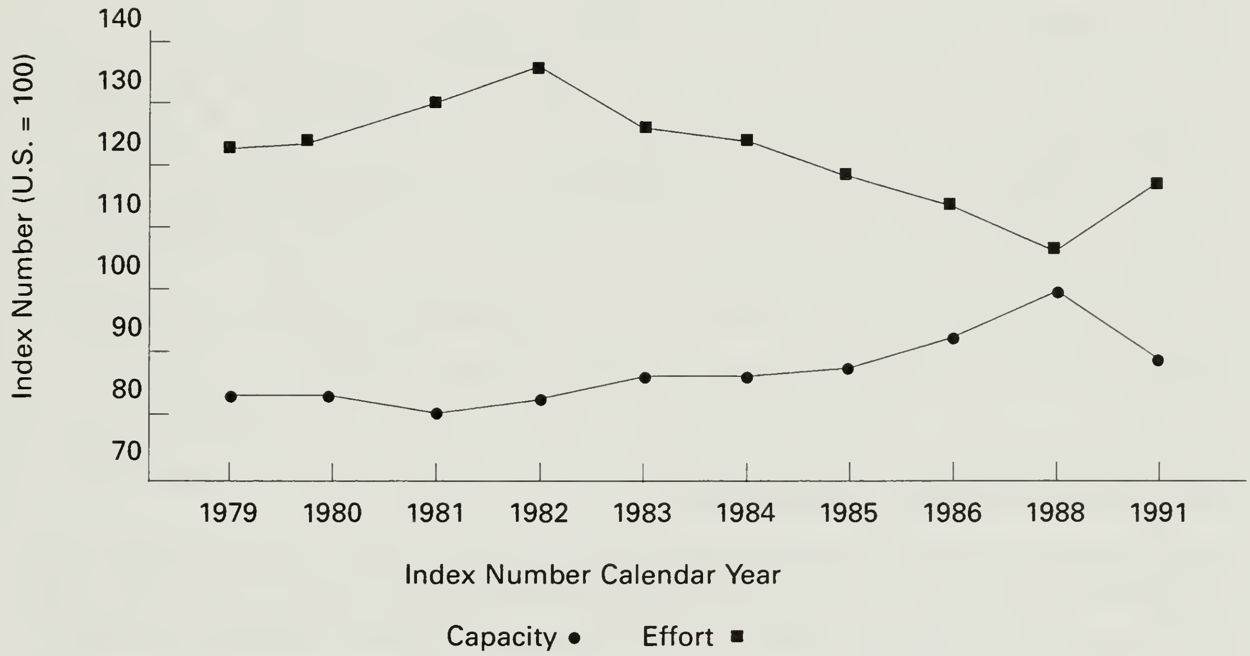
Fiscal Year	General Revenue (in 000,000s)	Percentage Change	General Expenditures (in 000,000s)	Percentage Change
1986	1,022.6	—	1,052.4	—
1987	1,165.8	14.0	1,130.9	7.5
1988	1,247.9	7.0	1,255.7	11.0
1989	1,293.2	3.6	1,399.7	11.5
1990	1,374.0	6.3	1,489.7	6.4

Source: State of Rhode Island, Department of Administration, budgets as enacted for the appropriate year.

The boom years also witnessed an increase in the state's revenue-raising capacity. Rhode Island's tax power is historically below the national average, but its tax effort is often above the national average (see Figure 1). During the mid-1980s Rhode Island reduced its tax effort by enacting a series of rate reductions in its income tax, which is a "piggyback" on the federal tax. By 1988, at the outset of the fiscal crisis, the state's tax capacity and effort were approaching the national norms. As Figure 1 clearly shows, from that point on tax capacity and effort diverged sharply, a direct result of the fiscal crisis.

Figure 1

Rhode Island Tax Capacity and Effort 1979–1991



Source: Advisory Commission on Intergovernmental Relations, "1991 State Fiscal Capacity and Effort" (Washington, D.C.: ACIR, August 1993).

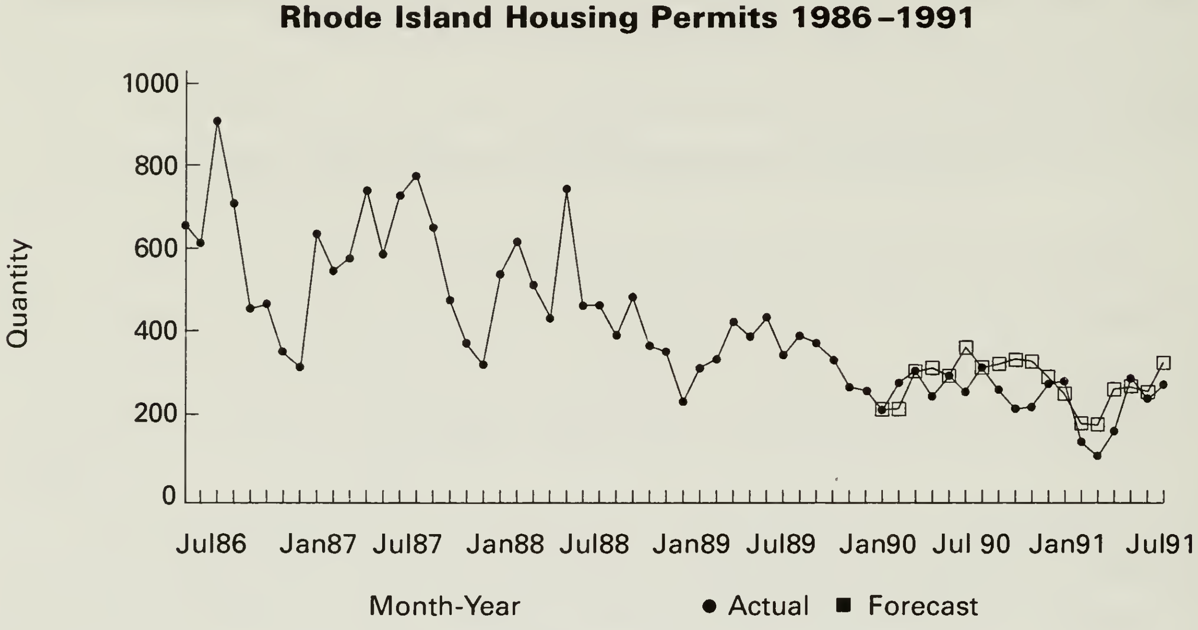
Underlying the apparently healthy 1980s economy were troubling indicators pointing to the boom's really being a "blip." Policymakers ignored forecast data warning of future trouble. Single-housing permit applications, which are consistently cited as indicators of the robustness of the state's overall economic health, declined precipitously after their peak in 1986 (see Figure 2). Despite a number of lesser peaks, the trend was clearly downward. The warning sign went unheeded, however. State spending continued to grow.

Other ominous signposts appeared in the years following, but state spending proceeded unabated through fiscal years 1988 and 1989. The prime lending rate rose throughout the last few years of the decade. Rhode Island housing prices continued to increase. Rising mortgage rates and housing prices meant that fewer Rhode Islanders were able to afford a home. After peaking in 1988, housing sales declined rapidly.

By fiscal 1989–1990, significant political capital had accrued to both the legislature and governor because state income tax rates were reduced four times between 1986 and

1988. All the while revenues continued to rise. However, Rhode Island officeholders reluctantly cashed in this political capital to overcome fiscal stress once revenues began to decline.

Figure 2



Sources: Actuals — NEEECO, University of Maine. Forecast — RIHFAS

The Cutback Management Response

Once the state's budget began to bleed in fiscal year 1988–1989, and hemorrhaged between 1990 and 1992, past spending commitments were threatened. The gap between the needs and expectations of citizens and government employees for public services and benefits widened. The economy could not generate enough growth to sustain tax supported programs without putting unacceptable demands on taxpayers. The new federalism, a seeming "shift and shaft," continued to strain the state coffers.

