

Positioning Wisconsin for the Jobs of the Future



Wisconsin Family Impact Seminars

*A project of the School of Human Ecology, the School of Social Work,
and the College of Letters and Science at UW-Madison
in collaboration with Cooperative Extension at UW-Extension*

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First Edition

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**The School of Human Ecology, the School of Social Work,
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and
Phyllis M. Northway**

Purpose and Presenters

In 1993, Wisconsin became one of the first states to conduct Family Impact Seminars modeled after the seminar series for federal policymakers. The Wisconsin Family Impact Seminars provide objective, high-quality research on family issues to promote greater use of evidence in policy decisions and to encourage policymakers to examine policies and programs through a family impact lens. Family Impact Seminars highlight the consequences that an issue, policy, or program may have for families. Because of the success of the Wisconsin Family Impact Seminars, the Policy Institute for Family Impact Seminars, established at the University of Wisconsin-Madison/Extension, is now helping 27 states conduct their own Seminars.

The Family Impact Seminars are a series of presentations, discussion sessions, and briefing reports that provide timely, solution-oriented research on family issues for state legislators and their aides, Governor's office staff, legislative service agency staff, and state agency officials. The Seminars provide objective, nonpartisan research and do not lobby for particular policies. Seminar participants discuss policy options and identify common ground where it exists.

“Positioning Wisconsin for the Jobs of the Future” is the 30th Wisconsin Family Impact Seminar. For information on other Wisconsin Family Impact Seminar topics or on Seminars in other states, please visit our web site at <http://www.familyimpactseminars.org>.

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Briefing Reports

Each Family Impact Seminar is accompanied by an in-depth briefing report that summarizes the latest research on the topic and draws implications for families and for state policymakers. Since 1993, 30 seminars have been conducted on topics such as corrections, evidence-based budgeting, growing the state economy, long-term care, Medicaid, prisoner reentry, school funding, and workforce development. For a list of the seminar topics and dates, please visit the Wisconsin Family Impact Seminar web site at <http://www.familyimpactseminars.org> (enter a portal and click on State Seminars). Each seminar has a page on which you can view the list of speakers, download a briefing report, and listen to the audio of the seminar presentations.

Reports can also be downloaded from the UW Cooperative Extension Publications web site at <http://learningstore.uwex.edu>. Legislators can request a free bound copy of any report directly from the Wisconsin Family Impact Seminars at (608) 263-2353.

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Executive Summary

In August of 2011, Wisconsin's seasonally-adjusted unemployment rate was 7.9%.¹ However, some workers have been hit harder than others. Nationally, compared to all workers over age 20, unemployment rates are four times higher among displaced workers (those who lost jobs because plants closed or moved, their position/shift was eliminated, or work dropped off).² The percent of teens and young adults who are working is now at the lowest level since the end of the Great Depression.³ However, high unemployment is not due entirely to lack of jobs, but also to the difficulty employers face in finding talent to fill vacancies. Families are key to producing the human talent that businesses require to remain competitive and innovative. This human talent is essential for efforts to attract and expand businesses in Wisconsin, so workers are prepared to step into these new jobs. This report discusses employment and wages in Wisconsin, projections for future jobs, and evidence-based jobs programs that can equip workers with the skills to meet current labor force needs and help businesses be more productive.

In the first chapter, John Koskinen and Emily Camfield of the Wisconsin Department of Revenue examine employment and wages in Wisconsin. Occupations in Wisconsin reflect the state's economy, according to their analysis of data from the Occupational Employment Statistics (OES) Survey of the Bureau of Labor Statistics. Compared to the nation, Wisconsin has above-average employment in production, health care, transportation, personal care and service, and food preparation occupations; however, Wisconsin employment is below national averages in management, computer operations, construction, community and social service, protective service, legal, and farming/fishing/forestry occupations.

Wisconsin's average wage (\$40,980) ranks in the middle of the states, and is lower than the U.S. average (\$44,100). This is explained, in part, because the average salaries tend to be lower for jobs where Wisconsin has higher-than-average employment compared to the nation: production (\$34,850), healthcare support (\$26,790), transportation and material moving (\$32,100), personal care and service (\$22,950), food preparation and serving (\$20,090), and healthcare practitioners and technical (\$72,290) occupations. In contrast, salaries tend to be higher for jobs where Wisconsin has lower-than-average employment: management (\$94,180), computer and mathematical (\$66,300), construction and extraction (\$47,210), community and social service (\$42,510), protective service (\$38,510), legal (\$79,070), and farming/fishing/forestry (\$28,930) occupations.

Across the last decade, several occupation groups have increased in Wisconsin by more than 20%: business and financial operations (45%), computer and mathematical (32%), personal care and service (31%), healthcare support (24%), and healthcare practitioners and technical (21%) occupations. In the last 10 years, three occupation groups have decreased by more than 20% in the state: construction and extraction (29%), production (29%), and management (24%) occupations.

In the second chapter, Jonas Prising, Executive Vice President and President of the Americas for ManpowerGroup, reviews the changing world of work and its impact on jobs in the future. Unemployment is persistently high, yet 1 in 3

employers worldwide are unable to find the talent they need to fill vacancies. Talent has become the key competitive advantage. Business strategy is immaterial without the people to carry it out. Many of the jobs most difficult to fill in 2011 were middle-skill occupations including technicians, sales representatives, skilled trades workers, engineers, laborers, management/executives, accounting and finance staff, IT staff, production operators, and secretaries/administrative assistants/office support staff. The talents in shortest supply include experience, technical skills, soft skills, and the skills critical to productivity and innovation—collaboration, critical thinking, and agility. In response to this talent mismatch, employers are hiring fewer employees, and employees are experiencing increasing workloads. A long-term workforce strategy is needed because talent cannot be manufactured in the short term.

The third chapter is written by William C. Symonds of the Harvard Graduate School of Education. He directs the Pathways to Prosperity project that aims to prepare young Americans for the jobs available in today's economy. For over a century, the U.S. has been a leader in most measures of educational success. In the 1970s, the U.S. was #1 in high school graduation rates among its peer industrialized countries, but has fallen to 13th in the first decade of the 21st century. As the U.S. has lost its educational leadership, virtually all the growth in new jobs has required some postsecondary education. For example, well-paying, middle-skill jobs such as electricians, law enforcement officers, and many positions in the healthcare industry require an associate's degree or occupational certificate. To produce prepared, highly motivated workers requires school reform based on a vision of multiple pathways to a meaningful career. Also, employers need to become fully engaged partners, and opportunities need to be expanded for work-linked learning.

The fourth chapter on evidence-based jobs programs is written by Ron Haskins, Senior Fellow of Economic Studies and Co-Director of the Center on Children and Families at the Brookings Institution, and Family Impact Seminar staff. Government funds a number of social programs, but many of them fall short. In this time of fiscal austerity, policymakers are turning to evidence to guide their decisions more than at any other time in U.S. history. One of the main motivations for evidence-based policymaking is to build a foundation for economic prosperity. This chapter covers several evidence-based jobs programs that help equip workers with the skills to meet current labor force needs (i.e., Career Academies, preschool education, sector strategies) and to help businesses improve productivity (i.e., Manufacturing Extension Programs). If policymakers use evidence to eliminate programs that don't work and expand programs that do, government will be more efficient and individuals, families, and the nation will be better positioned to prosper.

Endnotes

- ¹U.S. Bureau of Labor Statistics. (2011). *Labor force statistics from the current population survey*. Retrieved September 16, 2011 from <http://www.bls.gov/web/laus/lauhsth1.htm>
- ²Sum, A., Trubsky, M., & Palma, S. (2011). *The unemployment experiences of workers in the U.S. who were displaced from their jobs during the great dislocation of 2007-2009*. Retrieved from <http://www.employmentpolicy.org/sites/www.employmentpolicy.org/files/field-content-file/pdf/Andrew%20M.%20Sum/June%202011%20Unemployment%20Dislocated%20Worker%20Paper.pdf>
- ³Symonds, W. C., Schwartz, R. B., & Ferguson, R. (2011, February). *Pathways to prosperity: Meeting the challenge of preparing young Americans for the 21st century*. Retrieved from http://www.gse.harvard.edu/news_events/features/2011/Pathways_to_Prosperty_Feb2011.pdf

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| | |
|----------------------------------|-------------------------------|
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| Senator Julie Lassa | Representative Gordon Hintz |
| Senator Mark Miller | Representative Donna Seidel |
| Senator Luther Olsen | Representative Pat Strachota |
| Becky Kikkert, Governor's Office | |

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Wisconsin Works: Results from the U.S. Bureau of Labor Statistics, Occupational Employment Statistics Survey, May 2010

by John Koskinen, Chief Economist
and Emily Camfield, Economist
Division of Research & Policy, Wisconsin Department of Revenue

Occupations in Wisconsin reflect the state's economy, according to data from the Occupational Employment Statistics (OES) Survey of the Bureau of Labor Statistics. Compared to the nation, Wisconsin has above-average employment in production, health care, transportation, personal care and service, and food preparation occupations; however, Wisconsin employment is below national averages in management, computer operations, construction, community and social service, protective service, legal, and farming/fishing/forestry occupations.

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Across the last decade, several occupation groups have increased in Wisconsin by more than 20%: business and financial operations (45%), computer and mathematical (32%), personal care and service (31%), healthcare support (24%), and healthcare practitioners and technical (21%) occupations. In the last 10 years, three occupation groups have decreased by more than 20% in the state: construction and extraction (29%), production (29%), and management (24%) occupations.

Occupational Employment Statistics (OES) Survey

The Occupational Employment Statistics (OES) survey is a semiannual mail survey measuring occupational employment and wage rates for wage and salary workers in nonfarm establishments in the United States. OES data available from the Bureau of Labor Statistics include cross-industry occupational employment and wage estimates for the nation from over 500 areas, including states and the District of Columbia, metropolitan statistical areas (MSAs), metropolitan divisions, and nonmetropolitan areas. OES estimates are constructed from a sample of about 1.2 million establishments from two semiannual panels of approximately 200,000 sampled establishments. May 2010 estimates are based on responses from six semiannual panels collected over a 3-year period: May 2010, November 2009, May 2009, November 2008, May 2008, and November 2007. The OES survey categorizes workers into nearly 800 detailed occupations based on the Office of Management and Budget's Standard Occupational Classification (SOC) system.

Wisconsin Occupations Reflect Its Economy

- **Above average employment in** production, health care, transportation, personal care and service, and food preparation and serving.
- **Near average employment in** maintenance, repair, sales, office support, and others.
- **Below average employment in** management, computer operations, construction, community and social service, protective service, legal, and farming/fishing/forestry.
- **Some things Wisconsin just does not do. Wisconsin is not employed in** aircraft assembly, mining, petroleum extraction, semi-conduction processors and high-fashion modeling.

Above Average Employment

Table 1. Occupations With Above Average Employment in Wisconsin

| Occupations, Major Categories | Employment Estimates | | | Average Annual Wage |
|--|----------------------|------------------------------|-------------------|---------------------|
| | Employment | Employment Per Thousand Jobs | Location Quotient | |
| All Occupations | 2,608,740 | 1000.000 | 1.000 | \$40,980 |
| Production Occupations | 284,330 | 108.990 | 1.682 | \$34,850 |
| Healthcare Support Occupations | 93,710 | 35.923 | 1.152 | \$26,790 |
| Transportation & Material Moving Occupations | 195,600 | 74.980 | 1.115 | \$32,100 |
| Personal Care & Service Occupations | 75,120 | 28.796 | 1.069 | \$22,950 |
| Food Preparation & Serving Related Occupations | 232,740 | 89.217 | 1.028 | \$20,090 |
| Healthcare Practitioners & Technical Occupations | 152,670 | 58.522 | 1.012 | \$72,290 |
| Subtotal | 1,034,170 | 396.428 | | |

Near Average Employment

Table 2. Occupations With Near Average Employment in Wisconsin

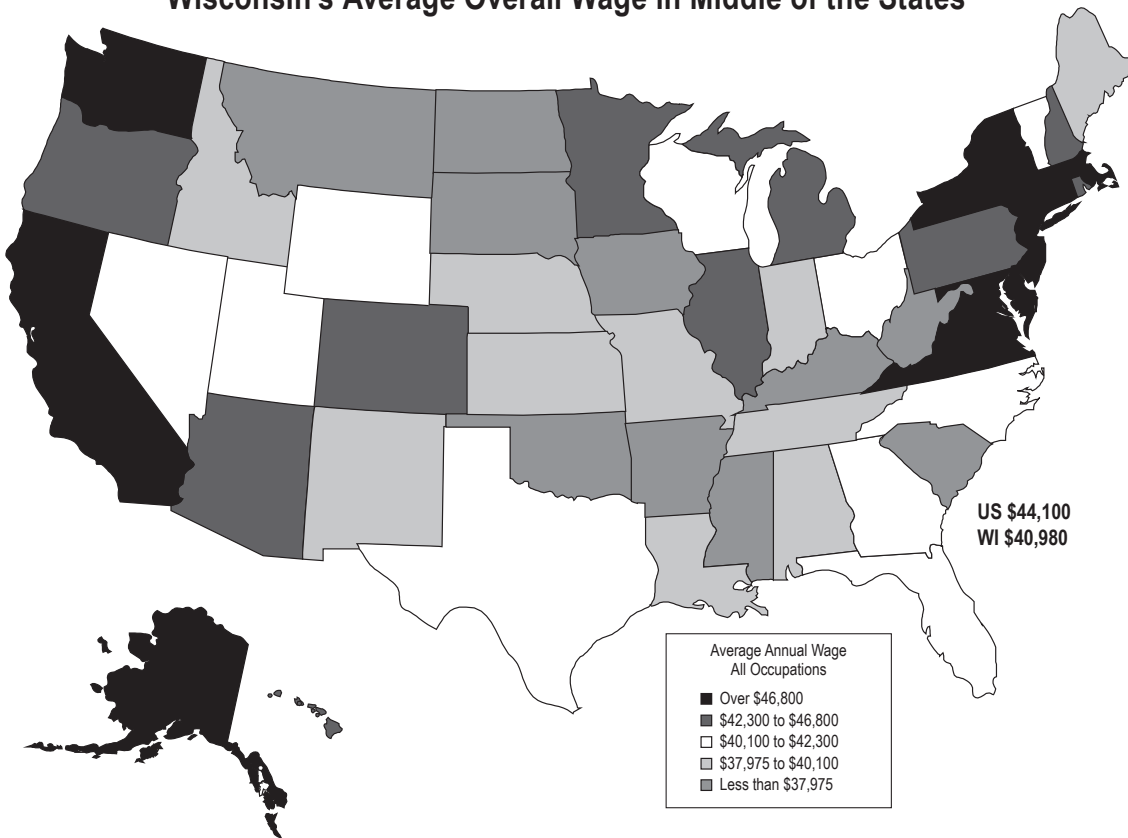
| Occupations, Major Categories | Employment Estimates | | | Average Annual Wage |
|--|----------------------|------------------------------|-------------------|---------------------|
| | Employment | Employment Per Thousand Jobs | Location Quotient | |
| All Occupations | 2,608,740 | 1000.000 | 1.000 | \$40,980 |
| Building and Grounds Cleaning & Maintenance Occupations | 84,120 | 32.246 | 0.982 | \$25,430 |
| Installation, Maintenance, & Repair Occupations | 97,980 | 37.558 | 0.968 | \$42,450 |
| Sales & Related Occupations | 264,500 | 101.390 | 0.959 | \$34,970 |
| Arts, Design, Entertainment, Sports, & Media Occupations | 33,350 | 12.785 | 0.947 | \$42,100 |
| Office & Administrative Support Occupations | 406,000 | 155.631 | 0.920 | \$31,950 |
| Education, Training, & Library Occupations | 158,510 | 60.761 | 0.913 | \$47,570 |
| Business & Financial Operations Occupations | 113,250 | 43.414 | 0.906 | \$59,280 |
| Life, Physical, & Social Science Occupations | 19,740 | 7.565 | 0.903 | \$58,500 |
| Architecture & Engineering Occupations | 42,690 | 16.363 | 0.902 | \$65,550 |
| Subtotal | 1,220,140 | 467.713 | | |

