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Institutional Challenges to Workforce Development in Maine

Thomas Remington
Harvard University, tremington@fas.harvard.edu

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by Thomas F. Remington

Abstract

The problem of workforce development in Maine has become acute. An important factor for understanding the issue of workforce development, in Maine and nationally, is rising economic inequality. High inequality impedes the working of labor markets, and over time, reduces opportunity and mobility. In Maine, as elsewhere, income gaps have widened between rich and poor while the middle class has been shrinking. Moreover, the gap between high-income and low-income counties has been growing. Meantime, many good-paying jobs are going unfilled. Comprehensive institutional solutions can help overcome these problems by matching supply and demand in the labor market, but they are not simple or cheap. Three such arrangements are described: apprenticeships; specialized wraparound programs focusing on disadvantaged or marginalized individuals; and college-and-career readiness programs aimed at secondary-level students. These solutions require effective intermediary organizations that foster sustained trust and cooperation among business, education, government, and the civic sector.

In recent years, the problem of workforce development in Maine has become acute; some refer to it as a crisis. Governor Mills has pointed out that while many employers cannot find enough qualified workers, many workers are trapped in low-skill, low-wage jobs (McDonnell 2019). Employers and educators in Maine have set ambitious targets for expanding the pool of skilled workers to meet the requirements of a changing labor market, such as the agreement on the part of dozens of organizations under MaineSpark to raise the percentage of adults possessing a useful postsecondary educational credential from the current level of 46 percent to 60 percent by 2025.[1] Many of the challenges Maine faces are prevalent throughout America, but some are particularly pronounced in Maine. This paper reviews some relevant literature on issues related to workforce development and analyzes the experience of several efforts in Maine and other states to develop solutions to the issue.

WORKFORCE DEVELOPMENT AND ECONOMIC INEQUALITY

An important context for understanding the issue of workforce development, in Maine as elsewhere, is rising economic inequality. Incomes are growing more concentrated at the top end of the distribution, while wages and incomes in the middle and lower parts of the distribution are stagnant, and the share of the population in the middle-income brackets is shrinking. Although globalization and technology change account for much of this trend, political forces play a major part as well. These forces include the weakening of collective labor bargaining power, substantial reductions in personal and corporate income taxes at the upper end, and lax antitrust enforcement. The latter has allowed corporations to accumulate market power in concentrated industries, which has generated a large increase in the flow of income rents to top-level managers and owners of companies (Baker and Salop 2015; Khan and Vaheesan 2017).

High inequality impedes the working of labor markets, and over time, reduces opportunity and mobility. Because inequality widens the gap between rich and poor not only in the present but also in the future, it is likelier that individuals and their offspring will remain in the same income bracket well into the future. Fortunate families who enjoy the benefits of good incomes, stable employment, safe neighborhoods, and good health care and education give their children a much greater advantage starting out in life than can families lacking those resources. And this gap has grown as inequality has grown. Research shows that in the

United States, the accumulation of advantage and disadvantage in families has slowed social and geographic mobility. Today, only half of young people who were born in the 1980s earn more than their parents, whereas for those born in 1940 it was 90 percent (Chetty et al. 2017). As the middle class thins out, mobility for children born to middle-class families has declined because of the sorting of rich and poor into separate neighborhoods, school districts, and social connections that influences the life chances of young people. Inequality in the United States has risen faster and mobility has fallen faster than in other rich countries. Fewer traditional equalizing forces, such as good schools, mixed-income neighborhoods, and jobs paying middle-class wages, now work to mitigate the effects of rising inequality (Chetty et al. 2014; Reardon and Bischoff 2011).

Fewer traditional equalizing forces...now work to mitigate the effects of rising inequality....

Maine is no exception to the pattern of rising inequality. The share of households in Maine with annual incomes exceeding $100,000 rose almost 50 percent in the last decade, from 14 percent to more than 20 percent of the population. This rate of increase was even faster than that for the United States as a whole. Meanwhile, the number of households in the middle brackets fell, as did the number in the lowest-income brackets. So while income growth has reduced the number of households in the lowest-income brackets and reduced the poverty rate, it did not build a larger middle class.