Tough choices faced the Rhode Island legislature as it struggled to meet the state constitution's balanced budget requirement. Repeatedly, state revenues did not meet forecasted expectations. Fiscal year 1989–1990 saw the emergence of an $86.8 million deficit on a total state budget of about $1.49 billion. Fiscal 1990–1991 realized a nearly $200 million shortfall.

In mid-decade, policymakers had taken a few tentative steps toward developing a financial emergency plan. In 1984 the legislators created a "rainy day" fund, the State Budget Reserve and Cash Stabilization Account. When the first deficit appeared in 1989–1990, the $57 million in that account was depleted almost overnight.

The initial political response of the Rhode Island legislature and governor in the declining revenue years of fiscal 1989–1990 and 1990–1991 was to combine traditional cutback management techniques with revenue "enhancements" and a small personal income tax increase.[5] Any major increases in personal or corporate income tax rates were not deemed politically possible as both governors in office during the crisis took the no-new-taxes pledge. Nevertheless, the state's tax effort increased while its capacity began to decrease as a recession began to take hold. During 1989–1990, traditional cutback management strategies to reduce personnel costs took center stage. An early retirement program was put in place. More than 700 state employees took advantage of an offer "they couldn't refuse." The expected short-term savings were offset somewhat by personnel's rehiring under the state seventy-five-day rule or as consultants. Shifting state-revenue-supported employees to federal "soft money" also became a strategy of choice.

In fiscal year 1990–1991, revenue enhancements came to the forefront, furthering the gap between tax capacity and effort. The principal steps taken were to:

- increase user fees for motor vehicle registration and other services, including the beloved vanity license plates;

- enact a state sunset sales tax increase that raised the tax from 6 to 7 percent, to be phased out over the two subsequent years;

- expand the sales tax to incorporate periodicals;

- increase the state "sin" taxes on alcohol and tobacco as well as the gasoline tax; the latter was increased twice in one year, placing it among the highest in the nation;

- cancel the one percent Public Service Corporation tax reduction scheduled for FY 1991;

- employ creative accounting to define when and how certain receivables would be reported.

Structural changes in the activities supporting the budget process appeared as well. During the last few fiscal years the revenue and spending forecasts of the governor's staff and the legislative fiscal advisers were often in conflict because of different forecasting techniques. To iron them out, a revenue-estimating conference made up of the state's budget officer and the House and Senate fiscal advisers was established in the hope that their combined strengths would improve the quality of forecasts.[6]

None of the strategies worked. Forecasted expenditures for 1990–1991 kept changing for the worse throughout the fall of 1990. By the time a new governor was sworn into office in January 1991, the original FY 1990–1991 budget as enacted was projected to produce a $200 million shortfall, excluding the cost of a looming statewide credit union bailout.

When the potential long-term severity of the crisis emerged during FY 1990–1991, the new governor proposed a midyear adjusted budget package that the legislature quickly passed. The new strategy for coping with fiscal disaster was primarily designed to reduce payroll. The governor proposed and negotiated a ten-day pay deferral plan with state worker and college faculty unions that included an additional nineteen salary deferral days in the following fiscal year. Over 500 layoffs in a state work force of approximately 18,000 were ordered. The state's contribution to the State Teacher's Retirement Fund was deferred.

Unfortunately, fiscal 1991–1992 was no better. Almost immediately the governor had to submit a budget containing the already negotiated pay deferrals and a continuation of the retirement fund strategy. Increases in the personal income tax, however, were off the political table. Reducing program spending took the spotlight — and continues.

A Budget Politics Matrix

Programs are never equal in the competition for finite and shrinking resources. The reduced likelihood of "fair share" increases to cover future costs of current services, or actual cuts in an agency's budget base, even if seemingly decremental ones, makes budgetary competition fierce. The contest becomes even more intense when large portions of the state budget are uncontrollable, whether because of mandated formulas or rough-and-tumble "politics."

Partisans strive to assure that their programs receive their fair share, a "fairness factor" measured here by the percentage increase above or below the median growth rate for all programs. For all programs it was an aggregate 37.9 percent over the five years of the study or roughly 7.5 percent each year. This occurred despite the Rhode Island governor's having, by statute, to recommend to the legislature a budget not to exceed 5.5 percent of the previous year's enacted budget.

There is also a track record with regard to programs' winning their budget share. This "win-lose" account is measured by whether a program's rate of budgetary growth remained steady or was interrupted during the five-year period. Interrupted growth means that a program's budgetary history reflected a pattern of above or below median growth in one year, followed by a subsequent year of no growth or decline, then a subsequent upward rebound and such.

Table 2 presents a budget politics matrix that explains programs' relative budget success or failure in protecting their base and obtaining a fair share. Each cell has a label reflecting the success or failure experienced over the five years of the study: Big Winners, Sprinters, Steady Plodders, and Big Losers.

Knowing whether a program wins or loses its fair share is helpful, but identifying the characteristics associated with winning or losing is also important. We chose the following five criteria commonly found in the public budgeting literature associated with spending decisions to perform the analysis: (1) whether program spending was formula mandated; (2) whether the program was labor intensive, with more than 70 percent of its dollars having been allotted to personnel costs;[7] (3) a program's gaining a place on the state's political agenda — such access requires widespread attention, a concern that action is required, and a public perception that the matter is appropriate for government;[8] (4) the level of political advocacy for a program;[9] and (5) the degree to which the program was a product of a special interest of an individual lawmaker or group of legislators that do not constitute a major voting bloc — those who have adequate political capital to invest in the continuation of their "pet projects." Table 3 summarizes the political characteristics of each cell.

Analysis

Between 1987 and 1991, when the crisis emerged and the budget subsequently hemorrhaged, a spending bias generally continued to manifest itself. Half of all the programs expanded at rates above the median growth rate, accounting for nearly 60 percent of total state spending.

Table 2

Rhode Island State Spending: Fiscal Years 1987–1991
Fairness Factor and Win-Lose Record (Programs = 134)

Fairness Factor — Rate of Growth / **Win-Lose Record**

Rate of Growth	Steady Growth			Interrupted Growth		
	Cell I – Big Winners			**Cell II – Sprinters**		
Above Median	31	Total programs	23%	36	Total programs	27%
		Total spending	33%		Total spending	25%
	3	Formula programs	3%	7	Formula programs	5%
		Formula spending	23%		Formula spending	13%
	28	Nonformula programs	20%	29	Nonformula programs	22%
		Nonformula spending	10%		Nonformula spending	12%
	Nonformula Summary					
	7	Labor-int. programs	5%	9	Labor-int. programs	7%
		Labor-int. spending	.2%		Labor-int. spending	2%
	20	Multivar. programs	15%	14	Multivar. programs	11%
		Multivar. spending	9%		Multivar. spending	9%
	1	Pet program	.7%	6	Pet programs	4%
		Pet spending	.4%		Pet spending	1%
	Cell III – Steady Plodders			**Cell IV – Big Losers**		
Below Median	12	Total program	9%	55	Total programs	41%
		Total spending	10%		Total spending	27%
	2	Formula programs	1%	9	Formula programs	7%
		Formula spending	2%		Formula spending	7%
	10	Nonformula programs	7%	46	Nonformula programs	34%
		Nonformula spending	8%		Nonformula spending	20%
	Nonformula Summary					
	8	Labor-int. progams	6%	38	Labor-int. programs	28%
		Labor-int. spending	7%		Labor-int. spending	18%
	1	Multivar. program	.5%	6	Multivar. program	5%
		Multivar. spending	.7%		Multivar. spending	2%
	1	Pet Program	.5%	2	Pet programs	1%
		Pet spending	.3%		Pet spending	.2%

Note: Program percentage: of total programs. Spending percentage: of total spending.
Multivar. = in crisis; high on agenda; high advocacy.