Below Average Employment

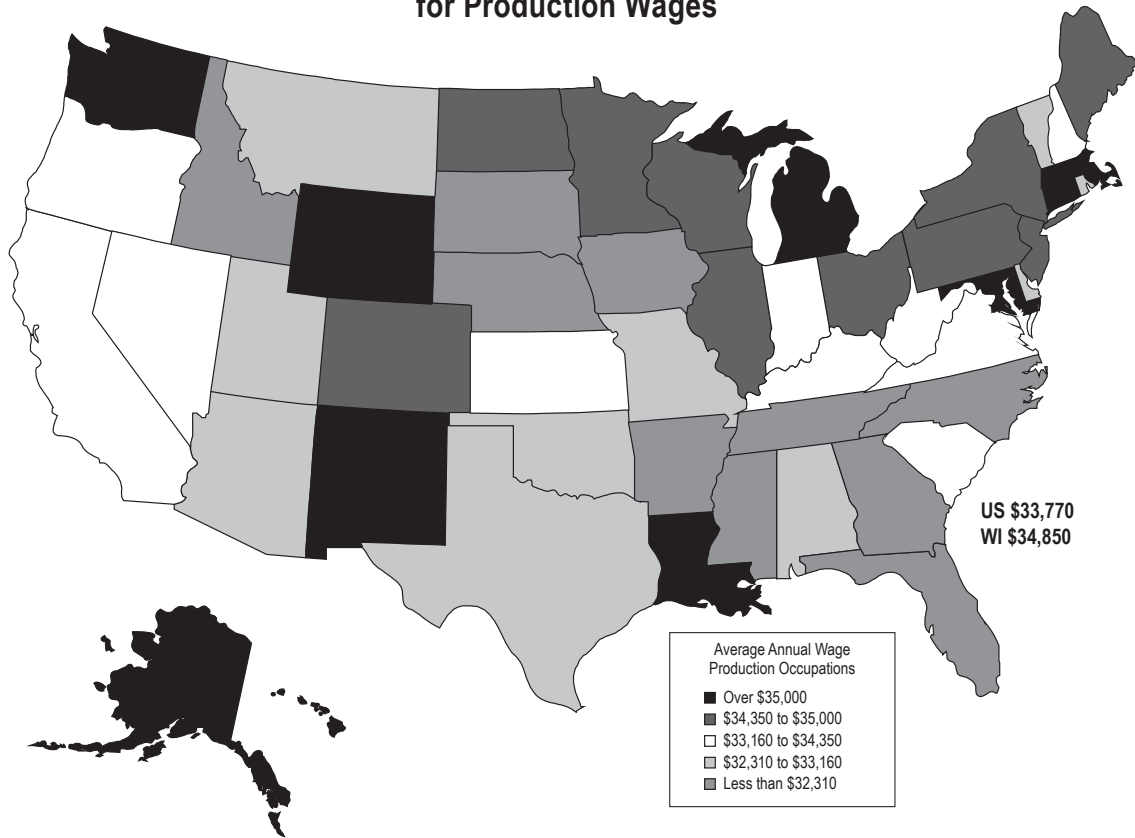
Table 3. Occupations With Below Average Employment in Wisconsin

| Occupations, Major Categories | Employment Estimates | | | Average Annual Wage |
|--|----------------------|------------------------------|-------------------|---------------------|
| | Employment | Employment Per Thousand Jobs | Location Quotient | |
| All Occupations | 2,608,740 | 1000.000 | 1.000 | \$40,980 |
| Management Occupations | 108,930 | 41.756 | 0.881 | \$94,180 |
| Computer and Mathematical Occupations | 57,310 | 21.967 | 0.850 | \$66,300 |
| Construction and Extraction Occupations | 87,330 | 33.477 | 0.839 | \$47,210 |
| Community and Social Service Occupations | 31,630 | 12.123 | 0.810 | \$42,510 |
| Protective Service Occupations | 51,280 | 19.657 | 0.784 | \$38,510 |
| Legal Occupations | 13,020 | 4.991 | 0.639 | \$79,070 |
| Farming, Fishing, and Forestry Occupations | 4,930 | 1.888 | 0.588 | \$28,930 |
| Subtotal | 354,430 | 135.859 | | |

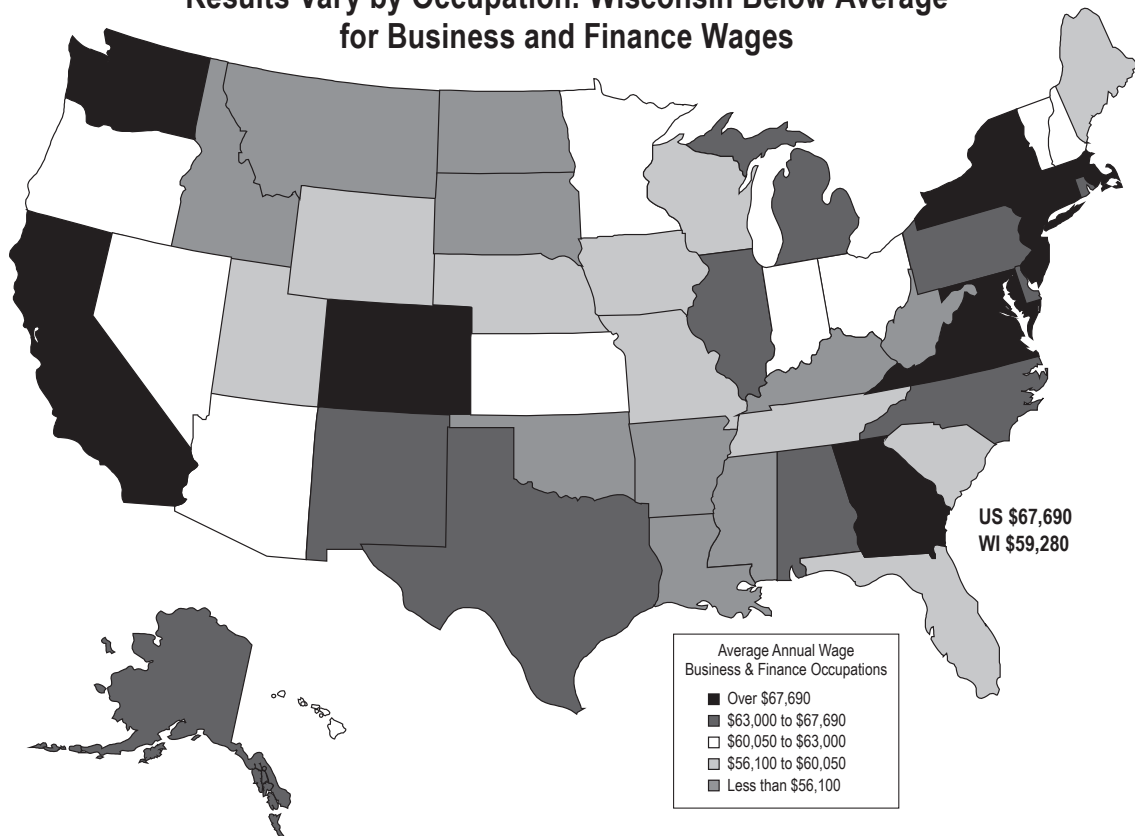
Wisconsin's Average Overall Wage in Middle of the States



Results Vary by Occupation: Wisconsin Above Average for Production Wages



Results Vary by Occupation: Wisconsin Below Average for Business and Finance Wages



10-Year Change in Occupations

Table 4. 10-Year Change in Occupations: Sorted by Percent Change

| Occupation, Major Categories | 2000 | 2005 | 2010 | 2000-05 | 2005-10 | 2000-10 |
|--|------------------|------------------|------------------|--------------|--------------|--------------|
| All Occupations | 2,762,220 | 2,727,430 | 2,608,740 | -1.3% | -4.4% | -5.6% |
| Business & Financial Operations Occupations | 78,110 | 108,280 | 113,250 | 38.6% | 4.6% | 45.0% |
| Computer & Mathematical Occupations | 43,320 | 46,120 | 57,310 | 6.5% | 24.3% | 32.3% |
| Personal Care & Service Occupations | 57,160 | 75,820 | 75,120 | 32.6% | -0.9% | 31.4% |
| Healthcare Support Occupations | 75,730 | 78,550 | 93,710 | 3.7% | 19.3% | 23.7% |
| Healthcare Practitioners & Technical Occupations | 126,360 | 134,360 | 152,670 | 6.3% | 13.6% | 20.8% |
| Community & Social Service Occupations | 27,560 | 30,780 | 31,630 | 11.7% | 2.8% | 14.8% |
| Arts, Design, Entertainment, Sports, & Media Occupations | 29,910 | 32,230 | 33,350 | 7.8% | 3.5% | 11.5% |
| Food Preparation & Serving Related Occupations | 211,330 | 231,520 | 232,740 | 9.6% | 0.5% | 10.1% |
| Protective Service Occupations | 48,200 | 49,340 | 51,280 | 2.4% | 3.9% | 6.4% |
| Education, Training, & Library Occupations | 150,290 | 150,840 | 158,510 | 0.4% | 5.1% | 5.5% |
| Life, Physical, & Social Science Occupations | 20,090 | 25,720 | 19,740 | 28.0% | -23.3% | -1.7% |
| Sales & Related Occupations | 272,900 | 264,370 | 264,500 | -3.1% | 0.0% | -3.1% |
| Legal Occupations | 13,820 | 12,810 | 13,020 | -7.3% | 1.6% | -5.8% |
| Installation, Maintenance, & Repair Occupations | 105,500 | 107,790 | 97,980 | 2.2% | -9.1% | -7.1% |
| Building & Grounds Cleaning & Maintenance Occupations | 91,760 | 90,890 | 84,120 | -0.9% | -7.4% | -8.3% |
| Farming, Fishing, & Forestry Occupations | 5,530 | 4,290 | 4,930 | -22.4% | 14.9% | -10.8% |
| Transportation & Material Moving Occupations | 219,870 | 227,550 | 195,600 | 3.5% | -14.0% | -11.0% |
| Architecture & Engineering Occupations | 48,840 | 48,450 | 42,690 | -0.8% | -11.9% | -12.6% |
| Office & Administrative Support Occupations | 468,980 | 451,140 | 406,000 | -3.8% | -10.0% | -13.4% |
| Management Occupations | 143,330 | 95,940 | 108,930 | -33.1% | 13.5% | -24.0% |
| Production Occupations | 400,290 | 342,860 | 284,330 | -14.3% | -17.1% | -29.0% |
| Construction & Extraction Occupations | 123,340 | 117,760 | 87,330 | -4.5% | -25.8% | -29.2% |

10-Year Change in Occupations

Table 5. 10-Year Change in Occupations: Sorted by Number in Occupation in 2000

| Occupations, Major Categories | 2000 | 2005 | 2010 | 2000-05 | 2005-10 | 2000-10 |
|--|------------------|------------------|------------------|--------------|--------------|--------------|
| All Occupations | 2,762,220 | 2,727,430 | 2,608,740 | -1.3% | -4.4% | -5.6% |
| Office & Administrative Support Occupations | 468,980 | 451,140 | 406,000 | -3.8% | -10.0% | -13.4% |
| Production Occupations | 400,290 | 342,860 | 284,330 | -14.3% | -17.1% | -29.0% |
| Sales & Related Occupations | 272,900 | 264,370 | 264,500 | -3.1% | 0.0% | -3.1% |
| Transportation & Material Moving Occupations | 219,870 | 227,550 | 195,600 | 3.5% | -14.0% | -11.0% |
| Food Preparation & Serving Related Occupations | 211,330 | 231,520 | 232,740 | 9.6% | 0.5% | 10.1% |
| Education, Training, & Library Occupations | 150,290 | 150,840 | 158,510 | 0.4% | 5.1% | 5.5% |
| Management Occupations | 143,330 | 95,940 | 108,930 | -33.1% | 13.5% | -24.0% |
| Healthcare Practitioners & Technical Occupations | 126,360 | 134,360 | 152,670 | 6.3% | 13.6% | 20.8% |
| Construction & Extraction Occupations | 123,340 | 117,760 | 87,330 | -4.5% | -25.8% | -29.2% |
| Installation, Maintenance, & Repair Occupations | 105,500 | 107,790 | 97,980 | 2.2% | -9.1% | -7.1% |
| Building & Grounds Cleaning & Maintenance Occupations | 91,760 | 90,890 | 84,120 | -0.9% | -7.4% | -8.3% |
| Business & Financial Operations Occupations | 78,110 | 108,280 | 113,250 | 38.6% | 4.6% | 45.0% |
| Healthcare Support Occupations | 75,730 | 78,550 | 93,710 | 3.7% | 19.3% | 23.7% |
| Personal Care & Service Occupations | 57,160 | 75,820 | 75,120 | 32.6% | -0.9% | 31.4% |
| Architecture & Engineering Occupations | 48,840 | 48,450 | 42,690 | -0.8% | -11.9% | -12.6% |
| Protective Service Occupations | 48,200 | 49,340 | 51,280 | 2.4% | 3.9% | 6.4% |
| Computer & Mathematical Occupations | 43,320 | 46,120 | 57,310 | 6.5% | 24.3% | 32.3% |
| Arts, Design, Entertainment, Sports, & Media Occupations | 29,910 | 32,230 | 33,350 | 7.8% | 3.5% | 11.5% |
| Community & Social Service Occupations | 27,560 | 30,780 | 31,630 | 11.7% | 2.8% | 14.8% |
| Life, Physical, & Social Science Occupations | 20,090 | 25,720 | 19,740 | 28.0% | -23.3% | -1.7% |
| Legal Occupations | 13,820 | 12,810 | 13,020 | -7.3% | 1.6% | -5.8% |
| Farming, Fishing, & Forestry Occupations | 5,530 | 4,290 | 4,930 | -22.4% | 14.9% | -10.8% |