Maine's regional inequality has also widened. Since the early 1990s, Maine's richest counties—measured by median household income—have benefited from economic growth more than have poorer counties. As a result, Maine's better-off southwestern counties have median household incomes nearly twice as high as that of the poorest counties. Poverty rates in Maine range from around 18 percent in the poorest counties to as low as 8 percent to 10 percent in richer counties.[2]

In labor markets with high shares of low-wage workers (that is people earning less than two-thirds of the median hourly rate for a full-time male employee, adjusted for the local cost of living), businesses are less likely to invest in training and mobility opportunities for their workers. The result is a vicious cycle: workers are trapped into a series of low-wage jobs, and employers face the problem of a disgruntled workforce with high turnover. This problem affects Maine. While nationally, some 44 percent of the workforce in the 18-to-64-age range are classified as low-wage workers, in Bangor, for example, it is 48 percent (Escobari et al. 2019).

Maine's counties also differ widely in their rates of youth ages 16 to 19 who are not in school or employed. Maine's *disconnected youth* rate ranges from a low of around 4 percent to a high of around 12 percent. The rate of disconnected youth is not necessarily connected to the overall income level of the county, however: Aroostook and Washington Counties (high poverty) have low rates of disconnected youth, as do Cumberland and York (low poverty). But Waldo and Somerset Counties have high rates of both poverty and disconnected youths. Maine's counties also vary widely in the shares of their population with advanced degrees. Whereas 56.9 percent of Cumberland County's population has at least an associate degree, Oxford's rate is about half that (28.8 percent), which helps explain why economic growth is so skewed across counties.

In economic models of a competitive labor market, factors of production—labor and capital—move to seek their greatest risk-adjusted returns. However, the factors driving economic and geographic inequality hamper the flow of labor and capital. Workers can be trapped by low education and the inability to improve their qualifications as well as by social and territorial barriers, while employers facing strong financial pressures from domestic and foreign competition may find it difficult to increase wages or invest in the productivity of their workers. As a result, almost a quarter of all employees work at wages that do not allow them to support a family at a minimally adequate standard of living (Osterman and Shulman 2011). In Maine, this problem is still more acute: 38 percent of all households in Maine, and 46 percent of all families with children, bring in less than the income needed to support a family at a minimally adequate standard of living (Moretti 2018).

In Maine, as in other parts of America, wages for manual occupations have stagnated. The pay scales for

construction workers, laborers, maintenance workers, machinists, those working in personal care and services and other production occupations have hardly risen over the last decade. Likewise, lower- and mid-level managers have hardly seen any increase in pay. Only top-level managers, those at the top decile, have seen significant wage increases.[3]

The forces driving inequality are therefore also impeding the forces of supply and demand in the labor market. The decline in the number of middle-class jobs has left a large share of workers outside the labor force or trapped in jobs earning poverty-level wages. It is also the case that many jobs demanding middle-level skills and that pay wages sufficient to support a middle-class standard of living are available and going unfilled (Fuller et al. 2017; Kochan et al. 2012). For example, many employers screen job candidates for a bachelor's degree when they want basic knowledge and skills, which puts people lacking a four-year degree at a disadvantage.

Maine is somewhat poorer and somewhat older than the country as a whole. Maine's median household income is lower than the national median ($53,024 vs $57,652) as is its mean income ($70,210 vs $81,283). And the population is aging faster than is the country's as a whole. Maine's median age is 44.3 (2017), compared with the national median age of 37.8, and the population has grown older at a faster rate than the country as a whole.[4] Moreover, the working age population has shrunk more in Maine than it has nationally (Table 1).

To be sure, Maine's present unemployment rate is low overall (2.9 percent in September 2019, compared to the national rate of 3.6 percent) (CWRI n.d.). However, this figure is misleading. First, it excludes the large number of people who are not in the labor force—i.e., not working, unemployed, or looking for a job. Only 62.3 percent of Maine's adult civilian population was employed as of September 2019 (compared with 63.3 percent for the United States as a whole). Economists have shown that the aging of the population is the most important reason labor force participation in the United States has declined over the last three decades, but other factors, including stagnant wages, fewer job opportunities for low-skill workers, health problems and discouragement, play an important role as well (Abraham and Kearney 2018; Krueger 2017; Nunn et al. 2019). The age-adjusted employment rate has been particularly pronounced for men and especially young men, which is partly due to falling wages. However, the opioid epidemic is another significant factor; it is both cause and consequence of social isolation, marginalization, and hopelessness. As Figure 1 shows, state by state, the death rate from opioid abuse is highly correlated with the age-adjusted rate of disability.