Big Winners

Cell I contains the true uncontrollables — the Big Winners that made up 33 percent of Rhode Island state spending. During 1987–1991 these programs grew at rates far exceeding the 7.5 percent median growth rate for all programs. The degree to which a

Table 3

Political Matrix of Budget Control

Cell I – Big Winners	**Cell II – Sprinters**
Uncontrollable	Difficult to control
Much entitlement spending	Some entitlement spending
Low labor intensity	Low labor intensity
High visibility/often in crisis/high agenda item	High visibility/often in crisis/high agenda item
Strong advocacy	Strong advocacy
Broad elites	Individual elites
Few pets	Many pets

Cell III – Steady Plodders	**Cell IV – Big Losers**
Incrementalism	Controllable
Little entitlement spending	Little entitlement spending
Labor intensive	Labor intensive
Low visibility	Low visibility
No crisis	No crisis
Low agenda item	Low agenda item
Some advocacy	Weak advocacy
Coalitions	No elites
Few pets	Few pets

budget can be controlled and adjusted in times of fiscal stress depends on keeping the amount of Big Winner spending to a minimum. Cutting the Big Winner programs, that is, moving them out of the uncontrollable arena, is difficult because such an action may have a perceived or real long-term electoral impact on the legislature, or require that the problem be "solved" or redefined in some way.

Two-thirds of Rhode Island Big Winner entitlement spending derived from the politically sensitive, formula-driven State Support for Local School Operations. That program, which accounts for about 20 percent of all state spending, grew at an average annual rate of nearly 11 percent over the five years.[10]

Nonentitlement Big Winners are high-visibility programs, sometimes in crisis, that have generated broad coalitions to support spending. The state's consistent nonentitlement Big Winner policy areas were mental health programs and corrections. Six percent of total state spending in fiscal 1990 was for mental health services.

The Department of Mental Health, Retardation, and Hospitals (MHRH) deinstitutionalization effort was the prime beneficiary. For example, the Mental Retardation Community Services Program, Community Mental Health Program, Community Mental Health Plan, and Mental Health Services for Children grew at average annual rates of 22 percent, 18 percent, 10 percent, and 44 percent, respectively.

Rhode Island's correctional system was, until recently, in crisis. The state operated under a federal district court order to reduce overcrowding at the state Adult Correctional Institute. The facilities unit received an increase of 74 percent over the five years to help alleviate the strain. With the public's view of the need for increased public safety, corrections fared well.

Sprinters

The Sprinters tasted the thrill of victory — growth rates above the median, sometimes significantly so. They also knew the agony of defeat — years when spending increases fell well below the median or declined. These programs waffle between being highly visible, crisis oriented, and less visible "pets." Most of them are nonentitlement programs that account for half the spending in the category. As with Big Winners, fewer Sprinter entitlements make up half the spending in this category. The state's share of Medicaid is a Sprinter because of factors such as the unemployment rate during that period.

The Sprinters are on the Big Winner political waiting list. They are difficult to control because they have many legislative advocates. Yet they have not developed or sustained a broad enough coalition to garner large, consistent increases in their budget, or to stave off cuts. The significant increases they do receive cluster in years when they receive special attention.

If they experience a highly visible crisis, they sprint ahead budgetarily for a short period. For example, the Rhode Island Department for Children and Their Families has been roundly criticized for its performance ever since its creation more than a decade ago. The deaths of children, allegations of staff misconduct, and other assorted complaints have kept the department in crisis. The political response has been to increase spending when the complaints reach crisis proportion. So over the five years, spending for community services for children has increased by 13 percent, direct services by 9 percent, and the board and care of children in private homes by 8 percent.

At the opposite end of the Sprinter spectrum are those programs which forge ahead precisely because they are not highly visible but have strong legislative advocates. Being a "pet" can help keep growth rates above the median, but that is no insurance against periodic cuts. Programs such as Community Service Grants, Pathways to Independence, and Alternative Care for the Elderly have grown at above median rates in a couple of years, but have experienced no growth in others during the same five-year period. One key, then, to control of spending is to keep Sprinters from acquiring Big Winner status, either by solving their problems or by keeping individual program advocates from developing broader support.

Steady Plodders

The striking characteristic of the Steady Plodders is their low number. Rhode Island's classic incremental growth pool of programs has shrunk, totaling only 10 percent of state spending and about 9 percent of the programs. They grew at a consistent annual 5 percent rate over five years, staying within the budget cap and below the median. These Steady Plodders are institutionalized, mostly labor intensive, rarely in crisis, and low on the political agenda. Only two are formula based.

The Steady Plodders are valued, but not visible, somewhat woven into the political fabric of the state. There is general agreement that they are a product of past political decisions and ought not to be greatly tinkered with. However, those which are labor intensive teeter on the brink of becoming Big Losers. A classic example is the incremental growth of the MHRH-run General Hospital, which is highly labor intensive and whose budget grew at a rate of just under 5 percent.

Big Losers

The Big Losers are controllable. Little apparent political "blame" is assessed as a result of their being cut. Although there is no question that government ought to be involved in these policy areas, the extent of commitment is open to debate. The programs may not be high on the political agenda, are not in sensitive crisis policy areas, and their political advocates may no longer be members of the legislature. There are virtually no pets among them.

Because they are labor intensive and may have the capacity to raise their own revenue, these programs provide the best opportunity for immediate savings. Forty-one percent of the 134 programs are labor intensive. Nearly 70 percent of all labor-intensive programs are Big Losers, but the fifty-five of them account for only 18 percent of state spending.

One major policy area reflecting the Big Loser syndrome is higher education, the most visible and largest of all. A labor-intensive policy area, it has the perceived ability to "raise" its own revenues, a quality of dubious value in times of crisis. Rhode Island support for higher education has dropped from nearly 80 percent of higher education revenues in 1987 to about 50 percent by FY 1992.

Many Big Loser programs typically offer a political advantage as well because they typically have virtually no advocates. Many of them are related to central managerial functions such as auditing, inspecting, and purchasing. These programs have experienced budget decrements in their base.

Eventually, the Big Loser portion of the budget could shrink to relative insignificance. The state will then be forced to determine whether it should continue to finance any of the current programs in that category. In higher education, the three state institutions are better characterized as state assisted rather than state supported. In other areas, government would have to abandon some general operations, a clearly impractical choice unless it wanted to go out of business entirely.

1991–1992 Outcomes

The matrix proved useful in tracking the results for programs during fiscal year 1991 – 1992, which in the five previous years had fallen into each of the four cells. Overall, real cuts did take place. The median "growth" rate for all programs was a negative 9.7 percent — a sign of the truly desperate budget situation. It would be expected that the Big Winners and Steady Plodders would fare best under these draconian conditions. Conversely, Sprinters would not be able to sprint, and Big Losers would teeter on the edge of extinction. For the most part, expectations were borne out.

While all categories of programs suffered cuts, the Big Winners and Steady Plodders of the five previous fiscal years were able to fend off cuts or minimize their losses more effectively than the Sprinters and Big Losers. We defined budget effectiveness as maintaining a positive growth rate in the budget enacted for FY 1991–1992. Programs realized minimized losses when funded at their FY 1991 level or when the cuts they sustained were less than the median reduction of 9.7 percent. Those whose cuts were greater than that took the "big hits."