Above Average Employment and Above Average Wages

Table 6. Above Average Employment and Above Average Wages: Occupations With More than 5,000 Jobs

| Occupational Title | Total Employment | Location Quotient | Annual Wage | |
|--|------------------|-------------------|-------------|---------------|
| | | | Amount | Pct of US Avg |
| Office Clerks, General | 63,060 | 1.101 | \$28,680 | 101.6% |
| Customer Service Representatives | 46,300 | 1.051 | \$33,260 | 101.5% |
| Heavy & Tractor-Trailer Truck Drivers | 43,660 | 1.450 | \$39,880 | 101.1% |
| Janitors & Cleaners, Except Maids & Housekeeping Cleaners | 43,100 | 1.020 | \$25,140 | 102.4% |
| Laborers & Freight, Stock, & Material Movers, Hand | 42,750 | 1.029 | \$27,210 | 105.8% |
| Nursing Aides, Orderlies, & Attendants* | 37,630 | 1.263 | \$25,620 | 101.9% |
| Sales Representatives, Wholesale & Manufacturing, Except Technical & Scientific Products | 33,400 | 1.190 | \$63,870 | 101.8% |
| Team Assemblers | 32,910 | 1.727 | \$30,300 | 103.7% |
| Home Health Aides | 22,080 | 1.095 | \$21,860 | 100.5% |
| Packers & Packagers, Hand | 19,380 | 1.395 | \$25,230 | 114.2% |
| First-Line Supervisors of Production & Operating Workers | 17,670 | 1.550 | \$56,250 | 100.1% |
| Packaging & Filling Machine Operators & Tenders | 16,470 | 2.345 | \$28,490 | 103.3% |
| Shipping, Receiving, & Traffic Clerks | 15,390 | 1.090 | \$30,420 | 101.2% |
| Industrial Truck & Tractor Operators | 13,850 | 1.302 | \$31,810 | 101.0% |
| Machinists | 13,100 | 1.809 | \$40,570 | 102.0% |
| Helpers—Production Workers | 11,490 | 1.420 | \$26,570 | 109.6% |
| Bus Drivers, School or Special Client | 11,200 | 1.167 | \$28,820 | 100.6% |
| Counter Attendants, Cafeteria, Food Concession, and Coffee Shop | 11,120 | 1.213 | \$19,520 | 101.2% |
| Welders, Cutters, Solderers, & Brazers | 10,670 | 1.654 | \$38,180 | 102.2% |
| Assemblers & Fabricators, All Other | 10,220 | 2.007 | \$34,730 | 111.9% |
| Paper Goods Machine Setters, Operators, & Tenders | 10,080 | 5.559 | \$40,470 | 115.7% |
| Physicians & Surgeons, All Other | 7,810 | 1.295 | \$191,370 | 105.8% |
| Printing Press Operators | 7,710 | 1.965 | \$38,670 | 109.3% |
| Cutting, Punching, & Press Machine Setters, Operators, & Tenders, Metal & Plastic | 6,980 | 1.867 | \$33,300 | 108.5% |
| Cleaners of Vehicles & Equipment | 6,530 | 1.105 | \$23,490 | 105.1% |
| Electrical & Electronic Equipment Assemblers | 6,170 | 1.666 | \$33,120 | 106.5% |
| Computer-Controlled Machine Tool Operators, Metal & Plastic | 6,080 | 2.395 | \$35,910 | 100.1% |
| Multiple Machine Tool Setters, Operators, & Tenders, Metal & Plastic | 5,780 | 4.060 | \$35,140 | 105.7% |
| Highway Maintenance Workers | 5,310 | 1.816 | \$38,460 | 107.3% |

Above Average Employment and Below Average Wages

Table 7. Above Average Employment and Below Average Wages: Occupations With More than 5,000 Jobs

| Occupational Title | Total Employment | Location Quotient | Annual Wage | |
|---|------------------|-------------------|-------------|---------------|
| | | | Amount | Pct of US Avg |
| Cashiers | 71,970 | 1.045 | \$18,840 | 95.1% |
| Combined Food Preparation & Serving Workers, Including Fast Food | 63,720 | 1.153 | \$18,000 | 96.7% |
| Bartenders | 24,790 | 2.439 | \$19,100 | 89.6% |
| Personal Care Aides | 19,630 | 1.394 | \$20,160 | 98.7% |
| Maids & Housekeeping Cleaners | 18,240 | 1.026 | \$20,080 | 94.9% |
| Light Truck or Delivery Service Drivers | 16,380 | 1.023 | \$29,110 | 90.6% |
| Carpenters | 14,540 | 1.142 | \$42,800 | 97.5% |
| Tellers | 14,290 | 1.252 | \$23,780 | 95.2% |
| Inspectors, Testers, Sorters, Samplers, & Weighers | 13,320 | 1.580 | \$32,970 | 92.7% |
| Human Resources, Training, & Labor Relations Specialists, All Other* | 12,020 | 1.402 | \$46,130 | 79.8% |
| Dishwashers | 10,720 | 1.032 | \$17,610 | 94.3% |
| Hairdressers, Hairstylists, & Cosmetologists | 10,580 | 1.475 | \$24,640 | 92.9% |
| Medical Secretaries | 10,270 | 1.012 | \$29,960 | 94.2% |
| Preschool Teachers, Except Special Education | 9,390 | 1.239 | \$24,590 | 84.2% |
| Firefighters | 8,110 | 1.307 | \$33,320 | 69.8% |
| Telemarketers | 7,940 | 1.339 | \$23,380 | 91.8% |
| Recreation Workers | 7,890 | 1.309 | \$23,450 | 92.8% |
| Insurance Claims & Policy Processing Clerks | 7,840 | 1.649 | \$34,670 | 95.3% |
| Order Clerks | 7,680 | 1.771 | \$29,510 | 97.3% |
| Sales Managers | 7,470 | 1.140 | \$104,110 | 91.2% |
| Pharmacy Technicians | 7,310 | 1.069 | \$28,180 | 96.1% |
| Industrial Machinery Mechanics | 6,940 | 1.229 | \$46,670 | 99.1% |
| Postal Service Mail Carriers | 6,930 | 1.038 | \$49,410 | 98.3% |
| Molding, Coremaking, & Casting Machine Setters, Operators, & Tenders, Metal & Plastic | 6,850 | 2.909 | \$29,610 | 98.6% |
| Production, Planning, & Expediting Clerks | 6,740 | 1.233 | \$41,680 | 94.6% |
| Production Workers, All Other* | 6,730 | 1.429 | \$30,830 | 99.5% |
| Purchasing Agents, Except Wholesale, Retail, & Farm Products | 6,380 | 1.142 | \$52,960 | 88.0% |
| Loan Officers | 6,230 | 1.071 | \$63,370 | 96.2% |
| Machine Feeders & Offbearers | 5,940 | 2.417 | \$27,730 | 98.4% |
| Mechanical Engineers | 5,850 | 1.215 | \$71,280 | 86.4% |
| Information Security Analysts, Web Developers, & Computer Network Architects | 5,600 | 1.122 | \$67,310 | 84.8% |
| Healthcare Support Workers, All Other* | 5,540 | 1.390 | \$28,770 | 90.8% |
| Fitness Trainers & Aerobics Instructors | 5,530 | 1.194 | \$24,160 | 67.3% |
| Bus & Truck Mechanics & Diesel Engine Specialists | 5,450 | 1.192 | \$41,490 | 98.2% |
| Claims Adjusters, Examiners, & Investigators | 5,440 | 1.010 | \$58,120 | 96.5% |
| Food Servers, Nonrestaurant | 5,330 | 1.264 | \$21,000 | 97.0% |
| Emergency Medical Technicians & Paramedics | 5,290 | 1.163 | \$28,470 | 85.5% |
| Industrial Engineers | 5,280 | 1.268 | \$68,720 | 87.6% |
| Industrial Production Managers | 5,180 | 1.760 | \$85,770 | 89.7% |

Below Average Employment and Above Average Wages

Table 8. Below Average Employment and Above Average Wages: Occupations With More than 5,000 Jobs

| Occupational Title | Total Employment | Location Quotient | Annual Wage | |
|---|------------------|-------------------|-------------|---------------|
| | | | Amount | Pct of US Avg |
| Maintenance & Repair Workers, General | 24,240 | 0.970 | \$37,550 | 102.5% |
| Secretaries & Administrative Assistants, Except Legal, Medical, & Executive | 22,420 | 0.593 | \$32,450 | 101.4% |
| Landscaping & Groundskeeping Workers | 16,170 | 0.950 | \$26,340 | 103.6% |
| Automotive Service Technicians & Mechanics | 11,660 | 0.967 | \$38,350 | 100.4% |
| Construction Laborers | 10,830 | 0.678 | \$39,540 | 117.7% |
| Medical Assistants | 10,580 | 0.985 | \$30,470 | 102.4% |
| Electricians | 9,610 | 0.910 | \$52,530 | 101.4% |
| Correctional Officers & Jailers | 7,630 | 0.813 | \$42,820 | 100.1% |
| First-Line Supervisors of Mechanics, Installers, & Repairers | 7,590 | 0.889 | \$61,650 | 100.5% |
| Cooks, Institution & Cafeteria | 7,480 | 0.940 | \$25,190 | 104.2% |
| Plumbers, Pipefitters, & Steamfitters | 6,600 | 0.896 | \$62,550 | 124.2% |
| Operating Engineers & Other Construction Equipment Operators | 6,540 | 0.952 | \$51,220 | 114.3% |
| Social & Human Service Assistants | 6,140 | 0.837 | \$31,030 | 103.1% |
| Cooks, Fast Food | 5,690 | 0.527 | \$19,290 | 104.0% |
| Bill & Account Collectors | 5,460 | 0.666 | \$33,580 | 101.5% |
| Sales Representatives, Wholesale & Manufacturing, Technical & Scientific Products | 5,430 | 0.694 | \$89,410 | 106.0% |
| First-Line Supervisors of Construction Trades & Extraction Workers | 5,230 | 0.537 | \$67,430 | 108.3% |
| Pharmacists | 5,170 | 0.939 | \$116,700 | 106.7% |

Below Average Employment and Below Average Wages

Table 9. Below Average Employment and Below Average Wages: Occupations With More than 5,000 Jobs

| Occupational Title | Total Employment | Location Quotient | Annual Wage | |
|--|------------------|-------------------|-------------|---------------|
| | | | Amount | Pct of US Avg |
| Retail Salespersons | 76,180 | 0.893 | \$24,250 | 97.0% |
| Registered Nurses | 52,880 | 0.970 | \$64,280 | 94.9% |
| Waiters & Waitresses | 43,720 | 0.949 | \$19,630 | 94.4% |
| Stock Clerks & Order Fillers | 33,020 | 0.896 | \$23,010 | 96.7% |
| Bookkeeping, Accounting, & Auditing Clerks | 32,170 | 0.936 | \$33,100 | 93.7% |
| Elementary School Teachers, Except Special Education | 28,070 | 0.920 | \$52,110 | 95.9% |
| General & Operations Managers | 25,700 | 0.733 | \$107,220 | 94.8% |
| First-Line Supervisors of Office & Administrative Support Workers | 20,750 | 0.743 | \$47,570 | 93.7% |
| Teacher Assistants | 20,020 | 0.781 | \$24,620 | 99.0% |
| First-Line Supervisors of Retail Sales Workers | 19,580 | 0.814 | \$37,940 | 95.1% |
| Secondary School Teachers, Except Special & Career/Technical Education | 18,770 | 0.868 | \$51,040 | 91.2% |
| Accountants & Auditors | 18,160 | 0.825 | \$62,340 | 90.4% |
| Receptionists & Information Clerks | 17,930 | 0.876 | \$26,060 | 99.2% |
| Business Operations Specialists, All Other* | 17,310 | 0.848 | \$60,420 | 89.2% |
| Cooks, Restaurant | 15,540 | 0.840 | \$21,620 | 92.9% |
| Executive Secretaries & Executive Administrative Assistant | 15,310 | 0.659 | \$40,660 | 88.7% |
| First-Line Supervisors of Food Preparation & Serving Workers | 13,630 | 0.858 | \$30,240 | 95.2% |
| Teachers & Instructors, All Other* | 13,610 | 0.934 | \$34,450 | 88.5% |
| Middle School Teachers, Except Special & Career/Technical Education | 12,820 | 0.954 | \$52,240 | 95.2% |
| Food Preparation Workers | 11,690 | 0.710 | \$20,140 | 97.5% |
| Computer Support Specialists | 11,480 | 0.966 | \$47,120 | 94.4% |
| Security Guards | 11,280 | 0.546 | \$24,400 | 90.8% |
| Police & Sheriff's Patrol Officers | 11,240 | 0.850 | \$52,710 | 94.8% |
| Childcare Workers | 11,190 | 0.892 | \$20,290 | 96.1% |
| Licensed Practical & Licensed Vocational Nurses | 10,450 | 0.697 | \$41,010 | 99.2% |
| Sales Representatives, Services, All Other | 10,360 | 0.950 | \$56,960 | 94.3% |
| Computer Systems Analysts | 9,980 | 0.980 | \$72,530 | 89.3% |
| Software Developers, Applications | 9,780 | 0.954 | \$77,090 | 85.3% |
| Financial Managers | 9,100 | 0.925 | \$102,680 | 87.8% |
| Billing & Posting Clerks | 8,590 | 0.865 | \$32,320 | 97.1% |
| Management Analysts | 7,990 | 0.726 | \$73,730 | 84.5% |
| Counter & Rental Clerks | 7,790 | 0.915 | \$24,850 | 97.0% |
| Lawyers | 7,440 | 0.646 | \$106,610 | 82.4% |
| Dining Room & Cafeteria Attendants & Bartender Helpers | 6,860 | 0.855 | \$17,900 | 92.7% |
| Driver/Sales Workers | 6,830 | 0.895 | \$26,380 | 97.5% |
| Computer Programmers | 6,650 | 0.971 | \$68,190 | 91.0% |
| Network & Computer Systems Administrators* | 6,510 | 0.952 | \$61,670 | 85.4% |
| Insurance Sales Agents | 5,730 | 0.876 | \$59,450 | 95.1% |
| Hosts & Hostesses, Restaurant, Lounge, & Coffee Shop | 5,570 | 0.825 | \$18,530 | 94.5% |
| Computer & Information Systems Managers | 5,540 | 0.935 | \$103,630 | 84.1% |
| Dental Assistants | 5,460 | 0.905 | \$33,380 | 97.8% |
| Managers, All Other | 5,160 | 0.734 | \$85,980 | 84.2% |
| Medical & Health Services Managers | 5,140 | 0.885 | \$91,190 | 97.4% |