TABLE 1: **Population Aging in Maine**

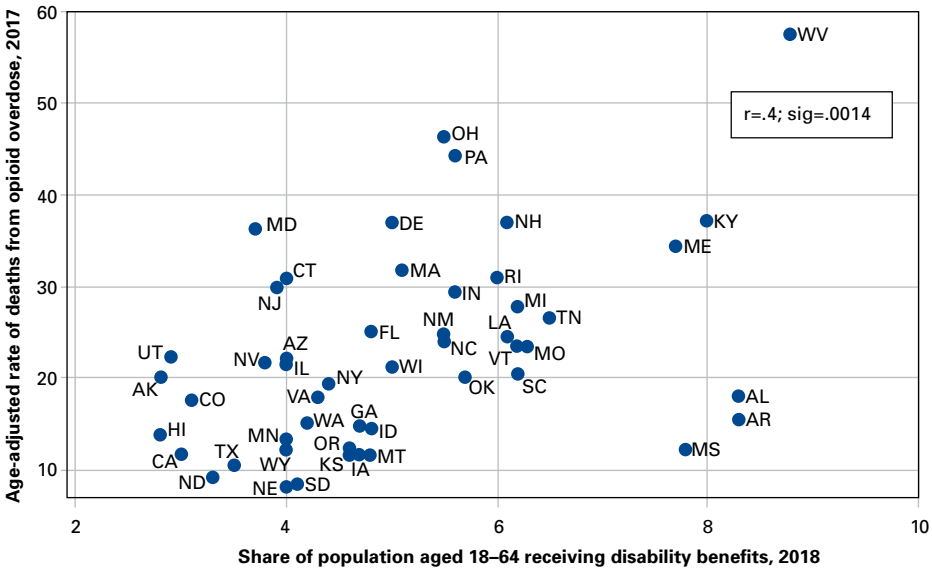
	2009	2017
Total population of Maine	1,316,380	1,330,000
Maine: ages 15 to 44—absolute number	505,490	467,498
Maine median age	41.4	44.3
National median age	36.5	37.8
Maine: ages 15 to 44 as % of population	38.4%	35.1%
National: ages 15 to 44 as % of population	41.8%	40.0%

Source: US Census Bureau, American Community Survey

Maine ranks sixth in the country in the rate of adults ages 18–64 receiving Social Security disability payments, and eighth in the country in the age-adjusted rate of deaths from opioid overdoses. In effect, in Maine, as in many places in the United States hit hard by technology change and global trade, disability insurance has become a major form of social protection. Nationally, research shows that 10 percent of workers who were negatively affected by trade with China, for example, went on disability insurance (Banerjee and Duflo 2019: 83). Moreover, once people go on disability, they rarely reenter the workforce.

Yet while a large portion of the youth and adult population is disconnected from the labor force, many jobs in Maine are unfilled. The 2016 Maine survey of job vacancies found about 30,000 jobs unfilled, two-thirds of them were full time (CWRI 2016). About 10,000 were in health care and social services, paying on average almost $45,000 per year. Almost 1,800 were in manufacturing, paying on average $54,000. Of course, averages can conceal wide variation, so undoubtedly many jobs offered wage levels much lower than these listed here. Many jobs paid very low wages: for example, the average wage for the 3,700 jobs unfilled in the hospitality industry was $19,000. No doubt these low wage levels make jobs hard to fill.

FIGURE 1: **Deaths from Opioid Overdoses and Rates of Disability Recipients by State***



*Maine ranks sixth in the country for rate of disability and eighth in the rate of opioid overdoses.

Source: CDC (2017); SSA (2018).

It is harder to explain, however, why employers are finding it hard to fill high-paying jobs that offer educational and other benefits.

COMPREHENSIVE APPROACHES TO WORKFORCE DEVELOPMENT

Policymakers concerned with increasing the supply of labor to fill the present-day and future needs of Maine's workforce, therefore, should recognize that, individually, neither supply-side remedies, such as higher educational attainment rates, nor demand-side approaches, such as raising wages and benefits, can fully solve the problem. Research indicates that more-comprehensive approaches to matching labor demand and supply, involving active intervention by third parties, are often effective. Although they are expensive, the return on the investment can be substantial. Let us review three such approaches: apprenticeships; specialized wrap-around programs targeting disadvantaged populations; and college-and-career readiness programs aimed at secondary-level students.