Big Winners and Steady Plodders enjoyed protection from major budget cuts.Programs in both categories continued to grow and to avoid serious cuts more effectively than Sprinters and Big Losers. Better than half the Big Losers continued to suffer losses greater than the median, and the Sprinters did not sprint that year. The safest programs in difficult budget times are entitlements. Almost 50 percent of them continued to grow and another quarter minimized losses. The pay deferrals and layoffs are reflected in the labor-intensive programs, of which nearly two-thirds had to absorb significant cuts.

Recommendations

As a result of using the matrix and piecing together the history of the Rhode Island budget crisis, we determined that fiscal trouble looms when, in tandem,

- government officials ignore early economic stress indicators;
- small revenue enhancements and cutback management becomes the principal political strategy for coping with declining state tax receipts;
- state government spending programs during good economic times are characterized by new or expanded entitlements and result in a large part of a state's budget becoming uncontrollable;
- entitlement and nonentitlement spending continues to grow even after a fiscal crisis arises.

When cutback management strategies appear as solutions to potentially major fiscal problems, budget staffs must be prepared to argue for a more aggressive approach to avert a likely hemorrhage. Although cutback advocates have recognized the problem, they are only forestalling tough decisions, making the longer-term choices more difficult. Administrative savings will not pay for the above-median growth rate of programs.

The premise supporting the matrix is that the ability to foresee severe budgetary stress comes from watching political behavior and understanding past political decisionsem-bedded in the budget. In Rhode Island, incremental growth continued for some programs and agencies throughout the crisis because they are in the entitlement classification and therefore high on the political agenda. Budget controllability shrinks in proportion to the growth of these Big Winner and Sprinter categories. The Steady Plodders, like the proverbial tortoise, move onward almost unnoticed. Decrements appeared for a few entitlements, but were felt mostly by nonentitlement programs. Decrements, almost inevitably, are felt by relatively low-spending, labor-intensive, less-visible, general operations of government — the Big Losers. Programs with a separate revenue-raising capacity may find their state appropriation cut. Spending as a percentage of the total shifts from nonentitlement to entitlement programs, further increasing the potential uncontrollability of state spending.

Our matrix ought to be viewed as a guide, one that can change just as politics can shift. Budget staffs ought to track regularly which programs are Big Winners, Sprinters, Steady Plodders, and Big Losers. Programs fall in and out of crisis, become more stable or institutionalized, acquire advocates, and lose their visibility. Consequently a program can, over time, shift from one cell to another. The matrix is a useful tool for assessing the overall composition of those changes, namely, to determine the degree to which a budget becomes uncontrollable. Because each state is unique, some time will have to be spent developing those characteristics which address a state's own political environment.

Undoubtedly, budget choices are difficult and complex. There is little incentive for legislators to cut services or raise taxes. Our general conclusion is not revolutionary.

It takes political will to bring spending under control, and that appears only after all cut-back strategies have been exhausted. Legislators cannot wave a magic wand, nor can their budget staffs "click" with a computer mouse to make these "revolting developments" disappear. ❧

Notes

1. See Aaron Wildavsky, *The New Politics of the Budgetary Process,* 2d ed. (Chicago: Scott-Foresman, 1992), Chapters 7, 8; Dan Cothran, "Some Sources of Budgetary Uncontrollability," *Public Budgeting and Finance* 6 (Summer 1986): 45–62; Lance LeLoup, "Discretion in National Budgeting: Controlling the Uncontrollables," *Policy Analysis* 4 (Fall 1978): 455–475.

2. For a comprehensive discussion of this issue, see Allen Schick, "Incremental Budgeting in a Decremental Age," in Albert C. Hyde, ed., *Government Budgeting,* 2d ed. (Pacific Grove, Calif.: Brooks-Cole, 1992), 410–425.

3. See Aaron Wildavsky, *The Politics of the Budgetary Process* (Boston: Little, Brown, 1964), 15; M. A. H. Dempster and Aaron Wildavsky, "On Change: Or, There Is No Magic Size for an Increment," *Political Studies* 27 (1979): 375; and Irene Rubin, *The Politics of Public Budgeting,* 2d ed. (Chatham, N.J.: Chatham House Publishers, 1993), 114–115.

4. See Andrew Glassberg, "Organizational Responses to Municipal Budget Decreases," *Public Administration Review* (July–August 1978): 325–332, and Robert D. Behn, "Closing a Government Facility," *Public Administration Review* (July–August 1978): 332–338.

5. Any upward adjustment in the federal income tax rate is a mixed blessing. It helps the revenue side of the budget without any state legislative effort. However, an increased burden is placed on the state taxpayer. Indexing eliminates bracket creep at the state level.

6. For more on revenue-estimating conferences, see Tony Hutchinson, "The Good, the Bad and the Uncertain in Revenue Projections," *State Legislatures,* March 1991, 22–24.

7. See Bernard Jump, "Public Employment, Collective Bargaining and Employee Wages and Pensions," in John Peterson and Catherine Lavigne Spain, eds., *Essays in Public Finance and Financial Management* (Chatham, N.J.: Chatham House Publishers, 1980), 74–85.

8. The measures presented here were developed from the following sources: John Kingdon, *Agendas, Alternatives and Public Policies* (Boston: Little Brown, 1984), and Roger W. Cobb and Charles D. Elder, *Participation in American Politics: The Dynamics of Agenda Building* (Baltimore: Johns Hopkins University Press, 1972). A program was considered high on the political agenda if it received sustained broadcast or print media coverage, the latter measured by bulging legislative clipping files in a state budget office; was a program in crisis; was a program subject to judicial mandates; or was a highly visible goal of a governor or legislative leadership as outlined in a gubernatorial budget mes sage, state of the state address, or executive-legislative enactment.

9. Advocacy was considered high if one of three sets of political elites sustained active inter est over five years: prominent elected officials such as a governor or party leaders; politi cally appointed, long-tenured career government bureaucrats; or organized pressure groups such as client advocates and government "watchdogs."

10. Recently, a state superior court ruled that the Rhode Island educational reimbursement formula is in violation of the state constitution. The decision has been appealed to the state supreme court.

Implementing Retrenchment Strategies

A Comparison of State Governments and Public Higher Education

Marvin Druker
Betty Robinson

The authors present a comparative analysis of the processes and strategies by which public organizations implement retrenchment in the face of continued budget shortfalls. The focus is on the governments of the fifty United States and public institutions of higher education in the nine states of the Northeast. Special consideration is given to the programs that have been tried, sources of ideas for the strategies adopted, and constraints that institutions face when dealing with financial crises. While similarities were found for state governments and colleges and universities in use of past strategies and short-term fixes, differences were found in the sources of ideas and the implementation of plans affecting employees. The research suggests that these differences may be attributed to the differences in organizational culture.

The dominant issue for public administrators in recent years has been responding to the consequences of budget shortfalls. This period of financial difficulty has led some to refer to the 1990s as the decade of red ink. Each year administrators face uncertainty about the level of funding cuts in their departments and what their response might be. As a result, public administrators have had to consider how to cut back and the potential effects on service delivery.

Current Issues in Public-sector Retrenchment

We compare cutback strategies and decision-making processes in two major public institutions, state governments and public colleges and universities. By looking at various public institutions, we gain insight into the similarities and differences in the way organizations respond to an environment of economic decline. Of particular interest are the following issues: (1) Are public organizations responding with short-term cutback policies or more permanent restructuring? (2) Are they adopting more participative processes in developing cutback strategies?

The greatest challenge to public institutions is how to balance repeated demands for cuts and provide services at current or, in many cases, higher levels. Both institutions of public higher education and state governments face this challenge. The unemployed and

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those whose economic security is threatened seek government programs and services to help them through their crises.

In public higher education, too, student demand for educational programs and services may also increase during periods of recession owing to dislocation, unemployment, and reduced job opportunities. This occurs at the same time that state funding, often the largest single source of program income, is shrinking. Thus, for both institutions, the demand for basic services increases.