The Changing World of Work and Its Impact on Jobs in the Future

by Jonas Prising
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Unemployment is persistently high, yet 1 in 3 employers worldwide are unable to find the talent they need to fill vacancies. Talent has become the key competitive advantage. Business strategy is immaterial without the people to carry it out. Many of the jobs most difficult to fill in 2011 were middle-skill occupations including technicians, sales representatives, skilled trades workers, engineers, laborers, management/executives, accounting and finance staff, IT staff, production operators, and secretaries/administrative assistants/office support staff. The talents in shortest supply include experience, technical skills, soft skills, and the skills critical to productivity and innovation—collaboration, critical thinking, and agility. In response to this talent mismatch, employers are hiring fewer employees, and employees are experiencing increasing workloads. A long-term workforce strategy is needed because talent cannot be manufactured in the short term.

Many labor markets around the globe have yet to gain real traction since the global recession. Unemployment is persistently high in developed and many developing countries. Yet 1 in 3 employers worldwide report that they cannot find the talent they need to fill key vacancies in their organization.¹ Employers are faced with the most acute talent shortage since 2007. The U.S. is no exception. Despite an August unemployment rate of 9.1%, 3 million jobs remain unfilled.^{2,3} The conundrum we face is this: an oversupply of available workers and an undersupply of qualified talent in the right places at the right time.

Talent has become the key competitive advantage in a new economic era. Business leaders worldwide are grappling with demands for productivity and innovation that can be filled only by human talent.

This employability crisis is the focus of my chapter. First, I describe which jobs are the hardest to fill and what talents are in the shortest supply. Then I turn to how employers and employees have responded to this talent mismatch. I conclude with a call for a long-term workforce strategy and next steps for three key stakeholders—employees, employers, and policymakers.

What Jobs are the Hardest to Fill?

The same jobs often appear on the Top 10 “hard-to-fill” list year after year.⁴ As shown in Table 1, nine of the jobs on the 2011 list also appeared on the 2010 list. What’s more, nine of the jobs also appeared on the list in 2006, the first time the survey was conducted.⁵ The most difficult job to fill in 2011 was technicians followed by sales representatives, skilled trades workers, engineers, laborers, management/executives, accounting and finance staff, IT staff, production

The conundrum is an oversupply of available workers and an undersupply of qualified talent in the right places at the right time.

operators, secretaries and personal assistants, and administrative assistants/office support staff. In many cases, these are skills that increasingly are classified as “Middle Skills” or “Career Skills”—the kind of skills that need post-secondary education or certification, but may not require a 4-year college degree.

Table 1. Top 10 Hardest to Fill Jobs Globally—2006, 2010–2011 Comparison

| Position | 2006 | 2010 | 2011 |
|---|------|------|------|
| Technicians | 3 | 3 | 1 |
| Sales Representatives | 1 | 2 | 2 |
| Skilled Trades Workers | 5 | 1 | 3 |
| Engineers | 2 | 4 | 4 |
| Laborers | * | 10 | 5 |
| Management/Executives | 10 | 8 | 6 |
| Accounting & Finance Staff | 9 | 5 | 7 |
| IT Staff | 6 | * | 8 |
| Production Operators | 4 | 6 | 9 |
| Secretaries, Personal Assistants, Administrative Assistants, & Office Support Staff | 7 | 7 | 10 |

*Did not appear in the top 10 jobs cited by employers.

Adapted from “*Manufacturing*” *Talent for the Human Age* (p. 3), by ManPowerGroup, 2011, Milwaukee, WI: ManPowerGroup. Copyright 2011 by ManPowerGroup. Adapted with permission.

Between 2020 and 2030, 12 major industry sectors are projected to face high skills gaps, according to a World Economic Forum projection.⁶ The occupations with the highest qualifications show the greatest increase in demand. For example, in the engineering and construction sector, serious skills gaps are forecast for the U.S., Russia, Korea, and Japan. In the healthcare sector, a dire shortage of talent is predicted in Japan, Korea, Turkey, Russia, Germany, and the U.S. Even low-growth sectors like the U.S. utilities industry already face shortages in key technical and engineering roles, which may intensify as the Baby Boom generation exits the workforce.⁷

Lack of talent in skilled manual trades jobs has stalled the formation of small business, one of the engines of job creation.

Skilled manual trades jobs such as electricians, plumbers, and cabinetmakers have been among the most difficult jobs to fill for years. In fact, lack of talent in these skilled trades has stalled the formation of small business, one of the engines of job creation.

What Talents are in the Shortest Supply?

In ManpowerGroup’s survey of nearly 40,000 employers across 39 countries and territories, the overwhelming majority of companies (89%) cited a talent shortage. Specific talents that bar employment include a lack of experience, deficiencies in technical skills, and poor soft skills. Employers also cited the need for skills critical to productivity and innovation—collaboration, critical thinking, and agility.⁸

The skill distribution of available workers doesn't match global demand. Employers are unable to find enough sufficiently skilled people in the right places at the right time.⁹

The talent mismatch is complicated because jobs have structurally changed and so have the skills needed to do them. Table 2 shows how one of the most difficult jobs to fill—administrative assistant—used to require basic typing and computer skills and now requires extensive IT skills including publishing platforms and PowerPoint.

Table 2. Skills Needed *Then & Now*

| Job Title | Skills Needed <i>Then</i> | Skills Needed <i>Now</i> |
|--------------------------|---|---|
| Administrative Assistant | <ul style="list-style-type: none"> • Typing • Diary management • Meeting preparation • Basic computing skills | <ul style="list-style-type: none"> • Extensive IT skills, including publishing platforms and power point • Coordinating senior leadership figures in multiple locations • Arranging online webinars and conference calls with multiple nationalities and regions • Problem-solving abilities • Critical thinking |

Adapted from “*Manufacturing*” *Talent for the Human Age* (p. 3), by ManPowerGroup, 2011, Milwaukee, WI: ManPowerGroup. Adapted with permission.

How Have Employers and Employees Responded to the Talent Mismatch?

Manpower Chairman and CEO, Jeffrey Joerres, recently testified before Congress that the recovery from this recession may well be “jobless.”¹⁰ During the recession, employers drastically reduced their workforces. When forced to do more with less, employers discovered that they could generate more productivity and innovation if they had the right person in the right job. Many employers have no intention of returning to pre-recession workforce levels. With no imminent pressure to hire, employers are being more selective and holding out for the person that has the interpersonal and cultural fit their company needs. This trend of “less jobs” recovery is not only evident in the current recovery period but a distinctive feature of job growth between 2001 and 2007, when growth was significantly lower than in previous economic cycles.

Meanwhile, the current workforce is woefully overstretched. In Manpower’s second quarter 2011 employment outlook, overtime has continued to rise.¹¹ It is not unusual for one person to be doing three jobs. Increasing workloads have resulted in a discontented and disgruntled workforce.

In a 2010 Manpower study, 84% of employers were actively seeking a new position.¹² Many workers (75%) say they are willing to relocate for a better job opportunity. One third said they would be willing to consider relocating anywhere in the world and 40% said they would consider moving permanently.¹³

Overtime has continued to rise, and it is not unusual for one person to be doing three jobs.

This situation is not sustainable. As reliance on overtime increases, employees and employers may be reaching a “tipping point” where companies will be forced to hire more workers.¹⁴

How Can the Talent Mismatch be Eased?

Talent simply cannot be “manufactured” in the short-term, so a long-term workforce strategy is needed.

Talent simply cannot be “manufactured” in the short-term. A long-term workforce strategy needs to be put in place by many stakeholders, only three that are mentioned here—employees, employers, and policymakers.

First, individual employees bear some responsibility for resolving the employability crisis. As the needs of businesses evolve, skills are quickly antiquated so individuals must embrace lifelong learning. To remain competitive, individuals need to consider employers’ needs and fill gaps in their skills or experience to meet those needs. To remain attractive to employers, individuals need to continually grow their spectrum of talents to fulfill the demands of a changing labor market.

Second, employers need to recalibrate from hiring “on-demand” talent to developing a holistic, long-term workforce strategy that moves beyond filling talent gaps one person and one position at a time. Instead, employers need a broad view of the talent that is available and the talent that will be needed, factoring in demographic shifts, the rise in emerging markets, and rapidly evolving technology.¹⁵ A workforce strategy helps employers be proactive in developing plans for upskilling and reskilling employees, and for partnering with other workforce stakeholders such as government, the academy, educational institutions, and so forth.

It would be unthinkable for a company not to consider the quality and availability of raw materials when developing a long-term business strategy. For example, a beverage manufacturer would not plot its future growth strategy without identifying a sustainable supply of aluminum to manufacture cans.

Yet Manpower research shows that only 13% of human resources leaders say they have a documented workforce strategy beyond their business plan.¹⁶ Wisconsin’s Oshkosh Corporation aligned their business strategy with their workforce strategy by looking long-term to meet the internal demand for workers with the external supply.

Oshkosh Corporation “Manufacturing” Talent Long Term

A shortage of welders in the U.S. posed a serious problem for Oshkosh Corporation and Marinette Marine Corporation after they saw an uptick in multi-year defense industry work. Knowing the challenges the company will face in the future to provide the talent it needs, Oshkosh is working with a local technical college to develop a proposal to carry out accelerated learning courses for those referred to them by the company for specific training. Another college, following conversations with companies about talent shortages in the industry, is offering short-term training using a “boot-camp” model for entry-level skills.

Third, employees and employers should not be the only ones to bear the burden of compensating for inefficiencies in the labor market and shortfalls in the educational system. Local and national governments, the academy, educational institutions, labor unions, and other regional employers all have vested interest in keeping people employable and employed. Partnerships among these important stakeholders bring added value in terms of funding, expertise, and other necessary resources.

Policymakers should consider investments that drive job creation. For example, offering companies direct incentives subsidizes their growth, but does not create jobs. Instead, supporting entrepreneurs can help establish new businesses, one of the engines of job creation. Encouraging the establishment of industry “clusters,” where companies, talent, and research congregate to form a distinctive, long-term platform for economic growth and where policymakers provide strategic incentives to support this evolution.

Education needs a strategy of comprehensive reform as organizations will choose to locate where talent is available, in particular for the skills-based continuing education. Over time, money should be redirected to retraining and development efforts. In particular, workforce development programs should focus on the jobs that are the hardest to fill and the talents in shortest supply. In addition, providing the unemployed with experiential learning opportunities can increase their competitiveness. Also, training should focus on soft skills that can make workers more adaptable and better equipped to learn.

Summary

As the global economy continues to improve, today’s talent mismatch will become more pronounced. The global demand for highly skilled labor continues to grow, and the skills distribution of available workers cannot easily match that demand. This competition for qualified workers is occurring against a backdrop of high turnover as less-than-satisfied employees are looking to jump ship. Savvy employers understand that talent is the key competitive advantage that drives companies and communities forward. Business strategy is immaterial without the people to execute it.¹⁷

Therefore, a robust talent strategy is more important now than ever. An approach that is more expansive, systemic, and sustainable will take a partnership among all stakeholders including employees, employers, the academy, educational institutions, and policymakers.¹⁸ Policy decisions are one important component of positioning Wisconsin for the work and the workers of the future.

Jonas Prising was named president of the North American operation for Manpower in 2008, which includes all aspects of Manpower’s \$3.8 billion business in North, Central, and South America. He oversees nearly 1,000 field offices that employ more than a half million permanent, temporary, and contract employees. Prising joined Manpower in 1999 having served as Director of Manpower Global Accounts in Europe, the Middle East, and Africa, and also as Managing Director of Manpower

Offering companies direct incentives subsidizes their growth, but does not create jobs.

Italy, where he increased revenue by more than 50%. Before joining Manpower, Prising worked 10 years for Electrolux, a Swedish multinational. Prising is a recognized expert in labor market trends, diversity, and workforce development. He is a frequent speaker at conferences and summits, and regularly appears in national and international media. Prising holds an MBA from the Stockholm School of Economics and has participated in executive programs at Stanford, INSEAD, and Yale. He speaks five languages: English, French, German, Swedish, and Italian. He presently serves on the board of directors for Junior Achievement of Wisconsin, Inc.