A common feature of all three approaches is their reliance on a close relationship between educational institutions and employers. The most effective public-private partnerships are institutionalized in such a way as to align the interests of private businesses with those of individual workers and the public (Conway and Giloth 2014; Hoffman and Schwartz 2017). Effective initiatives entail cooperation among employers and between employers and schools; integration of classroom learning with applications of concepts and skills in the workplace; and the ability of training to open opportunities for career advancement past the initial job (Kochan et al. 2012). They require intermediary organizations to coordinate the participation of disparate actors.

Apprenticeships

Apprenticeships are a highly effective institutional form of public-private partnership. Apprenticeships provide in-depth occupational training combining a minimum of 114 credit hours per year of classroom instruction together with on-the-job training for wages that rise progressively over the three-year term of an apprenticeship. A 2012 study of the economic impact of apprenticeships found that the lifetime material gain for individuals who completed an apprenticeship was $240,000 greater than similar nonparticipants, and that the benefits to society exceeded the costs by more than $49,000 per individual (Reed et al. 2012). As the sidebar shows, a study from the state of Washington found that of all the workforce-training programs studied, apprenticeships yield by far the highest return to both individuals and taxpayers. A dollar spent by taxpayers on apprenticeships returns $23 to the public coffers over an

EFFECTIVENESS OF SIX WORKFORCE DEVELOPMENT PROGRAMS

Washington State regularly publishes reports assessing the effectiveness of state programs for training and workforce development, estimating both the benefit to individual participants and the payoff to the public. The reports compare those who completed the programs with similar groups of people who did not. Following are brief definitions of six programs included in Table 1 (WTECB 2015):

- Apprenticeship—Combines classroom instruction and on-the-job training under the supervision of a craftsperson or trade professional
- Secondary Career and Technical Education (CTE)—Instructional programs organized within several career pathways
- Community and Technical College (CTC) Professional-Technical Education—Leads to an associate's degree or certificate
- Worker Retraining at Community and Technical Colleges—Job retraining for dislocated workers and the long-term unemployed
- Workforce Investment Act (WIA) Title I-B Adult Program—Provides job training and other services to adults 18 years and older
- The Workforce Investment Act (WIA) Title I-B Dislocated Worker Program—Provides services for dislocated workers to address worker dislocation

Apprenticeship programs are by far the most effective means of preparing people for careers. Apprenticeships yield the highest gain in earnings and return to the public, at a third of the cost of two-year vocationally oriented colleges. Secondary-level CTE programs are nearly as beneficial from the standpoint of the public because of the high ratio of earnings to cost. The two WIA programs, on the other hand, are relatively costly, but yield a small return to both participants and public.

One lesson we can draw from this table is that training alone is unlikely to have a major impact on raising a person's earnings potential or on the economic vitality of communities in the absence of close coordination among educators and businesses. Apprenticeships require careful monitoring and intense cooperation between employers and educational institutions. The relatively poor results for the WIA programs suggests that funding training programs alone, in the absence of deep coordination with employers, has only a limited benefit.

TABLE 2: **Cost and Benefit of Selected Workforce Training Programs**

Program	Public program costs[1]	Net earnings impact[2]	Net employment impact (%)[3]	Participant return on public investment[4]	Taxpayer return on investment[5]
Apprenticeship	$3,647	$19,257	9.8	$91:1	$23:1
Secondary CTE	$922	$2,157	8.4	$87:1	$9:1
CTC professional-technical education	$11,150	$9,467	10.1	$13:1	$3:1
Worker retraining at community and technical colleges	$7,408	$3,004	7.5	$9:1	$2:1
WIA Title I-B adult program	$5,772	$4,562	10.8	$8:1	$1.20:1
WIA Title I-B dislocated workers program	$6,273	$,3622	4.7	$7:1	$2:1

1 Estimated per participant cost to public of delivering service

2 Difference between average annualized earnings for all participants and the control group of nonparticipants, measured between two and three years after leaving the program

3 Difference between the employment rate for all participants and the control group of nonparticipants, measured between two and three years after leaving the program

4 Ratio of present value of additional lifetime participant earnings and employee benefits to public costs of program (less participant program costs, taxes on added income, and loss in unemployment insurance benefits), as compared with control group of nonparticipants

5 Ratio of present value of projected additional lifetime taxes paid by the participant (less any unemployment insurance benefits), compared with public costs of program

Source: WTECB 2015

individual's career. Every dollar spent by an individual yielded $91 in additional earnings.