Most government units approach the shrinking resource dilemma with some variation of incremental decision making, which in this case has also been referred to as downsizing.[1] This approach attempts to balance resources with providing services to minimize changes for recipients. Generally, states mandate that service levels remain much the same as before the occurrence of the budget shortfalls. Organizations strive to deliver the same services despite the reductions. Typical downsizing administrative actions include across-the-board cuts, freezing vacancies, furloughs, and other mechanisms that administrators hope will position the organization, when better economic times arrive, to return to the status quo ante. If there is, in fact, a decline in services, they expect that the cuts will be temporary and that when funding levels rise, they can again deliver service at prior levels without formally acknowledging the interim reductions. Given the length of the early 1990s economic decline and the increased pressure for public services, this approach presents some long-range problems.

A longer-term and permanent strategic approach to budget cuts is referred to as *rightsizing*, or restructuring. This may mean the deliberate redefining of the mission of an agency, department, or institution and involves the recognition that less will be done with fewer people or that different measures will be taken. Organizational structures also flatten to increase the ratio of direct service or on-line employees to administrators and managers.[2]

Those who advocate a restructuring policy suggest that the services provided be ranked on the basis of their importance and value and that resources be reallocated strategically according to their ranking. The restructuring process involves money's being shifted to high-priority items, consolidating agencies, flattening management tiers, compacting programs, and dropping services. Such changes tend to be permanent.[3]

A central concern as these changes occur is retention of trained and motivated staff who continue to serve in public administrative positions. They have the responsibility for continuing to provide services in the new environment, and it is important that they play a role in helping to determine the new order.

A strategy of adopting more participative processes in the public workplace is also suggested by increased workforce diversity and the increase in education levels of new workers combined with the movement in private-sector employment toward developing a more democratic workplace. A growing body of research suggests that employee involvement in cutback strategy development, in particular, can mitigate against many of the expected negative side effects (lowered morale and productivity) of downsizing.[4]

Public Sector Responses to Cutbacks

A number of studies on reactions of local and state governments to budget cuts in previous recessions generally indicate greater reliance on short-term downsizing alternatives.[5] Most state and local governments have historically responded with incremental and short-run changes, including fairly common standard operating procedures such as enacting hiring freezes, layoffs, cutbacks on overtime, wage freezes, and postponing employee raises. More recent studies indicate that, for the most part, short-term or downsizing responses continue to prevail as a reaction to more current budget shortfalls.[6]

However, there is growing interest in developing new strategies to respond to retrenchment needs. Some of the interest derives from models used in the private sector, where more time has been devoted to dealing with reduced resources. These models tend to encourage innovative techniques to reduce the impact of cuts for the long term and better enable public institutions to retain trained, experienced employees who represent the workforce of the future.[7]

Reductions in resources pose severe threats to organizations, and research has described a variety of negative responses that are likely to occur. One summary, in fact, indicated that when organizations face serious financial cuts, administrators tend to become rigid in their policies — for example, they may adopt policies that make the organization more centralized, conservative, protective, inflexible, and nonadaptable. The administrative cutback tactics associated with such behavior are usually short term and based on a crisis mentality that results in the dysfunctional behavior of organizations.[8]

Problems created by decline for organizations also signal obstacles for the individuals who make up the organizations. Problematic behaviors cited in the literature include increased conflict, secrecy, ambiguity, self-protective behavior, and turnover, together with decreases in morale, innovativeness, participation, and long-term planning.[9]

Comparing State Governments with Public Colleges and Universities

Although their missions may be perceived as different, public colleges and universities are part of state government. Indeed, some writers have noted that "higher education is primarily a state level governmental function" and that state-level policymaking activity involving higher education has been increasing through appointments and budgetary controls. It is further noted that higher education has developed as a distinct policy arena in the states, meaning that its functions are seen as separate from the rest of the state educational system and that it has its own constituency of advocates.[10]

There are both similarities and differences in the contexts in which state governments and public institutions of higher learning operate. Their general structures and functions have been stated in law or constitutional language; they are accountable to the public or the public's representatives; they are made up of personnel represented by collective-bargaining agents and governed by collective-bargaining agreements;[11] personnel decisions are constrained by rules and hierarchical arrangements in the form of civil service rules and tenure; both must deal with budget cuts; and most important in this context, both depend on public revenues for their ongoing programs.

These institutions also demonstrate differences. Colleges and universities derive income from sources other than public revenues — fees, tuition, auxiliary services, endowments, private fund-raising — which help make up a considerable portion of total revenues. The university's administrative structure is unique in emphasizing the decentralization of authority through colleges and departments.

A number of studies discuss the contradictory organizational pressures that higher education faces. Peter Blau characterized them as conflicts between bureaucratic administrative imperatives and the flexible, decentralized decision-making process required by professional scholarship.[12] Other writers also note the tensions between bureaucratic or business imperatives with the traditional culture of higher education, which includes collegial relationships.[13]

These similarities and differences provide context to compare processes and strategies for dealing with budget cuts. Irene Rubin concluded, in her late 1970 survey comparing case studies of local governments and public universities, that all organizations undergoing cutbacks had to secure budgetary flexibility in order to allow management "enough top-down authority to make cuts or to reallocate."[14] She noted that differences in the way each set of organizations responded were largely related to the degree of independence or "autonomy over resources" that each had. Interestingly, at the time of her study she found that universities (all in one state) had less autonomy over their resources than local governments.[15] Rubin's work also predates more recent managerial interest in modifications to "top-down" organizational policymaking processes.

Methodology

Our analysis is based on two separate studies, completed in 1991 and 1992. The first, a survey of the states, involved an instrument sent to the fifty state human resource and fifty state budget offices which asked them to respond to questions about their state's financial situation and their strategies for dealing with possible or actual budget shortfalls, especially in regard to state employees. We received responses from forty-seven states.

Our second study, based on a survey of public colleges and universities, involved sending questionnaires to the offices of the presidents of the 101 schools in the nine northeastern states, to which we received 70 responses. They were completed by presidents, vice presidents for finance, administration, or academic affairs, and offices of administrative research. The survey dealt with decision-making processes and responses to having to make cutbacks.

State Responses to Budget Shortfalls

The financial difficulties confronting state governments in the United States continues. A 1992 report of the National Governors Association said that "states' finances are still in turmoil as a result of the nation's weak economy."[16] Thirty-one states reported that their revenue collections for fiscal year 1992 fell short of their estimates. States indicate that the financial situation is bleak and that a turnaround does not appear to be imminent. Increasing costs in areas such as Medicaid and overcrowded prisons require additional spending while revenue is flat or declining. Economic growth has tended to be in the service industries, which are taxed at a lower rate than manufacturing.[17]

Our review of studies of state government indicated multiple responses to the crisis. States responded to the financial shortfall with a combination of tax increases, program cuts, restructuring of state administration, "passing the buck" to local units of government, and reducing state employment.[18]

The latest version of the "Fiscal Survey of States" reported that the short-term or incremental moves of consolidating agencies, freezing spending or hiring, and delaying payments has not produced enough savings. States resorted to eliminating or cutting specific programs such as general assistance. Also, the number of people working for state governments was expected to decline by 2 percent by the end of 1993. One-third of the states planned no pay increase to employees, and eighteen states changed employee benefits in various ways, including shifting costs for health insurance to their employees.[19]

College and University Responses to Budget Shortfalls

Revenue cuts to public colleges and universities continue to increase. The American Association of State Colleges and Universities reported that as of the beginning of fiscal year 1992, there was "an overall aggregate reduction in state dollar support" and a reduction in the proportion of state general revenue funds allotted to higher education. Specifically, twenty-eight states anticipated additional midyear cuts in fiscal year 1992 and seven reported that cuts to higher education were greater than cuts to the overall state budget.[20]