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Glossary

Compiled by Stephanie Eddy,
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Industry Clusters

“‘Clusters’ refers to the notion that local areas may specialize in a particular industry or related industries, and the business suppliers to these industries. The distinguishing feature of a cluster is that there are extensive flows of workers, and information about technology and other business issues across the firms in a cluster. This both provides an incentive for these firms to cluster, as well as some common interests of these firms in the quality of specific types of local labor and specific sources of local information.”¹

Middle Skills/Career Skills

Skills that require postsecondary education or training but less than a 4-year college degree.²

Soft Skills

“Nontechnical skills, abilities, and traits required to function in a specific employment environment: delivering information or services to customers and co-workers; working effectively as a member of a team; learning or acquiring the skills necessary to perform a task; inspiring the confidence of supervisors and management; and understanding and adapting to the cultural norms of the workplace.”³

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Pathways to Prosperity: Preparing Workers for the Jobs of the 21st Century

by William C. Symonds
Director of Pathways to Prosperity
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***F**or over a century, the U.S. has been a leader in most measures of educational success. In the 1970s, the U.S. was #1 in high school graduation rates among its peer industrialized countries, but has fallen to 13th in the first decade of the 21st century. As the U.S. has lost its educational leadership, virtually all the growth in new jobs has required some postsecondary education. For example, well-paying, middle-skill jobs such as electricians, law enforcement officers, and many positions in the healthcare industry require an associate's degree or occupational certificate. To produce prepared, highly motivated workers requires school reform based on a vision of multiple pathways to a meaningful career. Also, employers need to become fully engaged partners, and opportunities need to be expanded for work-linked learning.*

One of the most fundamental obligations of any society is to prepare its adolescents and young adults to lead productive and prosperous lives as adults. The United States has historically been a leader in providing access to education that equips young people for success. For over a century, starting from the time of the Civil War, the U.S. was #1 by most measures of educational success. However, there is now growing evidence that the U.S. falls behind many other industrialized nations in terms of educational attainment and achievement, and in equipping its young citizens with the skills required for jobs paying a middle-class wage.¹ For example, when high school graduation rates are compared among peer industrialized nations, the U.S. has fallen from 1st place in the 1970s to 13th place in the first decade of the 21st century.

Even as the U.S. has lost its leadership, education has become more important than ever before to success in the workforce. Today, over 40% of the U.S. workforce is comprised of workers with a high school education or less. This is concerning for two reasons: (1) Virtually all of the net job growth in the past third of a century has been generated by jobs that require at least some post-secondary education, and (2) The earnings gap between those with a high school education and those with a post-secondary degree has widened.²

Skills and Opportunity Gaps: Non-College Bound Youth and Youth Employment

The result is that the U.S. is increasingly failing to prepare many of its youth to lead successful lives in the 21st century. This growing population of young people has been called “the forgotten half,” since their problems are often overlooked. The forgotten half typically has little education—often no more than a high school

William Symonds

Education has become more important than ever before to success in the workforce.

degree—and also lack skills and access to employment opportunities that pay a livable wage.³ Today’s employers complain that job applicants and workers with only a high school degree lack both:

- hard skills (e.g., reading, writing, and other mechanical skills necessary to perform job functions) as well as
- soft skills (e.g., professionalism, creativity, decisionmaking).

Moreover, many of these skills are not fully integrated into high school curricula emphasizing college readiness, which tends to favor academic achievement. A cross-national study of 15-year-olds known as the PISA assessment is conducted every three years. In this test designed to assess a range of problem-solving skills highly valued by employers, the U.S. has consistently performed at a mediocre level over the past decade.

One trend that holds promise for youth who do not pursue 4-year college degrees is the increasing demand for workers to fill “middle-skill” occupations (e.g., electricians, many positions in the healthcare industry, law enforcement officers). Many of these jobs can be accessed with an associate’s degree or occupational certificate, and these types of jobs tend to pay significantly more than jobs available to those with just a high school degree.⁴ Industries like health care have witnessed a boom in recent years in job openings for middle-skilled professionals. Job openings are also projected to spike in fields like construction, manufacturing, and natural resources as baby boomers retire in larger numbers.⁵

Even before the Great Recession of this decade began, opportunities for youth employment had declined. Just under half of all teens (16-19) were employed in 2000; as of June 2010, this percentage had fallen to under 30%, with the largest drops evident for low-income, minority youth. Fewer than 10% of low-income black teens are employed today, as are 15% of low-income Latino youth, compared to over 40% of upper-middle-income white teens. The recession has further intensified these disparities. The percentage of teens and young adults who are now working is at the lowest level since the end of the Great Depression. Given that these early work experiences are linked to future employment and earnings potential, and reduced likelihood of negative outcomes (e.g., delinquency, teen parenthood), this trend should be particularly concerning.

In recent years, the United States has placed enormous emphasis on the idea that all young people should go to college. And often, “college for all” is understood as 4 years of college. But despite this campaign, the reality is that in 2011, the majority of young people do not earn a college degree. Today, only about 4 in 10 Americans have obtained either an associate’s or bachelor’s degree by their mid-twenties; another 10% have earned a professional certificate. Of those who enroll in a 4-year college, only 56% attain a bachelor’s degree within six years, and less than 30% of those who enter a community college obtain an associate’s degree within three years (see <http://nces.ed.gov/ipeds/> and <http://www.nchems.org/>). Only 30% of black and 20% of Latino young adults have an associate’s degree or higher by their mid-20s. Given that the racial and ethnic diversity of working-age adults

Of those who enrolled in a 4-year college, only 56% attain a bachelor’s degree within six years.

continue to increase in the U.S., such disparities pose a significant problem. Given these realities, the “college for all” rhetoric should be modified to become “post high school credential for all.”

There is a gender gap in post-secondary educational attainment, as well. In the U.S., women now account for 57% of college students. They earn 57% of college degrees, and earn 60% of graduate degrees.⁶ As the baby boom generation continues to retire, these trends will only deepen the skills and opportunity gaps evident in the current labor force.

Why Our Current System Fails so Many Youth

The vast majority of youth understand that a high school education can no longer assure them of access to the middle class. Yet, although aspirations for a college education are high among middle school students and college enrollment continues to escalate, both high school and college dropout rates remain high. Every year some one million students leave high school before earning a degree. And while we send many high school graduates to college, many never earn a degree and leave college with nothing more than a huge debt. Today, the U.S. has the highest dropout rates in the industrialized world.

While people drop out of high school and college for a myriad of reasons, it is fair to say that for a substantial portion, there is a perceived disconnect between the classroom and the “real world.” This is due, in part, to poor or inadequate guidance to youth, who often end up feeling their classes are boring and irrelevant. Many adults over the age of 25 have discovered that community colleges offer programs leading to well-paying jobs; however, recent high school graduates are often poorly represented in such programs.

How Other Countries Train Youth for Jobs

What is needed is a broader set of options or multiple pathways to prosperity so that youth, with adequate guidance, can make more informed choices about their future. Vocational education in northern and central Europe offers insight as to how this might look. In these regions, vocational education and training is a mainstream pathway to adulthood. For example, in Austria, Denmark, Finland, Germany, the Netherlands, Norway, and Switzerland, after 9th grade between 40% and 70% of youth opt for a curriculum that balances classroom and workplace training over the next three years.

Vocational education and training (VET) generally takes the form of one of two models. In the first, referred to as the apprenticeship or “dual” system, students spend 3-4 days per week in paid company organized training at the workplace, with the remaining time spent in related classroom work. A second model involves more classroom or school-based learning. Students are introduced to a broad range of occupations before narrowing the focus of training in the third year.⁷

There is growing evidence that this approach to education is helping many of these countries leapfrog the U.S. Last year, the Organisation for Economic Co-

The vast majority of youth understand that a high school education can no longer assure them of access to the middle class.

William Symonds

operation and Development (OECD), of which the U.S. is a member, published the most sweeping studies ever of vocational education across countries.^{8,9} The OECD studies found that an emphasis on vocational education often helps raise graduation rates, because students in these programs tend to be more engaged. Perhaps surprisingly, high-quality vocational programs can also raise student performance on academic exams, because the best programs integrate academic concepts into vocational instruction—so that the students readily understand the importance of learning the concepts. The study authors noted that school learning is abstract, theoretical, and organized by disciplines; in contrast, work-based learning is concrete, specific to the task, and organized by problems or projects. The effective connection of these two educational worlds should be considered key to meeting present day labor market demands.

A second OECD report, “Jobs for Youth,” focused on the transition from school to employment.¹⁰ These authors note that in the current economic crisis, youth who lack relevant work skills risk being excluded from the labor market altogether.

Employers play a huge role in supporting these types of apprenticeship systems. They define occupational qualifications, provide paid apprenticeships in collaboration with educators, and in some countries (e.g., Germany) fund about half of the expenses associated with the system. The rationale for this is simple: German employers believe that the best way to get a highly qualified workforce is to invest in the development of young workers, and participate directly in their workplace training and socialization.

These systems are hardly perfect, and have some drawbacks that would not be acceptable to most Americans. For example, in Germany and Switzerland, there is a heavy emphasis on “tracking” students at a young age, in order to separate out the academically gifted from more mediocre students. It is unlikely that this practice of early tracking would be accepted in the U.S.; however, it is worth noting that students completing a VET program in German and Swiss apprenticeship systems have qualifications roughly equivalent to U.S. students who complete a technical degree from a community college.

In countries like Finland and Denmark, students are taught in common until the 9th or 10th grade, at which point students and families (not schools) decide which type of curriculum they will pursue. This type of practice is likely to be more acceptable to U.S. families, but it could require forgoing some of the existing academic tracking practices in elementary and middle schools. What is common across the different models, though, is an expectation that student trainees have a solid academic foundation and strong work ethic. Apprenticeship programs are not necessarily equipped to deal with chronically failing students.¹¹

Vocational education that integrates work and learning is a superior way to learn.

Taken together, the two OECD reports provide compelling evidence that vocational education that integrates work and learning is a superior way to learn. VET programs provide a structure to support the transition from adolescence to adulthood that is consistent with the developmental needs of teens. Also, such programs teach youth about “working life” and give them soft skills as well as training and experience in a career area. Not surprisingly, youth who participate in such programs do better at finding jobs than their peers in the non-college bound path.

The Road to an American Solution

Pathways to Prosperity offers three essential strategies for tackling the problems facing the “forgotten half.”

- (1) Multiple Pathways.** The first strategy involves a broader vision for school reform that incorporates multiple pathways to a meaningful career as the foundation. The current system in the U.S. places too much emphasis on the “college for all” philosophy. As we have seen, this strategy only works for a minority of youth: since only 30% of young adults have actually earned a 4-year bachelor’s degree by the age of 27 (nine years out of high school). The U.S. system would be greatly strengthened by clearly detailing the pathways to all major occupations from the point of entry into high school. Students would retain the freedom to make choices and change paths. However, they would have a solid understanding of the courses and skills required for specific occupations, and would therefore be able to make better decisions consistent with their abilities and interests. This strategy presumes a foundation of basic academic skills, such as literacy and math skills. It also requires adequate career guidance and counseling—the current system is inadequate to meet this foundational requirement given student-to-guidance counselor ratios averaging 500 to 1. Other OECD countries make career guidance an integral part of the curriculum beginning as early as middle school.
- (2) Engage Employers.** The second critical strategy required is an expanded role for employers. Business leaders and employers have historically left the job of educating U.S. youth to the school system. If new career pathways are to be developed for youth in middle and high school, employers would need to become deeply engaged in the process. They would need to help set standards and design programs, advise youth, and provide on-the-job training opportunities. In essence, they would need to become full partners in the national effort to prepare young adults for success. In return, employers would be major beneficiaries of an eventual pipeline of employees who have already proven themselves on the job and who have relevant skills.
- (3) Work-Linked Learning.** Employers are especially important in realizing another major policy emphasized by the *Pathways* report: work-linked learning. There is growing evidence that work-linked learning—which ranges from job shadowing and internships to full-fledged apprenticeships and coop jobs—is extremely effective at increasing student engagement, skill development, degree attainment and eventually, success on the job. Such opportunities could begin at the secondary school level, and should be tailored to different age groups. For example, younger students could take workplace tours, attend job fairs, and participate in other efforts to enhance exposure to various fields, whereas older students could work with career mentors and take part in workplace learning through internships. Cooperative learning models, wherein work experience is carefully monitored by the school, constitute a successfully tested model of work-based learning that is sparsely used in the U.S. This type of model would require significant shifts in U.S. practice even within existing apprenticeship

The U.S. education system would be greatly strengthened by clearly detailing the pathways to all major occupations from the point of entry into high school.

programs. The evidence from other countries, though, suggests that cooperative learning models effectively increase the pipeline of prepared, highly motivated workers for the kinds of jobs available in today’s labor economy.

What States are Doing to Train Youth

California. The “Linked Learning Initiative” in California combines rigorous academics with demanding technical education, work-based learning, and counseling support. The average cost per student is \$1,500, but if this approach raises achievement, reduces dropout rates, and increases post-secondary persistence and career success, the benefits will far outweigh the costs. So far, 11 school districts have developed plans for integrating the linked learning approach.

Florida. In 2007, the Florida Legislature passed a law that mandated new career and training education (CTE) programs to be designed to meet a real workforce need, and further mandated that students of these programs should earn high-quality, industry-recognized certifications. The law also considers CTE courses equivalent to other advanced academic courses in the state’s grading system for high schools. A core aim of Florida’s approach is to raise the graduation rate by offering students more high-quality, relevant programs of study.

Massachusetts. Massachusetts has a statewide network of regional vocational technical high schools. Students at these schools generally spend half of their time in career education, and academic instruction is integrated with technical education. The results have been overwhelmingly successful. These schools have some of the state’s highest graduation rates, and well over half of the graduates go on to post-secondary education. In 2008, 96% of the students at these high schools passed the state’s rigorous high-stakes graduation test—surpassing the performance of students at more conventional comprehensive high schools.¹²

Tennessee. This state has a network of 27 technology centers that provide training leading to certificates and diplomas in more than 50 occupational fields. These centers have a graduation rate of over 75%, more than three times that of the state’s separate community college system.