Robert Lerman, a leading expert on apprenticeship programs, observes that they help build both occupationally relevant skills as well as the more generalized social and behavioral skills valued by employers (Lerman 2014). From the standpoint of the individual participants, apprenticeships help to expand opportunity and upward mobility; from society's standpoint, they help reduce inequality and close the middle-skill gap in the labor market.

Maine's apprenticeship program is working more actively to recruit business associations...as sponsors of apprenticeships.

Maine's apprenticeship program has expanded in recent years, but it continues to be limited in scope.[5] In 2018, for example, only 166 individuals completed their apprenticeship programs. Large employers—specifically Bath Iron Works and Cianbro—have dedicated apprenticeship programs, but for small businesses, it is much harder to devote resources to training. Any one small business has very limited capacity to invest in building the pool of skilled workers through apprenticeships and other similar public-private partnerships. This limited capacity affects Maine with particular force: over 57 percent of Maine employees work for small businesses, compared with 48 percent nationally (SBA Office of Advocacy 2016). Over 22 percent work in establishments with fewer than 20 employees, compared with 17.3 percent nationally. Therefore, the collective action problem for businesses in joining forces and pooling resources to expand the qualified workforce is more pronounced in Maine than elsewhere. In response, Maine's apprenticeship program is working more actively to recruit business associations (such as the plumbing, heating, and cooling industry association, the hospitality industry, and the energy marketing association) as sponsors of apprenticeships.

There remains, however, considerable room to expand the scope of apprenticeships in Maine. For example, a number of Maine's most important employers, organizations, and trade associations are missing from list of organizations that sponsor apprenticeships, including Central Maine Power, Consolidated Communications, the coastal shipyards, the Maine Marine Trades Association, and the state ferry operators. Moreover, the state could link apprenticeships to employment through tax credits, as South Carolina does, granting a $1,000 tax credit to every firm that hires an employee and retains the person for a set number of years from an apprenticeship.

Wraparound Programs

A second form of institutional intervention deals with particular populations, such as individuals who face particular obstacles to succeeding in school or people in poverty. Such programs succeed when they work through high-functioning intermediary organizations that act as convenors and sustainers of the cooperation among educational institutions and employers. To be sure, Maine already has an abundance of such intermediary organizations, but they are not all equally effective. Studies show that the effective ones share certain characteristics (Hoffman 2015; Maguire et al. 2010; Osterman 2018; Roder and Elliott 2019).

First, wraparound programs provide individualized, personal interaction with the people they serve and lasting relationships with employers, so they are costly in terms of both time and treasure. For example, one highly regarded program in San Antonio, Texas, called Project Quest, which helps low-income adults to acquire post-secondary credentials and find good-paying jobs, spends an average of $11,000 per individual. But the return is high: on average, by the ninth year after leaving, graduates of the program are earning over $5,000 per year more than their counterparts who did not go through the program (Roder and Elliott 2019; Schwartz 2019). In Maine, Jobs for Maine Graduates (JMG), an organization funded by the state as well as private sources, maintains programs in 131 educational institutions currently reaching around 9,000 students. Created initially to help reduce school drop-out rates, it has evolved to address the problem of workforce development. Its high-touch approach has proven effective; although the students it reaches tend to be those facing the highest barriers to educational and career success,

the school graduation rates are higher than those of the general population, as are the median salaries its graduates earn. Increasingly, JMG works closely with employers and employer associations through its system of regional districts.[6]

Second, wraparound programs operate at the retail level. That is, they build on local social ties and a sense of shared commitment to the well-being of a community or region, while maintaining strong links to state government (education and labor departments), foundations, and federal programs. Common purpose helps them to overcome the challenges to cooperation that inevitably arise across organizations with divergent reporting and funding structures.

When businesspeople and educators first meet to discuss their respective roles in workforce development, they often find they speak different languages. Educators think first and foremost about meeting state educational requirements; businesses think in terms of the bundle of skills they expect of employees. Studies show that over time, with goodwill and mutual trust, these different sectors can learn to speak a common language. Educators value the real-world knowledge that employers can provide about the needs of the current job market and employers' ability to expose students to workplace learning opportunities. Employers contribute ideas about linking the knowledge taught in classrooms with its applications on the job. Most importantly, intermediaries help employers establish workplace-based learning experiences that build students' knowledge and confidence about their roles in society (Hoffman and Schwartz 2017).