Many see this as a permanent structural reduction in state financing of public higher education, which is accompanied by an ominous shift from regarding state spending on higher education as an obligation to a "discretionary" part of the budget.[21] Richard Rosser, president of the National Association of Independent Colleges and Universities, has said, "I think we're into a decade now that will be tougher than any we've had since the 1930s."[22] The American Council on Education's annual survey, "Campus Trends, 1990," found that issues of adequate financial support outweighed all other problems.[23]

The American Association of State Colleges and Universities summarized higher education budgets for 1992, finding that changes for the nine northeastern states ranged from an 18 percent budget cut in Connecticut to an expected 6.9 percent increase in Pennsylvania. The average for the nine states was a cut of 1.74 percent, with five of the states having experienced midyear cuts and four anticipating more midyear cuts for the 1992 fiscal year.[24]

As with their counterparts in state government, college and university administrators have responded in a variety of ways to resource cuts. For example, the Rhode Island system reacted with 10 percent salary reductions that are accrued as paid leave; this resulted in no layoffs for the period through FY 1992.[25] Other states have used layoffs. The University of Minnesota cut 400 to 500 jobs; San Diego State University cut 550 positions; the University of Georgia was planning to eliminate 784 jobs with 227 layoffs.[26] The University of Missouri in pushing early-retirement programs hoped to save about $12 million a year in payroll costs.[27] The State University of New York announced postponing repairs and building maintenance, curtailing purchasing, and increasing student fees for such programs as health care and transportation.[28]

There is also anecdotal evidence to indicate that some schools are using more basic restructuring techniques involving the rethinking and repositioning of their institutions. Washington University in St. Louis phased out its Department of Sociology and School of Dentistry. Glassboro State in New Jersey planned to eliminate its majors in dance, speech, French, and industrial technology. Legislative pressure in some states may lead to situations where faculty do less research and teach more classes. Other outcomes include fewer classes available for students and increasing the size of the classes retained.[29]

The Council for Advancement and Support of Education published a paper on layoffs, suggesting several approaches that have proved to be successful responses to cuts. These include involving as many people as possible in the decision-making process; providing adequate information for everyone concerned; remaining open, accessible, and responsive to inquiries; and creating an "internal labor market" to allow dismissed workers to receive preferential consideration for jobs that open up.[30]

Another catalogue of do's and don'ts about appropriate behavior for institutions of higher learning suggests considering mission before retrenchment; considering future growth when retrenching; putting more emphasis on decreasing expenses as more predictable than relying on increasing revenues; minimizing across-the-board reductions because they are insensitive to real needs and inappropriately treat effective and efficient programs the same as the ineffective and inefficient; and making issues of quality as important in retrenchment as issues of revenue and cost.[31]

One of the leading students of cutbacks in higher education suggests that models derived from other settings may not apply in the unique environment of universities. Cynthia Hardy believes that the particular constraints and limits on decisions in higher education make it impossible to use exact strategies from the private sector. In fact, she suggests that uniqueness might be so extreme even within schools that the cutback strategies may have to vary not only from the private or other public-sector organizations, but from one institution to another.[32]

Comparison of Responses

Kim Cameron and Mary Tschirhart argue that "every framework linking organizations to the environment takes into account management strategy as the central variable, and most count decision processes as being extremely crucial as well." They go on to define strategies as referring to the "pattern of decisions and activities that allocate the organization's resources in an environment of demands, constraints, and opportunities." Decision processes they regard as "internally focused patterns that relate to the information gathering, analysis, and choice activities of managers inside the enterprise."[33]

Using these definitions in the next three sections, we compare the results of our two studies across organizations to look for insights into how public institutions have reacted in an environment of revenue decline.

Cutback Strategies

Thirty-seven states, or 79 percent, reported that they were involved in some form of budget cutting, while ten states indicated they were not. At the same time 68 out of 70, or 97 percent of the colleges and universities which responded to our survey, indicated that they were forced to cut their budgets.

We asked in both surveys what strategies entailing the personnel budget had been implemented to deal with shortfalls. Table 1 presents the responses from the states and the institutions of higher learning.

The data point to both types of institutions' using fairly standard responses such as freezing vacancies and urging people to retire. This last incentive was more pronounced for colleges and universities, perhaps reflecting the need to emphasize retirement because other options were not possible or were less easily implemented without eliminating classes in direct and politically unacceptable fashion.

The nature of the work of institutions of higher learning makes some state options more difficult, if not impossible. None reported shutdowns, for example, because once tuition and fees have been collected, it is again politically unacceptable to terminate classes or student services for short periods of time. The same might be said about introducing the option of reduced hours for employees. Particularly in the case of faculty, layoffs, furlough days, and reduced hours are problematic owing to tenure systems,

Table 1

Strategies to Deal with Cutbacks

	States	Northeastern Public Colleges and Universities	
		Academic	Nonacademic
Reducing the Number of Employees			
Freeze on filling vacancies	72%	79%	80%
Retirement incentives	38%	60%	54%
Voluntary programs	32%	10%	26%
Furloughs	26%	—	11%
Reduced hours	21%	—	—
Layoffs	28%	10%	39%
Reducing the Costs of Employees			
Deferred pay increases	38%	24%	30%
Cuts in benefits	13%	6%	7%
Shutdowns	6%	—	—
Pay cuts	4%	7%	13%
Lag payrolls	4%	—	—
Reorganization of workforce			
	15%	13%	7%
	N = 47		N = 70

the need to offer particular classes, and professional flexibility of work schedules that makes a provision for reduced work hours meaningless.

The fact that colleges and universities have dual sets of employees (professional and support staff working regular hours and faculty working irregular hours) is reflected in the responses regarding furloughs and the use of voluntary programs such as job sharing, short-term or extended leaves, and sporadic leaves. For nonacademic personnel, voluntary programs were used in 26 percent of the cases, but only seven, 10 percent, were able to implement this program for faculty who work during academic calendar years and for whom such options might be difficult to implement. However, even with nonacademic personnel, colleges and universities in our study tended to rely proportionately more on the most traditional strategies of vacancy freezing, retirement, and layoffs. State governments were more often willing to use voluntary programs, furloughs, reduced hours, and deferred pay increases.

Deferred pay increases were employed more often by the states, with 38 percent using this alternative versus 24 percent for academic and 30 percent for nonacademic personnel in colleges and universities. Although the total percentages are small, states were more apt to use benefit cuts and less likely to use pay cuts than higher educational institutions. Finally, workforce reorganization was used more by states, although the percentages are quite close when just academic and state government personnel are copared.

We find the fewest number of options employed in the area of academic personnel. As outlined above, this result is partially explained by the nature of faculty work.

However, we find it notable that few colleges or universities reported programs to encourage faculty members, both tenured and untenured, to take unpaid but benefited leaves of absence. This type of option, employed to a limited degree by state governments, is a particularly good match for the structure of professorial work where there is already a tradition of paid sabbatical leaves for tenured faculty.

One possible explanation for lack of interest in this option, as with several of the others, is that reducing faculty may mean reducing class sections that generate needed income. Another reason may be fear of permanently losing the best faculty. However, a more plausible possibility is that traditional norms involving criteria for tenure and promotion do not credit faculty for work experience outside traditional academic teaching and publishing, leading to faculty's reluctance to take unpaid leave from a university job to work outside the academy.

For nonacademic personnel, almost the same proportion of institutions, 26 percent, as states, 32 percent, offered voluntary programs. A smaller number of academic institutions, 11 percent, than states, 26 percent, offered furloughs. These examples indicate the different strategies available to colleges and universities, depending on the nature of their personnel.