Washington. Washington State’s Integrated Basic Education and Skills Training (I-BEST) program integrates remedial English and math skills training into college-level CTE programs in fields ranging from auto repair to nursing. A recent evaluation found that I-BEST students earned more credits and certificates, and were more likely to persist with their studies, than students in regular remedial courses of study.¹³

Wisconsin. One home-grown example is the Wisconsin Youth Apprenticeship Program, now the largest apprenticeship program for high school students in the country serving approximately 2,000 students at any one time across the state. Apprenticeships are offered in fields ranging from health care and manufacturing to information technology, hospitality, and agriculture. Over three-quarters of graduates from this program go on to enroll in a technical college or university,

Over three-quarters of graduates of the Wisconsin Youth Apprenticeship Program completed a technical college or university degree at rates higher than the national average.

and over 60% complete their degrees—far higher than the national average. Upwards of 85% of graduates are employed after leaving high school, and employers are overwhelmingly positive about the program.

A New Social Compact with Youth

To achieve the goals outlined in this chapter, a new social compact with youth is required. This compact should spell out what educators, employers, and governments will do to provide pathways, and how they will support young people as they navigate them. In addition, it should clarify what we expect from young people. Many other countries with nationally-integrated VET programs uphold a philosophy of mutual obligation.

By the time young adults reach their early 20s, they should expect that they will be equipped with the education and skills needed to be successful on the job. This, of course, requires urgent attention to the high school completion rate in the U.S. High school dropouts contribute about \$300,000 less to society than the average high school graduate.¹⁴ It also requires extending support to low-income youth to enable them to complete their chosen path of learning, whether at a 4-year college, community college, or technical school.

The new compact would essentially help to bolster and uphold the deeply rooted belief in the “American Dream,” which has actually remained elusive for a substantial percentage of American youth for decades. The problem has been that the American Dream requires relevant opportunities for young people to succeed and prosper in the workplace.

The Social Compact is certainly not a new concept in America. In effect, the nation embraced such an approach during World War II. After Pearl Harbor was attacked, all young men—and many young women—were called to serve their country. Following the War, the GI Bill provided the means for many of them to go to college. Ultimately, this approach produced what became known as “the Greatest Generation,” since so many of its members achieved so much. Today, if we don’t reverse current trends, we are in danger of creating a “Wasted Generation,” because so many of our young are not prepared for success.

The lessons from Europe strongly suggest that well-developed and high-quality vocational education programs provide excellent pathways for many young people to enter the adult workforce. But these programs also advance lessons for training youth. From late adolescence onward, most young people learn best in structured programs that combine work and learning, where learning can be applied in a workplace context. Significant social and financial investments must undergird any shift toward this model of learning if it is to occur at a meaningful scale.

William C. Symonds directs the Pathways to Prosperity Project, which is based at the Harvard Graduate School of Education. The Pathways Project released a major report in February, 2011 to find promising solutions to our increasing national failure to prepare many young adults for success. To date, Symonds has spoken on the report in about one third of the states, and hopes to work with several states that

High school dropouts contribute about \$300,000 less to society than the average high school graduate.

would like to implement the Pathways vision for better preparing their young people for work. Symonds helped create the Pathways Project while he was a senior fellow at Harvard's John F. Kennedy School of Government in 2007-08. Prior to that, he spent nearly 25 years as a senior correspondent and bureau chief for "Business Week Magazine." During his career at Business Week, he covered business in the U.S. and abroad, and led bureaus in Pittsburgh, Denver, Boston, Toronto, and Rome, Italy. He also served as Business Week's chief education correspondent for many years, and wrote extensively about the role of U.S. business in school reform.

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Glossary

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Apprenticeship (training)

Apprenticeship is an educational method featuring on-the-job training. “Apprentices are employees at the firms and organizations where they are training, and combine productive work along with learning experiences that lead to demonstrated proficiency in a significant array of tasks. The programs usually last three to four years and require students to complete course work that includes math, verbal, and occupation-specific content ... The course work is generally equivalent of at least one year of community college. In completing apprenticeship training, workers earn a recognized and valued credential attesting to their mastery of skill required in the relevant occupation.”¹

Associate’s Degree

A two-year program combining “technical skills with general education, such as math, communications, and social sciences.”²

Career Academies

An educational intervention that operates as a school-within-a-school. Typically, 150 to 200 high school students attend classes together with the same teachers and staff, use a curriculum combining regular academic courses and technical courses related to employment, and are partnered with local businesses to provide opportunities for job shadowing and work experience.³

Hard Skills

Technical or administrative skills, often confirmed by certification or apprenticeship.⁴

Middle Skill Jobs

“Jobs that require postsecondary education or training but less than a 4-year college degree.”⁵

Occupational or Professional Certificate

Certificate programs are short, often one year or less, and “provide focused, career-centered learning ... Certificate programs fulfill the needs of local business [and] provide training for specific skills that are in demand” (p. 151).⁶

Organisation for Economic Co-operation and Development

An organization that provides a forum for governments to work together and seek solutions to common problems. The 34 members span the globe including many of the world’s most advanced countries, but also emerging countries like Mexico, Chile, and Turkey.^{7,8}

PISA Assessment

“The Programme for International Student Assessment (PISA) is an internationally standardised assessment that was jointly developed by participating economies and administered to 15-year-olds in schools.”⁹ The PISA uses survey methods to assess

the following questions: “Are students well prepared for future challenges? Can they analyze, reason and communicate effectively? Do they have the capacity to continue learning throughout life? [PISA] answers these questions and more, through its surveys of 15-year-olds in the principal industrialized countries. Every three years, it assesses how far students near the end of compulsory education have acquired some of the knowledge and skills essential for full participation in society.”¹⁰

Soft Skills

“Nontechnical skills, abilities, and traits required to function in a specific employment environment: delivering information or services to customers and co-workers; working effectively as a member of a team; learning or acquiring the skills necessary to perform a task; inspiring the confidence of supervisors and management; and understanding and adapting to the cultural norms of the workplace.”¹¹

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Evidence-Based Jobs Programs: What Works? What Doesn't?

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The Brookings Institution
and
Staff of the Wisconsin Family Impact Seminars

Government funds a number of social programs, but many of them fall short. In this time of fiscal austerity, policymakers are turning to evidence to guide their decisions more than at any other time in U.S. history. One of the main motivations for evidence-based policymaking is to build a foundation for economic prosperity. This chapter covers several evidence-based jobs programs that help equip workers with the skills to meet current labor force needs (i.e., Career Academies, preschool education, sector strategies) and to help businesses improve productivity (i.e., Manufacturing Extension Programs). If policymakers use evidence to eliminate programs that don't work and expand programs that do, government will be more efficient and individuals, families, and the nation will be better positioned to prosper.

The federal government has enacted a host of social programs designed to make individuals, families, and the nation better off. But many of them fall short. Research shows that programs in K-12 education, job training, and poverty reduction are frequently ineffective or only marginally effective.¹

Government needs to find a better way to spend its money on social programs. In the current age of fiscal austerity, cuts in social programs are inevitable and opportunities for new programs are limited. It is far better if policymakers cut programs that have negligible or even negative impacts, rather than cutting successful programs or programs that show promise.

At no time in U.S. history has there been a more serious attempt by the federal government to strengthen the evidence base for U.S. social policy decisions. The Office of Management and Budget (OMB), often the designer and enforcer of policy for the federal government, has never been so intent on using evidence to shape decisions about the funding of social programs.²

In this chapter, I describe what has generated this interest in evidence-based programs. I define evidence-based programs and give four examples of jobs programs that are evidence-based. I conclude with steps that the federal government has taken to implement evidence-based policy, which may have implications for state policymakers as well.

Why are Policymakers Interested in Evidence-Based Policy?

One of the main drivers of evidence-based policy is making the right investments to build a foundation for economic prosperity, according to Peter Orszag, former director of OMB:

. . . In making new investments, the emphasis has to be on “smarter.” Many programs were founded on good intentions and supported by compelling anecdotes, but don’t deliver good results . . . This has to change, and I am trying to put much more emphasis on evidence-based policy decisions here at OMB. Whenever possible, we should design new initiatives to build rigorous data about what works and then act on evidence that emerges—expanding the approaches that work best, fine-tuning the ones that get mixed results, and shutting down those that are failing.³

Reliable evidence can be put to good use both in eliminating programs that don’t work and expanding programs that do. If programs work as intended, the average impact of social programs on the well being of children and families will increase and the nation will be better off.

Why are Evidence-Based Jobs Programs Needed?

Isabel Sawhill of Brookings and I argue in our recent book, *Creating an Opportunity Society*, that public policy should focus on expanding economic opportunity.⁴ To most people, the American Dream means equal opportunity available to all so that hard work and initiative pay off.

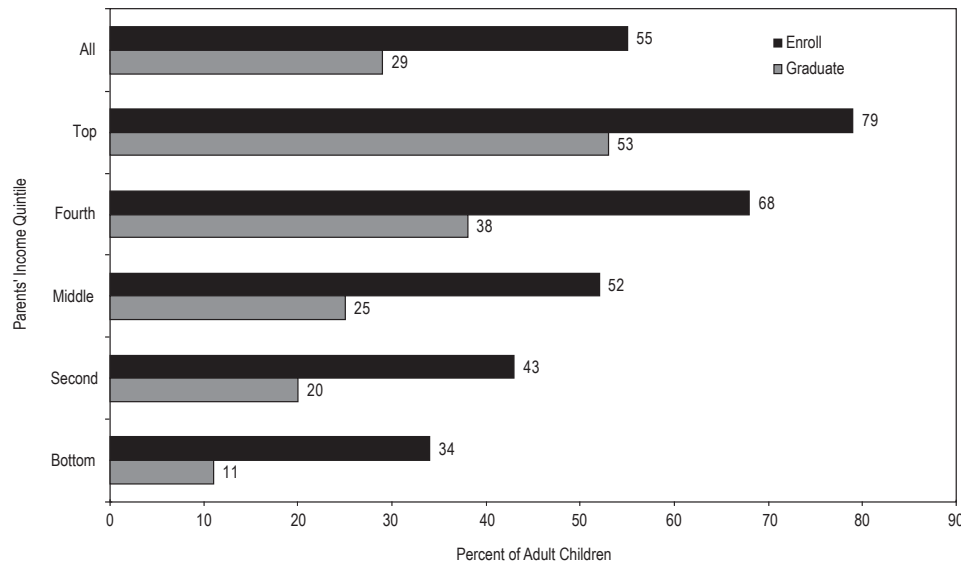
To move ahead in the American economy, people need to pick their parents well.

Most people think America already presents people with lots of opportunity to get ahead. But it turns out that you need to pick your parents well. There is some mobility from one generation to the next, but the American economy tends to make it difficult for those on the bottom to move up the economic ladder. Children from families in the bottom 20% of the income distribution are nearly five times as likely to wind up in the bottom 20% when they grow up, as children from families in the top 20%.⁵

Education is widely agreed to be the key to economic success. Most people know that the family income of those who drop out of school falls far below the family income of those who complete college. Less well known is the fact that the income of those with less than a college degree has not increased for three decades or more.⁶

Promoting education remains the key to promoting opportunity. Yet the odds that a child will enroll in and graduate from college depends, to a great extent, on the income of the child’s family. Considering children with incomes in the top fifth of families, 79% enroll in college and 53% earn a 4-year degree (see Figure 1). In contrast, among children with family incomes in the bottom fifth of families, only 34% enroll in college and 11% graduate.⁷

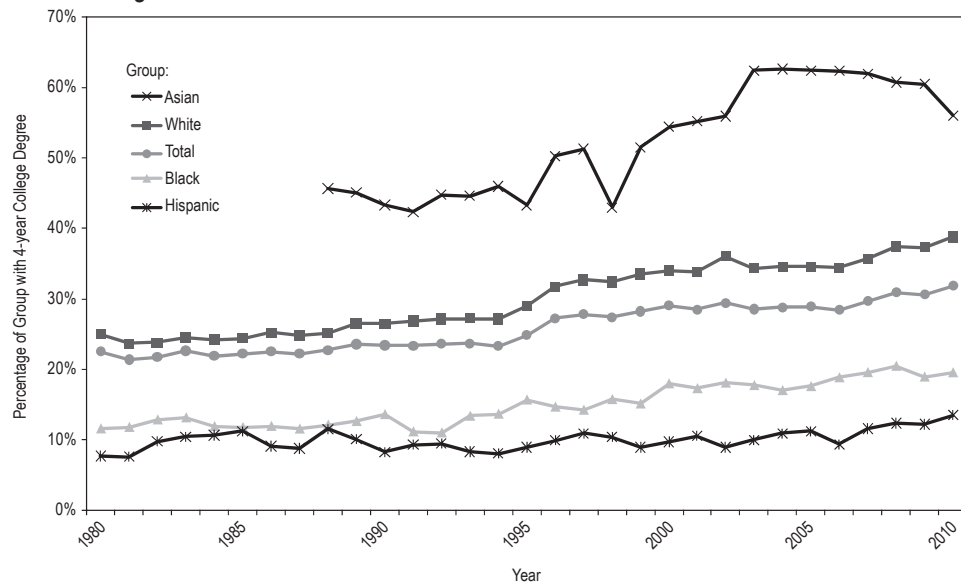
Figure 1. Poor Kids Less Likely to Enroll in College; Even Less Likely to Graduate



Adapted from *Fighting Poverty the American Way* (p. 9).⁸ Adapted with permission. Source: Brookings tabulations using data from the Panel Study of Income Dynamics.

Wide gaps in college completion also exist by race and ethnicity. College completion rates for youth have increased for all racial and ethnic groups. However, Blacks and Hispanics still lag far behind Whites and Asians. Among youth aged 25 to 29, about 56% of Asians and 39% of Whites have 4-year college degrees compared to only 19% of Blacks and 13% of Hispanics.⁹

Figure 2. Percentage of Group with 4-Year College Degree by Race and Hispanic Origin at Age 25-29, 1980-2010



Adapted from *Fighting Poverty the American Way* (p. 8).¹⁰ Adapted with permission. Note: Data are for the civilian, noninstitutionalized population. Other than total, all racial/ethnic categories are mutually exclusive. Source: Brookings tabulations of the Current Population Survey, Annual Social and Economic Study.

Ron Haskins & WI Family
 Impact Seminar Staff

What can policy do to provide equal opportunity when some children are dealt a “full house” and other children are dealt a “pair of deuces”?¹¹ Several evidence-based programs can help promote education from the early years on. Evidence-based programs can also help businesses create jobs and can help equip workers with the skills to meet current labor force needs.