Pathway Programs

The third form of public-private partnerships comprises those that specifically focus on providing both career-oriented and college-level course credits to students at the secondary level. The number of such programs has expanded greatly in recent years, and some have been rigorously evaluated (Hoffman and Schwartz 2017; Schwartz 2016; Stern 2015). An example in Maine is the Bridge Academy; many similar programs exist in other states (Hoffman and Schwartz 2017). The objective of such programs is to ensure that when students graduate high school, they have a certain minimum number of college-level academic credits, a certain number of credits in CTE (career and technical education) courses, and meaningful workplace learning experience. Studies show that students who graduate from these programs have measurably higher rates of high school completion as well as greater success in obtaining jobs that offer good wages and opportunities for upward advancement. At the same time, research shows that they only succeed in the presence of deep and sustained involvement on the part of school and business partners. If either schools or employers (or employer associations) treat such a program as a short-term solution, the program will not achieve its goals (Beadle 2019).

Research shows that effective partnerships need leadership....

THE IMPORTANCE OF LEADERSHIP

Research shows that effective partnerships need leadership, usually from a chief executive in government (Remington 2017). A governor or a mayor has the power to convene educators and employers, foundations and social service agencies, to help establish regular channels of coordination and communication. Sustained attention from the leader ensures that schools and employers follow through on their commitments. And government leaders can commit state and local budget resources for incentives to firms and schools that establish partnerships and create meaningful workplace learning opportunities. For example, when James Longley was governor of Maine, he spent a great deal of time personally negotiating with multiple state organizations to develop a successful proposal to bring Pratt & Whitney to Maine, which included the governor's personal involvement in ensuring that state training funds would be devoted to the skilled workforce required by the firm (Longley 1992). The state's commitment to the company recently paid off handsomely in the form of a million-dollar grant to the University of Maine's College of Engineering for the purpose of upgrading education in mechanical engineering (Associated Press 2019).

To take advantage of a sense of crisis and to foster a sense of shared purpose, a governor can show employers that their greatest competitors for skilled employees are not other local firms, but other states and countries (Kochan et al. 2012). As convenor, the governor can encourage cooperation in building a pool of skilled labor that will allow firms to recruit workers without poaching from one another. An intermediary organization created under transient circumstances—such as a short-term crisis, or the availability of a federal or private grant—on the other hand, is likely quickly to become defunct once the impetus that sparked it has passed.

The approaches to the problem of workforce development outlined here require investment in institution building and a commitment to improving the job prospects of low-wage workers. An emphasis on upgrading skill alone will not solve the problem of workforce development or of inclusive economic growth, nor will a strategy that seeks to stimulate business investment without ensuring that a motivated, well-trained workforce is available for employers. In fact, cities that have seen the fastest growth in high-wage jobs (such as information technology and finance) also have seen the fastest growth in low-wage, low-skill occupations, for example in the hospitality sector, which leads to the high inequality seen in cities such as San Francisco, Boston, and New York (Escobari et al. 2019). Therefore workforce development strategies must couple deliberate effort to stimulate broad-based economic growth with efforts to improve the career opportunities for low-wage workers. Success in this endeavor requires a multipronged effort at institutional change calling upon the concerted efforts of business, government, and educators. Collective investment in the human potential of the workforce can help offset the effects of globalization and technological change and mitigate the trend toward rising economic and social inequality.

NOTES

1. For more information about the organizations involved in MaineSpark, visit its website: https://mainespark.me/for-organizations/.

   The resolution itself can be uploaded using this link: https://mainespark.me/wp-content/uploads/2017/12/MaineSpark_Resolution_Updated_12.1.17.pdf.

2. https://www.census.gov/quickfacts/fact/dashboard/ME/PST045219.

3. Figures from the Bureau of Labor Statistics. In occupations such as production workers, personal care and services, construction, and general labor, wages at the 90th, 50th, and 10th percentiles have scarcely moved in the last 20 years. Wages have only increased significantly for managerial workers and for those only for the top decile. See https://www.bls.gov/oes/.

4. https://www.census.gov/quickfacts/fact/dashboard/ME/PST045219.

5. For more information about Maine's apprenticeship program, see https://www.maine.gov/labor/jobs_training/apprenticeship/.

6. This information is based on interviews with JMG staff as well as research materials from studies commissioned by JMG.

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Thomas F. Remington is a visiting professor of government at Harvard University and an emeritus professor of political science at Emory University in Atlanta, Georgia. His research focuses on issues related to economic inequality and social policy. He has published a number of articles on public-private partnerships for technical and vocational education in the United States and other countries.