We were able to secure information from our survey of colleges and universities about other options that these institutions pursued to realize savings or increased revenues. Nonpersonnel cuts included the following: 90 percent of the schools indicated that they had cut equipment, 80 percent had reduced travel, 60 percent had cut library budgets, and 34 percent had developed outsourcing contracts with private firms to supply services. At the same time, 91 percent of the institutions reported raising tuition, 73 percent raised fees, 69 percent increased class sizes, and 67 percent were increasing development activities. This reflects continuing efforts to both decrease costs and raise revenues by a variety of means.

Sources of Ideas

A crucial question regarding the process of retrenchment strategy development concerns the origin of the ideas. Their sources provide an indicator of the openness of the process and whether the organization seriously seeks additional and possibly innovative ways of responding. Our surveys asked states and higher educational institutions where they found ideas for their strategies to deal with cutbacks. (See Table 2.)

While both state governments and higher educational institutions reported in similar proportions (72% and 73%, respectively) that they used methods they had previously employed as the primary source of cutback options, we find some interesting differences in their approach to other sources. The roles of governors and university presidents differ in a number of ways. However, each serves as the chief executive officer of an institution. In state government, the governor's office is reported as the source of ideas for cutback policy in only 15 percent of cases, but in higher education the president's office is reported as the source of ideas in 64 percent of cases. The governor's cabinet, made up of department heads, is the reported source in 51 percent. Vice presidents and deans are equivalent to department heads in academia, but they are the reported source of cutback ideas in only 7 percent of cases. It is likely that the differences here reflect the disparities in the roles of top organizational administrators within the two types of institutions.

Table 2

Reported Sources of Ideas for Cutbacks

Source	States	Northeastern Public Colleges and Universities
Methods used previously	72%	73%
Department heads	51%	—
Legislative initiatives	40%	—
Other states/colleges	34%	29%
Executive initiatives/president's office	15%	64%
Private sector	15%	3%
Private sector models	15%	3%
Professional associations and publications	13%	13%
Employees/staff	13%	—
Budget staff	11%	—
University senates	—	29%
Ad hoc committees	—	33%
Labor/management committees	—	26%
Collective bargaining agreement	—	24%
University system	—	26%
	N = 47	N = 70

Perhaps more interesting differences are seen in comparing participation of line employees in each institution in generating cutback options used in the final strategies implemented. While only 13 percent of states named employees as the source of ideas, 29 percent of colleges and universities named university senates, 33 percent cited ad hoc committees, 26 percent labor management, and 24 percent collective bargaining. Table 3 contains these data.

Table 3

Comparisons of Sources of Cutback Ideas

States	Source		Colleges
51%	Department heads	— Deans/vicepresidents	07%
34%	Legislature	— University system	26%
15%	Governor	— University president	64%
13%	Employees	— Ad hoc committee	33%
		— Senate	29%
		— Labor/management	26%
		— Collective bargaining agreement	24%

The variations are probably indications of both the different organizational structures and cultures of the two types of public institutions. Bureaucratic organizational imperatives, which do not support "from the ground up" policy development, are historically more powerful forces within state government. In academia, even in the public sector, these forces compete with the tradition of collegiality and professorial participation in governance. The majority of both types of institutions are unionized, but while state responses to other survey questions acknowledged unions as constraints or even participants to some degree in the cutback strategy development process, none of them credited the labor-management process as the source of implemented ideas. In the academic arena, not only was collective bargaining and labor-management activity credited with ideas in roughly one-quarter of the cases, but employee input was acknowledged through senates (a structure not found in state governments) in 29 percent and through ad hoc committees (an option available in states) in 33 percent of the cases.

Constraints and Criteria for Cutting Back

Another area of concern is the context in which decisions are made. Responses to pressures that may exist in the external environment as well as the internal environment tell us a great deal about the values and politics of an organization.

Table 4 presents responses to questions about the perceived constraints that administrators felt when they had to decide how to cut back. In the domain of higher education, there was much more sense of having to comply with union contracts (70%) and internal constituency pressures (56%). This again reflects the differences in organizational culture. The decentralized nature of a college or university means that more attention has to be paid to the constituents within the institution, including the service recipients, students.

An almost equal number, about 40 percent, of both types of institutions are concerned with compliance to mandates and feeling the restrictions that they place on internal decision making.

Table 4

Constraints on Decision Making

Area of Constraint	States	Northeastern Public Colleges and Universities
Concern for service level	49%	10%
Need to comply with mandates	40%	41%
Legislative restrictions	32%	—
Union contracts	30%	70%
Constituency resistance	—	56%
Civil Service rules	30%	—
Court-ordered restrictions	23%	—
Affirmative action	—	13%
Alumni	—	14%
Lack of data	—	21%
	N = 47	N = 70

Data in Table 4 show more state (49%) than college and university (10%) concern about maintaining services as a constraint on cuts. While we asked both state governments and colleges and universities about the constraints placed on their decision making, in the higher education survey we also asked about the criteria used for cutbacks. As outlined in Table 5, student demand, reported by 66 percent of respondents, and quality of programs, reported by 74 percent, indicated a high concern over service level, perhaps reflecting a sense within academia that service, as the core mission, is not considered a constraint.

Table 5

Criteria for Cutback Decisions
Northeastern Public Colleges and Universities

Centrality to mission	77%
Quality of programs	74%
Student demand	66%
Strategic plan	56%
Productivity of unit	47%
Morale and motivation	43%
Achieving consensus	37%
Public reaction	30%
	N = 70

The criteria cited exhibit a concern — by about three-quarters of the respondents — with the long-term missions of the institutions and the attempt to maintain the quality of programs. Another long-term consideration is abiding by a strategic plan a school might have in place. More immediate concerns are shown by the criteria of responding to student demand, 66 percent; the productivity of units under consideration for cuts, 47 percent; maintaining morale, 43 percent; achieving consensus, 37 percent; and concern about public reaction, 30 percent.

In this decade of red ink, institutions are operating under conditions of severe stress. The management strategies pursued by both state governments and state institutions of higher education display a number of similarities. Our findings reveal that initially both institutions tend to react conservatively, using tried methods such as freezing vacancies to minimize potential damage to personnel and to services for constituencies. Such incremental decisions following standard operating procedures are relatively easy to initiate and result in the least amount of reverberation within an organization. These procedures can also be carried out without extensively damaging existing legal obligations or collective bargaining agreements.

The institutions also share the characteristic of pursuing multiple responses to financial crisis. No single effort will save enough money or increase revenues sufficiently to solve the problem. Therefore, as the evidence indicates, these public organizations have had to develop strategies that include many different programs regarding personnel and infrastructure.

However, as the course of the current financial difficulties has been prolonged, even more difficult decisions have had to be made. More permanent restructuring or rightsizing has been noted to some extent in both types of institutions. Longer-term decisions involving the elimination of positions and programs have emerged in our studies and in other research on both states and higher education.

Some differences in approach appear in that colleges and universities have pursued more participative processes for reaching decisions than have state governments. This reflects what we have noted as differences in organizational cultures. In times of crises, familiar patterns of decision processes are followed and distinguish organizations. Academic institutions traditionally have had more decentralized decision-making processes and promoted collegial working relationships. Cutback decisions are also constrained by the nature of the work and the type of contracts and work structures that exist in organizations.