What are Evidence-Based Programs?

Rigorous program evaluations have produced strong evidence of effectiveness for a range of social programs. The best evidence comes from programs studied in typical community settings using well-designed experiments. In experiments, subjects are randomly assigned to a condition that receives the treatment and then compared to a no-treatment condition. Experiments of this sort provide evidence of cause-and-effect, verifying that the social program actually causes a change in an important life outcome. Effective social programs show sizeable impacts on important life outcomes that are sustained over time.¹²

Evidence-based programs show sizeable impacts on important life outcomes that are sustained over time.

In the field of medicine, evidence-based programs have led to remarkable improvements in human health over the past 50 years. Evidence-based programs have overturned previously accepted practice. For example, stents to open clogged arteries have been shown to be no better than drugs for most heart patients. Randomized trials can be credited for most of the major medical advances of the past half century including vaccines for polio, measles, and hepatitis B as well as effective treatments for hypertension, high cholesterol, and many cancers.¹³

Examples of proven effectiveness in social policy are less abundant than in Medicare, in part, because rigorous evaluations are still not common in most areas of social policy. If more evidence-based programs are developed and used, they could improve the lives of millions of Americans.¹⁴

What Evidence-Based Jobs Programs Exist?

Evidence-based jobs programs include those that help increase the quantity and quality of labor demand and labor supply. For example, evidence-based programs improve labor demand by helping businesses create jobs and improve their productivity. Evidence-based programs can also improve labor supply by giving preschoolers a solid foundation and by helping prepare youth and disadvantaged workers to fill jobs that are available in the workforce.

Manufacturing Extension Programs. Manufacturing extension programs (MEPs) help small manufacturers find new markets and improve productivity or product design.¹⁵ Free or highly subsidized advice is provided on modern manufacturing technology, process improvement, employee training, information technology, and so forth.¹⁶

These programs are funded, in part, by the U.S. Department of Commerce along with state government and business user fees.¹⁷ MEP staff provide consultation or serve as an honest broker to private firms or faculty at universities or local community colleges.¹⁸

Studies show that manufacturing extension programs help create jobs and improve business productivity. MEPs seem to be more cost-effective in creating jobs than even the best-designed, business tax incentive programs. For every dollar invested, manufacturing extension programs increase the present value of local per capita earnings by \$30; this return on investment is 10 times that of business tax incentives.¹⁹ One rigorous study of eight extension centers in two states compared participating and nonparticipating businesses; the labor productivity of participating businesses grew between 3.4% and 16% from 1987 to 1992.²⁰ Not surprisingly, business clients are satisfied with the program. In surveys of 4,891 businesses, almost two-thirds (64%) report that MEPs led to productivity improvements.²¹

Why are manufacturing extension programs so effective? These services benefit small- and medium-size businesses that are less productive than larger businesses due to barriers of information, expertise, and financing of needed services. By helping overcome these barriers, public policy can benefit the economy by having a high impact on smaller manufacturers, who increasingly are serving as suppliers to larger manufacturers.^{22, 23}

Career Academies. Career Academies help high school students find a trade that leads to a decent job.²⁴ In gold standard studies, Career Academies have a major impact on employment and earnings and, surprisingly, on marriage rates as well.²⁵

Career Academies have three distinguishing features. First, to compensate for the disadvantage of attending a large high school, Career Academies operate as a school-within-a-school with 150 to 200 students who attend classes together, have the same teachers, and have the same counselors and administrators. Second, the curriculum combines regular academic courses and technical courses related to employment. Third, and perhaps most important, the academies partner with local businesses to provide students with opportunities for job shadowing and work experience.

In a study that followed participants for 8 years, males who participated in Career Academies earned an average of nearly \$3,722 more each year or almost \$30,000 more over the 8 years of the study than their male peers who attended regular high schools. This earnings gain is even larger than the earnings increase from two years enrolled in a community college. Despite predictions that enrollment in career-oriented, high school programs reduce the probability of college attendance, students enrolled in the Career Academy were just as likely to continue their education at postsecondary institutions as students in the control group.

Equally remarkable, boosting economic prospects eased their transition into family roles. Males who participated in the Career Academy group were 33% more likely to be married, 46% more likely to be a custodial parent, and 36% less likely to be a noncustodial parent. Career Academies is one of the few social programs shown to increase marriage rates and decrease the incidence of fathers living apart from their children. Earnings appear to be a key factor in making young males attractive marriage partners.²⁶

Preschool Education. No human capital program is so widely believed to be effective as preschool education for children from low-income families.²⁷ Three

***Career Academies
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well-evaluated preschool programs including two small scale programs (The Perry Preschool Program in Michigan and the Abecedarian program in North Carolina) and a public program that operated in 20 schools (the Child-Parent Centers in Chicago) have produced remarkable long-term impacts. All three programs used a formal curriculum and featured well-trained and supervised teachers. These and similar programs have been shown to produce both immediate and long-term impacts on the development of poor children.²⁸ The impacts include:

- improved school performance;
- reduced grade retention and special education placement;
- increased high school graduation rates;
- increased college enrollment;
- reduced delinquency and crime;
- reduced rates of teen pregnancy; and
- increased adult employment and earnings.

Some of the cognitive gains fade over time. Still, all three programs reduced the likelihood of school dropout by 24% to 32%, and the Abecedarian program increased enrollment in 4-year colleges.²⁹

Up to 40 states have established their own pre-K programs with evidence of long-lasting effects that boost human capital.

Up to 40 states have established their own pre-Kindergarten programs.³⁰ Recent evaluations of state pre-K programs show that they produce impacts at the end of the preschool years and, in a few cases, a year or two after the programs ended. These studies provide rigorous evidence that preschool programs can have broad and long-lasting effects that boost human capital.³¹ States benefit from these programs because over three-fifths of preschool participants stay in the state they grew up in, thereby improving the quantity and quality of their state's labor supply.³²

Sector Strategies. There is strong evidence of the effectiveness of training programs that help low-income people build skills that are needed in particular industry sectors. The key elements of sector programs are: (1) focusing on a particular industry or set of industries, (2) recruiting workers with an interest and aptitude for success in that industry, (3) providing training on the range of skills needed to be successful in the sector, and (4) providing a range of social supports such as transportation, housing, and financial assistance.³³

One sector program that responds to industry needs with short-term, job-specific training is the Wisconsin Regional Training Partnership (WRTP) in Milwaukee, Wisconsin. WRTP is a membership organization founded in the 1990s by employers and unions with funding from public, philanthropic, and private investors. The construction industry contributes 2 cents per hour worked to a workforce development and diversity fund (see www.wrtp.org/why-we-succeed.php). Initially, WRTP focused on the construction and manufacturing sectors, but recently has included training in road construction, lead abatement/hazardous materials, and commercial driver's license preparation.³⁴ Training is short term,

ranging from 40 to 160 hours spread over 2 to 8 weeks. Industry experts, local technical colleges, or community colleges provide the training, and agencies and community-based organizations provide the support services.

In a rigorous study, WRTP guided disadvantaged workers into higher-quality jobs than they might otherwise have secured. When compared to nonparticipants, WRTP participants earned significantly more, worked in higher-wage jobs, and secured jobs that were more apt to include benefits. Participants were also more likely to obtain certifications in construction and the trades. Several types of disadvantaged workers benefited from earnings gains including women, African Americans, and ex-offenders; however, the program did not affect the earnings of young adults and welfare recipients.³⁵

Participants in the Wisconsin Regional Training Partnership earned significantly more, worked in higher-wage jobs, and secured jobs that were more apt to include benefits.

How Could Policymakers Build Evidence-Based Policy?

The federal government has made a sweeping and groundbreaking effort to use rigorous program evaluation to guide policy decisions. In interviews of key officials and advocates involved in the initiatives, we have identified five steps for building evidence-based policy that may also have implications for state policymakers:

- (1) Select an important social problem that, if remedied by social policy, would make individual citizens and the nation better off.
- (2) Identify evidence-based programs to remedy the problem.
- (3) Obtain funds to attack the problem by scaling up only program models supported by rigorous evidence of success.
- (4) Make the funds available to government or private entities with a track record of effective implementation that agree to implement the successful program models.
- (5) Continuously evaluate the programs to assess how well they are being implemented and whether they are producing the intended results.

Conclusion

Government can increase its effectiveness by using rigorous evidence about what works in tackling important social problems. Investing in evidence-based jobs programs can help policymakers build the foundation for economic prosperity. For example, Manufacturing Extension Programs can improve labor demand by helping businesses create jobs and improve productivity. Evidence-based programs can improve the quantity and quality of labor supply by getting kids started on the right foot with preschool education, and by helping high school students get work experience that leads to a decent job. As a bonus, good jobs appear to make young males more attractive marriage partners. For disadvantaged workers who have trouble finding good jobs, employer-based sector strategies can train workers with the skills that industry needs.

Even when budgets are tight, policymakers are confronted with decisions about funding programs that attack important social problems. Policymakers can turn to

evidence about what works to help make tough budget decisions. If policymakers use evidence to eliminate programs that don't work and expand programs that do, government will be more efficient and the nation will be better off.

Ron Haskins is a senior fellow in the Economic Studies program and co-director of the Center on Children and Families at the Brookings Institution. Previously, he was Senior Advisor to the President for Welfare Policy at the White House and spent 14 years on the staff of the House Ways and Means Human Resources Subcommittee. Haskins was the editor of the 1996, 1998, and 2000 editions of the "Green Book", a 1600-page compendium of the nation's social programs that analyzes domestic policy issues including health care, poverty, and unemployment. Haskins is a senior editor of "The Future of Children," a journal on policy issues that affect children and families. He has published widely on child care, child protection, child support enforcement, family composition and marriage, and welfare reform. In 2009, he published the book, "Creating an Opportunity Society," and in 2008, he published "Getting Ahead or Losing Ground: Economic Mobility in America." Haskins was named one of the 100 most influential people in the federal government by the "National Journal." He received several other awards including Lifetime Achievement Award from the Federal Office of Child Support Enforcement (2000), the President's Award for Outstanding Contributions to the Field of Human Services from the American Public Human Services Association (2005), and the Lion Award from the Grantmakers for Children, Youth, and Families (2010). Previously, he was a senior university researcher, a high school social studies teacher, and a noncommissioned officer in the Marines.

This chapter was adapted from the following publications:

Haskins, R. (2011, June). *Fighting poverty the American way*. Paper prepared for Anti-Poverty Programs in a Global Perspective: Lessons from Rich and Poor Countries conference, Berlin, Germany. Retrieved from http://www.brookings.edu/papers/2011/0620_fighting_poverty_haskins.aspx

Haskins, R., & Baron, J. (2011). The Obama Administration's evidence-based social policy initiatives: An overview. *Evidence for Social Policy and Practice*, 28-35.

Haskins, R., & Sawhill, I. (2009). *Creating an opportunity society*. Washington, DC: Brookings Institution Press.

Endnotes

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³Orszag, P. (2009). *Building rigorous evidence to drive policy*. Retrieved from <http://www.whitehouse.gov/omb/blog/09/06/08/BuildingRigorousEvidencetoDrivePolicy/>

^{4,26,28,29}Haskins, R., & Sawhill, I. (2009). *Creating an opportunity society*. Washington, DC: Brookings Institution Press.

^{5,6}Isaacs, J. B., Sawhill, I. V., & Haskins, R. (2008). *Getting ahead or losing ground: Economic mobility in America*. Washington, DC: Pew Charitable Trusts.

- ^{7,8,9,10,31}Haskins, R. (2011, June). *Fighting poverty the American way*. Paper prepared for Anti-Poverty Programs in a Global Perspective: Lessons from Rich and Poor Countries conference, Berlin, Germany. Retrieved from http://www.brookings.edu/papers/2011/0620_fighting_poverty_haskins.aspx
- ^{11,24}Smeeding, T. (2011, Spring). Review of the book *Creating an opportunity society*, by R. Haskins & I. Sawhill. *Journal of Policy Analysis and Management*, 30, 404-408.
- ^{15,19,22}Bartik, T. J. (2011, June). *What works in job creation and economic development*. Presented at Transforming Communities Conference of the National Employment Law Project, Flint, MI. Retrieved from <http://research.upjohn.org/presentations/23/>
- ^{16,21,23}National Institute of Standards and Technology. (2002). *The Manufacturing Extension Partnership: Delivering measurable returns to its clients*. Retrieved from <http://www.nist.gov/director/planning/upload/May-2002-survey-results.pdf>
- ¹⁷Bartik, T. J. (2003). *Local economic development policies* (Upjohn Institute Working Paper No. 03-91). Retrieved from http://research.upjohn.org/up_workingpapers/91
- ^{18,32}Bartik, T. J. (2003). *What works in state economic development?* Retrieved from http://www.familyimpactseminars.org/s_wifis27c02.pdf
- ²⁰Jarmin, R. S. (1999). Evaluating the impact of manufacturing extension on productivity growth. *Journal of Policy Analysis and Management*, 18, 99-119.
- ²⁵Kemple, J. J., & Willner, C. J. (2008). *Career Academies: Long-term impacts on labor market outcomes, education outcomes, and transitions to adulthood*. Retrieved from http://www.ppv.org/ppv/publications/assets/325_publication.pdf
- ²⁷Haskins, R., & Barnett, S. (Eds.). (2010). *Investing in young children: New directions in federal preschool and early childhood policy*. Retrieved from http://nieer.org/pdf/Investing_in_Young_Children.pdf.
- ³⁰National Institute of Early Education Research. (2011). *The state of preschool 2010*. Retrieved from <http://nieer.org/yearbook/pdf/yearbook.pdf>
- ^{33,34,35}Public/Private Ventures. (2010). Tuning in to local labor markets: Findings from the Sectoral Employment Impact Study. Retrieved from http://www.ppv.org/ppv/publications/assets/325_publication.pdf

Glossary

Compiled by Stephanie Eddy
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Evidence-Based Policy

The use of scientific knowledge to shape policy decisions. Evidence-based policy is a widely used term. However, because scientific evidence is not the only legitimate and proper basis for making policy decisions, it may be far more accurate to use the terms evidence-informed policy or research-shaped decisions.¹

Evidence-Based Program

A program with “strong evidence of effectiveness in rigorous scientific studies. The best evidence comes from programs studied in typical community settings using randomized trials that show sizeable, sustained benefits to participants and society.”²

Glossary Endnotes

¹Bogensneider, K., & Corbett, T. (2010). *Evidence-based policymaking: Insights from policy-minded researchers and research-minded policymakers*. New York: Taylor & Francis Group.

²Haskins, R., & Baron, J. (2011). *The Obama Administration's evidence-based social policy initiatives: An overview*. Retrieved from http://www.brookings.edu/articles/2011/04_obama_social_policy_haskins.aspx

Selected Resources on Jobs

For further information, we list selected resources below. For each organization we provide a primary contact person, and relevant reports from the organization when available.

Wisconsin Legislative Service Agencies

Wisconsin Legislative Audit Bureau

22 East Mifflin Street, Suite 500

Madison, WI 53703

(608) 266-2818

<http://legis.wisconsin.gov/lab/>

Contact: Joe Chrisman, Interim State Auditor

(608) 266-2818

Joe.Chrisman@legis.wisconsin.gov

Interests: Auditing, financial management, program evaluation, best practices, policy analysis

Educational programs for working adults (Report, August 2011). Available at http://legis.wisconsin.gov/lab/reports/11-Educational_Programs_for_Working_Adults_ltr.pdf

Workforce Advancement Training Grant Program (Report, February 2011). Available at http://legis.wisconsin.gov/lab/reports/11-wtcs_workforce_ltr.pdf

Wisconsin Legislative Council

1 East Main Street, Suite 401

Madison, WI 53703

(608) 266-1304

<http://legis.wisconsin.gov/lc/>

Contact: Jessica L. Karls-Ruplinger, Senior Staff Attorney

(608) 266-2230

jessica.karls@legis.wisconsin.gov

Interests: Labor and employment

Chapter C: Economic development and employment (Chapter from Wisconsin Legislator Briefing Book 2011-12, November 2010). Available at http://legis.wisconsin.gov/lc/publications/briefingbook/10chC_econdev.pdf

Wisconsin Legislative Fiscal Bureau

1 East Main Street, Suite 301

Madison, WI 53703

(608) 266-3847

<http://www.legis.wisconsin.gov/lfb/>

fiscal.bureau@legis.wisconsin.gov

State Agencies

Wisconsin Department of Administration

101 East Wilson Street
Madison, WI 53703
<http://www.doa.state.wi.us/>

Contact: Christopher P. Schoenherr, Deputy Secretary
(608) 261-2299
chris.schoenherr@wisconsin.gov

Wisconsin Department of Corrections

3099 East Washington Avenue
Madison, WI 53707
<http://www.wi-doc.com/>

Contact: Melissa Roberts, Legislative Liaison
(608) 240-5056
melissa.roberts@wisconsin.gov
Interests: Job readiness training, vocational education, job placement services in the community

Wisconsin Department of Revenue

2135 Rimrock Road
Madison, WI 53708
(608) 266-2772
<http://www.revenue.wi.gov/>

Contact: Michael Wagner, Legislative Advisor
(608) 266-7817
michaelw.wagner@revenue.wi.gov

Wisconsin Department of Workforce Development

201 East Washington Avenue
Madison WI 53703
(608) 266-3131
<http://www.dwd.state.wi.us/>

Contact: Dennis Winters, Chief, Office of Economic Advisors
(608) 267-3262
dennis.winters@dwd.wisconsin.gov
Interests: Jobs, employment, workforce, economics, early childhood development

Wisconsin Economic Development Corporation

201 West Washington Avenue
Madison, WI 53703
(608) 267-4417
<http://commerce.wi.gov/wedc/>

Contact: David Volz, Director of State Intergovernmental Relations
(608) 266-2125
david.volz@wisconsin.gov

University Institutes, University Extension, & Technical Colleges

Center for Community and Economic Development, UW-Extension

610 Langdon Street, Rm 336
Madison, WI 53703
(608) 265-8136
<http://www.uwex.edu/ces/cced/>

Contact: Greg Wise, Director, Professor, and Community Development Specialist
(608) 263-7804
greg.wise@uwex.edu

Interests: Contemporary approaches to community and economic development, research, and outreach focused on the importance of entrepreneurship as an economic development component

Contact: Gary Green, Professor and Community Development Specialist
(608) 262-2710
gpgreen@wisc.edu

Interests: Community, economic, and workforce development

Does manufacturing still matter? (Article in *Population Research and Policy Review*, 26, 529-551; 2007). Available from Gary Green.

Employer participation in workforce development networks (Article in *Economic Development Quarterly*, 19, 225-231; 2005). Available from Gary Green.

Workforce development networks in rural areas: Building the high road (Book, 2007). Cheltenham, UK and Northampton, MA: Edward Elgar Publishing.

Center on Wisconsin Strategy (COWS), UW-Madison

1180 Observatory Drive
7122 Social Sciences Building
Madison, WI 53706
(608) 263-3889
<http://www.cows.org/default.asp>

Contact: Laura Dresser, Associate Director
(608) 262-6944
ldresser@cows.org

Interests: Wisconsin economy, workforce training systems, and low-wage labor markets

Greening Wisconsin's workforce: Training, recovery, and the clean energy economy (Report, 2009). Available at <http://www.cows.org/pdf/rp-GreeningWisconsin.pdf>

The state of working Wisconsin (Report, 2010). Available at <http://www.cows.org/pdf/rp-soww-10.pdf>

The state of working Wisconsin—Update 2011 (Report, 2011). Available at <http://www.cows.org/pdf/rp-SOWWupdate11.pdf>

Division of Entrepreneurship and Economic Development, UW-Extension

432 North Lake Street, Rm 423

Madison, WI 53706

(608) 263-7794

http://www.wisconsinsbdc.net/uwex_deed/index.cfm

Contact: Kim Kindschi, Executive Director

(608) 263-8860

kim.kindschi@uwex.edu

Interests: UW Extension/UW System as a resource for a wide variety of entrepreneurial, small business, and economic development activities

Wisconsin Entrepreneurs' Network (Website). Available at <http://www.wenportal.org/>

Wisconsin Small Business Development Center (Website). Available at <http://www.wisconsinsbdc.org/>

Institute for Research on Poverty, UW-Madison

1180 Observatory Drive

3412 Social Science Building

Madison, WI 53706

(608) 262-6358

<http://www.irp.wisc.edu/home.htm>

Contact: Timothy Smeeding, Director

(608) 890-1317

smeeding@lafollette.wisc.edu

Interests: Antipoverty policy, economic growth, employment of the poor, and work support

Policy responses to the recent poor performance of the United States labor market (Article in *Journal of Policy Analysis and Management*, in press). Available from Timothy Smeeding.

Young disadvantaged men: Fathers, families, poverty, and policy introduction (Article in *Annals of the American Academy of Political and Social Science*, 635(1), 6-21; 2011). Available from Timothy Smeeding.

La Follette School of Public Affairs, UW-Madison

1225 Observatory Drive

Madison, WI 53706

(608) 262-3581

<http://www.lafollette.wisc.edu/>

Contact: Thomas DeLeire, Director
(608) 262-4531
tdeleire@lafollette.wisc.edu
Interests: jobs, unemployment, low-wage workers

Jobs, skills, and policy for lower-wage workers (Fast Focus Newsletters, 10, 1-7; 2011). Available at <http://www.irp.wisc.edu/publications/fastfocus/pdfs/FF10-2011.pdf>

Wisconsin School of Business, UW-Madison

975 University Avenue
Madison, WI 53706
(608) 262-1550
<http://www.bus.wisc.edu/>

Contact: Stephen Malpezzi, Lorin and Marjorie Tiefenthaler Professor,
Graaskamp Center for Real Estate
(608) 262-6007
smalpezzi@bus.wisc.edu

Interests: Real estate, international and domestic economic development

Cities and economic success: Some lessons from the United States (Report, 2007).
Available from Stephen Malpezzi.

Local economic development and its finance: An introduction (Book Chapter, 2002). In S. B. White, R. D. Bingham, & E. W. Hill (Eds.), *Financing Economic Development in the 21st Century* (pp. 3-26). Armonk, NY: M.E. Sharpe.

What should state and local governments do? A few principles (Report, 2000).
Available at <http://www.bus.wisc.edu/realestate/documents/govt.pdf>

Wisconsin Technical College System

4622 University Avenue
Madison, WI 53705
(608) 266-1207
<http://www.wtcsystem.edu/>

Contact: Morna Foy, Executive Assistant and Vice President of Policy and
Government Relations
(608) 266-2449
morna.foy@wtcsystem.edu

Interests: Technical and adult education; remedial and basic skills education; customized training and technical assistance to Wisconsin business and industry

State Organizations

Wisconsin Technology Council

455 Science Drive #240

Madison, WI 53711

(608) 442-7557

<http://www.wisconsintechcouncil.com/>

Contact: Tom Still, President

tstill@wisconsintechcouncil.com

Interests: Tech-based economic development, angel and venture capital development, and entrepreneurship in high-growth sectors

Looking to the future: A case for bold action (Report, 2010/11). Available at http://www.wisconsintechcouncil.com/uploads/WTC_WhitePapers%20FINAL%20Web.pdf

Vision 20/20: A Model Wisconsin Economy (Report, 2002). Available at http://www.wisconsintechcouncil.com/uploads/documents/Vision_2020_web2.pdf

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THE FAMILY IMPACT GUIDE FOR POLICYMAKERS

Viewing Policies Through a Family Lens

Most policymakers would not think of passing a bill without asking, “What’s the economic impact?” This guide encourages policymakers to ask, “What is the impact on families?” When economic questions arise, economists are routinely consulted for economic data and forecasts. When family questions arise, policymakers can turn to family scientists for data and forecasts to make evidence-informed decisions. The Family Impact Seminars has developed this guide to help policymakers bring a family impact lens to policy decisions.

HOW POLICYMAKERS CAN EXAMINE FAMILY IMPACTS OF POLICY DECISIONS

Nearly all policy decisions have some effect on family life. Some affect families directly (e.g., child support or long-term care), whereas other influences are indirect (e.g., corrections or jobs). The following questions can help policymakers figure out what those family impacts are and how they can inform policy decisions.

FAMILY IMPACT DISCUSSION STARTERS

How will the policy or program:

- ▶ affect family members’ ability to carry out their responsibilities to one another?
- ▶ support family members’ commitment to each other and to the stability of the family unit?
- ▶ recognize the power and persistence of family ties, and promote healthy couple, marital, and parental relationships?
- ▶ acknowledge and respect the diversity of family life (e.g., different cultural, ethnic, racial, and religious backgrounds; various geographic locations and socioeconomic statuses; families with members who have special needs; and families at different stages of the life cycle)?
- ▶ engage and work in partnership with families?

Ask for a full Family Impact Analysis. Some issues warrant a full family impact analysis to more deeply examine the intended and unintended consequences of policies on family well-being. To conduct an analysis, use the expertise of family scientists who understand families and policy analysts who understand the issue.

- ▶ Family scientists in your state can be found at <http://www.familyimpactseminars.org>
- ▶ Policy analysts can be found on your staff, in the legislature’s nonpartisan service agencies, at university policy schools, etc.

Apply the Results. Viewing issues through a family impact lens rarely results in overwhelming support for or opposition to a policy or program. Instead, it can identify how specific family types and particular family functions are affected. These results raise considerations that policymakers can use to develop policies and programs that strengthen the contributions families make to their members and to society.



WHY FAMILY IMPACT IS IMPORTANT TO POLICYMAKERS

A growing body of evidence shows how investments in family policies can create the conditions for families to rear the next generation, economically support their members, and care for those who cannot always care for themselves—the elderly, frail, ill, and disabled. Yet families are also damaged by stressful conditions—the inability to earn a living, find quality child care, or send their kids to good schools. When the family foundation is strong today, children are more likely to develop the solid foundation they need for tomorrow—to become competent workers in a sound economy and caring, committed citizens in a strong democracy.¹

In polls, state legislative leaders endorsed families as a sure-fire vote winner.² Except for two weeks, family-oriented words appeared every week Congress was in session for over a decade; these mentions of *family* cut across gender and political party.³ The symbol of *family* appeals to common values that hold the potential to rise above politics and to provide common ground. However, family considerations are not systematically addressed in the normal routines of policymaking.

THE FAMILY IMPACT LENS IN POLICYMAKING EXAMINES:

- ▶ How families are affected by the issue
- ▶ In what ways, if any, families contribute to the issue
- ▶ Whether involving families in the response would result in better policies and programs

HOW THE FAMILY IMPACT LENS CAN BENEFIT POLICY DECISIONS

- ▶ In one Midwestern state, using the family impact lens revealed differences in program eligibility depending upon marital status. For example, senior citizens were less apt to be eligible for the state's prescription drug program if they were married, than if they were unmarried but living together.
- ▶ In a rigorous cost-benefit analysis of 571 criminal justice programs, those most cost effective in reducing future crime were targeted at juveniles. Of these, the five most cost-effective rehabilitation programs and the single most cost-effective prevention program were family-focused approaches.⁴
- ▶ For youth substance use prevention, programs that changed family dynamics were found to be, on average, over nine times more effective than programs that focused only on youth.⁵

ADDITIONAL RESOURCES

Several family impact analyses are posted on the web site of the Policy Institute for Family Impact Seminars at <http://www.familyimpactseminars.org>. Family impact analysis tools and procedures are also available.

¹ Bogenschneider, K., & Corbett, T. J. (2010). Family policy: Becoming a field of inquiry and subfield of social policy [Family policy decade review]. *Journal of Marriage and Family*, 72, 783-803.

² State Legislative Leaders Foundation. (1995). *State legislative leaders: Keys to effective legislation for children and families*. Centerville, MA: Author.

³ Strach, P. (2007). *All in the family: The private roots of American public policy*. Stanford, CA: Stanford University Press.

⁴ Aos, S., Miller, M., & Drake, E. (2006). *Evidenced-based public policy options to reduce future prison construction, criminal justice costs, and crime rates*. Olympia: WA State Inst. for Public Policy.

⁵ Kumpfer, K. L. (1993, September). *Strengthening America's families: Promising parenting strategies for delinquency prevention—User's guide* (U.S. Department of Justice Publication No. NCJ140781). Washington, DC: Office of Juvenile Justice and Delinquency Prevention.

where
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