Our research identifies the range of responses in each type of institution. The implications of short-term cuts, longer-term restructuring, and the nature of participation suggest an agenda for additional research. Further, in-depth case studies of public institutions selecting different responses to cuts are needed to evaluate the long-term effects of various strategies. Several questions could usefully be pursued. Can state governments, over time, find methods to increase employee participation in cutback processes both to maximize ideas for cost savings and to mitigate the negative effects of retrenchment on morale, productivity, and internal political loyalty of employees? Can unions play a constructive role in this process? Can colleges and universities maximize the use of participative structures within the academy while introducing a wider array of more innovative cutback options that facilitate the restructuring necessary to maintain the institution in a time of fiscal crisis? ❧

Notes

1. Penelope Lemov, "Tailoring Local Government to the 1990s," *Governing*, July 1992, 28–32.

2. Ibid.

3. Ibid.

4. See, for example, Bureau of National Affairs, "Downsizing: Creative Approaches to Corporate Change" (Washington, D.C.: Bureau of National Affairs, 1991; T. A. Kochon, J. P. MacDuffie, and P. Osterma, "Employment Security at DEC: Sustaining Values Amid Environmental Change," *Human Resource Management* 27 (1988): 121–142; Betty Robinson and Marvin Druker, "Innovative Approaches to Downsizing: The Experience in Maine," *Employment Relations Today*, Spring 1991, 79–87.

5. Harold Wolman, "Local Government Strategies to Cope with Fiscal Pressure," in *Fiscal Stress and Public Policy*, edited by Charles Levine and Irene Rubin (Beverly Hills: Sage Publications, 1980).

6. Denise Rebovich, "Fiscal Stress in the American States," in *State and Local Government Administration*, edited by J. Rabin and D. Dodd (New York: Marcel Dekker, 1985), 161–185.

7. J. D. Carney, "Downsizing Government: Iowa's Challenge," *Journal of State Government* 60 (1987): 183–190; Robinson and Druker, "Innovative Approaches"; and Kim S. Cameron and Mary Tschirhart, "Postindustrial Environments and Organizational Effectiveness in Colleges and Universities," *Journal of Higher Education* 63, no. 1 (1992): 87–108.

8. Cameron and Tschirhart, "Postindustrial Environments," 87–108.

9. Kim S. Cameron, David Whetten, Myung Kim, and Ellen Chaffee, "The Aftermath of Decline," *Review of Higher Education 10*, no. 3 (1987): 215–234.

10. Madeleine W. Adler and Frederick S. Lane, "Governors and Public Policy Leadership," in *Governors and Higher Education*, edited by Samuel Gove and Thad Beyle (Urbana, Ill.: Institute cf Government and Public Affairs, 1988).

11. The institutions of higher education in our study of the Northeast are largely organized for purposes of collective bargaining. However, many public colleges and universities in the South and Southwest are not.

12. Peter M. Blau, *The Organization of Academic Work* (New York: Wiley, 1973).

13. Cynthia Hardy, "Using Content, Context and Process to Manage University Cutbacks," *Canadian Journal of Higher Education* 17, no. 1 (1987): 654–682; Cynthia Hardy, "The Rational Approach to Budget Cuts: One University's Experience," *Higher Education* 17 (1988): 151–173; Cynthia Hardy, "Strategy and Context: Retrenchment in Canadian Universities," *Organizational Studies* 11, no. 2 (1990): 207–237; and Cynthia Hardy, "'Hard' Decisions and 'Tough' Choices: The Business Approach to University Decline," *Higher Education* 20 (1990): 301–321.

14. Irene Rubin, "Retrenchment and Flexibility in Public Organizations," in *Fiscal Stress and Public Policy.*

15. Ibid.

16. Robert Pear, "Governors Report Grim Fiscal Status," *New York Times*, October, 29, 1992, sec. A, p. 19.

17. Ibid.

18. Marvin Druker and Betty Robinson, "States' Responses to Budget Shortfalls: Cutback Management Techniques," in *Comparative Public Budgeting and Financial Management*, edited by Thomas Lynch and Lawrence Martin (New York: Marcel Dekker, 1992).

19. Pear, "Governors Report."

20. Robert M. Sweeney, *Report of the States: Annual Budget and Fiscal Survey of the AASCU Council of State Representatives* (Washington, D.C.: American Association of State Colleges and Universities, Center for State Higher Education Policy and Finance, 1992).

21. Kit Lively, "Budget Outlook Prompts Some College Leaders to Speak Out for Higher State Taxes," *Chronicle of Higher Education*, October 7, 1992, sec. A, p. 22.

22. Anthony DePalma, "Bad Times Force Universities to Rethink What They Are," *New York Times*, February 3, 1992, sec. A, p. 1, sec. B, p. 9.

23. Kent Chabotar and James Honan, "Coping with Retrenchment," *Change* 22, no. 6 (1990): 28–33.

24. Sweeney, *Report of the States.*

25. National Association of College and University Business Officers, "Pay Reduction Plan Creates 'Sea of Tranquility' in Rhode Island's Raging Fiscal Storm," *NACUBO Officer* 25 (1991): 1, 15.

26. Katherine Mangan, "More Colleges Resort to Faculty and Staff Layoffs in Response to Sluggish U.S. Economy," *Chronicle of Higher Education*, November 13, 1991, 37–38.

27. Denise K. Magner, "Colleges Debate Benefits of Early-Retirement Plans as a Way to Shrink Budgets and Avoid Layoffs," *Chronicle of Higher Education*, July 29, 1992, sec. A, pp. 11–12.

28. Chabotar and Honan, "Coping with Retrenchment."

29. DePalma, "Bad Times."

30. Karen Grassmuck, "Colleges Discover the Human Toll as They Struggle to Cut Work Forces," *Chronicle of Higher Education* 37, no. 43 (1991): 1, 25.

31. Chabotar and Honan, "Coping with Retrenchment."

32. Hardy, "Using Content, Context and Process."

33. Cameron and Tschirhart, "Postindustrial Environments."

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1. Length of article, not including figures, tables, endnotes, and appendices, should be approximately 24 to 40 DOUBLE-SPACED pages of 300 words per page, or 7,000 to 12,000 words.

2. Place each figure and table on a separate page, indicating where in the article it should be inserted. Include below each one, when pertinent, a full note labeled "Source," crediting the originator of the data. Should permission to reprint material from the source be necessary, request it and the desired credit line from the copyright holder, in writing, and submit it with the article. Should the methodology of the article require explanation, place it on separate double-spaced pages under the heading "Methodology."

3. Provide an abstract — a short summary of the article — of about 150 words, double-spaced, labeled "Abstract," as well as a one-line author identification. The latter should include professional title(s) and affiliation(s). For articles by multiple authors, identify each one.
Example: Shaun O'Connell, professor of English at the University of Massachusetts Boston, specializes in contemporary Irish and American literature.

4. Notes must appear at the end of the article. It is especially important that these also be DOUBLE-SPACED. When possible, place mathematical formulas in the endnotes. Publication data for citations from a book must include, in the following sequential order: full first name or initials and last name of author(s), editor, compiler, translator; full title, including subtitle, of the work; editor's name if given in addition to author; city of publication; year of publication; and pertinent page number(s).

For example:
Robert Frost, "The Gift Outright," in *The Poetry of Robert Frost*, edited by Edward Connery Lathem (New York: Holt, Rinehart and Winston, 1975), 348.

Richard E. Neustadt, *Presidential Power* (New York: Wiley, 1960), 24.

Publication data for citations from an article in a periodical must include, in the following sequential order: full first name or initials and last name of author(s); full title, including subtitle of article; full name of periodical/journal, including volume and issue numbers; and pertinent page number(s).

For example:
Shaun O'Connell, "The Infrequent Family: In Search of Boston's Literary Community," *Boston Magazine* 67, no. 1 (January 1975): 44-47.

5. The journal uses shortened references rather than op. cit. For a book, include last name(s) of author(s); short title containing key word(s) of main title; and page number(s) of reference. For a periodical article, include last name(s) of author(s); short title of article; and page number(s).

For example:
Frost, "The Gift Outright," 348.

Neustadt, *Presidential Power*, 24.

O'Connell, "Infrequent Family," 44-47.

6. We are happy to answer any questions you may have about these guidelines. Please address queries and manuscripts to:

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