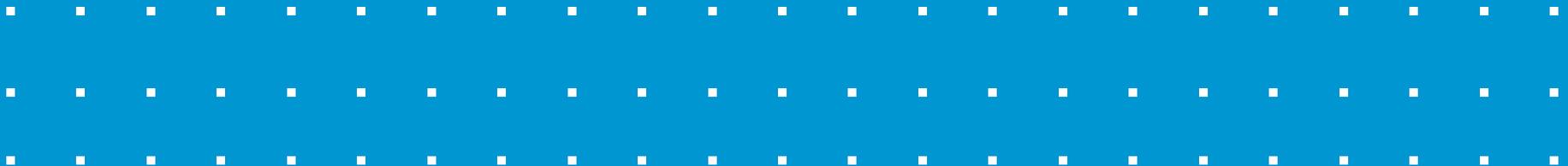




Apprenticeships: Helping Youth Develop the Skills Needed by Today's Employers

Wisconsin's 34th Family Impact Seminar
Training Today's Youth for Tomorrow's Jobs

Robert Lerman
Urban Institute and IZA



Growth and Opportunity

How can we stimulate both?

Widespread evidence for the major role of skills in generating economic growth

Growth and Opportunity

How can we stimulate both?

Widespread evidence for the major role of skills in generating economic growth

Many youth not achieving rewarding careers

Growth and Opportunity

How can we stimulate both?

Widespread evidence for the major role of skills in generating economic growth

Many youth not achieving rewarding careers

Key argument: Expanding apprenticeship is a mechanism to widen routes to rewarding careers while improving skills, productivity

Reports of Shortages by Companies

News articles report employer concerns over skill shortages, especially in construction, manufacturing, and health care

The German Embassy started a “Skills Initiative” in response to problems of German firms in the US finding well-trained workers

Manufacturers are especially outspoken

Expanding the Concept of Skills

Policymakers, commentators, many economists guided by limited measures of skill, test scores and school completion

Generally the skills learned at school

Leads to an emphasis on expanding the role of formal education

U.S. downplays two key sets of workplace skills

Employability Skills—teamwork, problem-solving, communication, teaching others, timeliness, allocating time/resources

U.S. downplays two key sets of workplace skills

Employability Skills—teamwork, problem-solving, communication, teaching others, timeliness, allocating time/resources

Occupational Skills—mastery of an occupation takes years of experience as well as academic learning

Structure of Jobs Is Not Fixed

Mix of jobs is not independent of the system for developing the work force

In fact, the job distribution depends at least partly on the education and training system

Structure of Jobs Is Not Fixed

Mix of jobs is not independent of the system for developing the work force

In fact, the job distribution depends at least partly on the education and training system

When the emerging skills are weak, firms develop positions with limited skills, productivity, and wages.

High skills can encourage existing & more foreign firms to offer jobs requiring skills

Investments not Undertaken

Can have no shortages with existing companies while failing to use U.S. comparative advantages to attract foreign companies because of skill shortfalls

Could be creating more good jobs

Jobs Can Embody Many Skills

Occupations not requiring a BA can require work-based learning, experience, other talents (salesmanship, creativity)

Many sub-BA occupations can generate high wages at top quality and productivity

Jobs Can Embody Many Skills

Occupations not requiring a BA can require work-based learning, experience, other talents (salesmanship, creativity)

Many sub-BA occupations can generate high wages at top quality and productivity

Think about a chef vs. a cook, and even different levels of chef

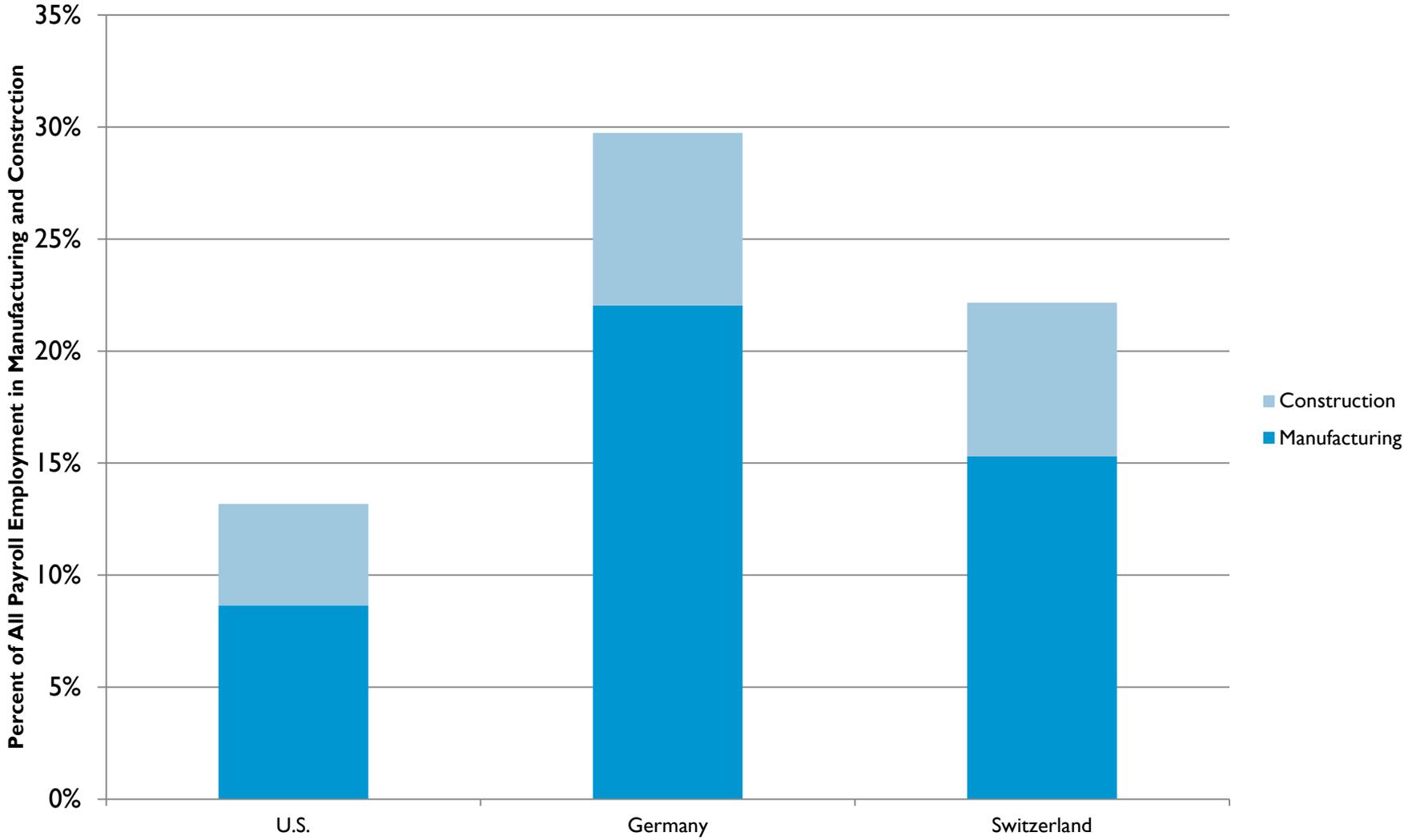
The best slitter operator or maintenance worker vs. mediocre ones

Skill systems and jobs

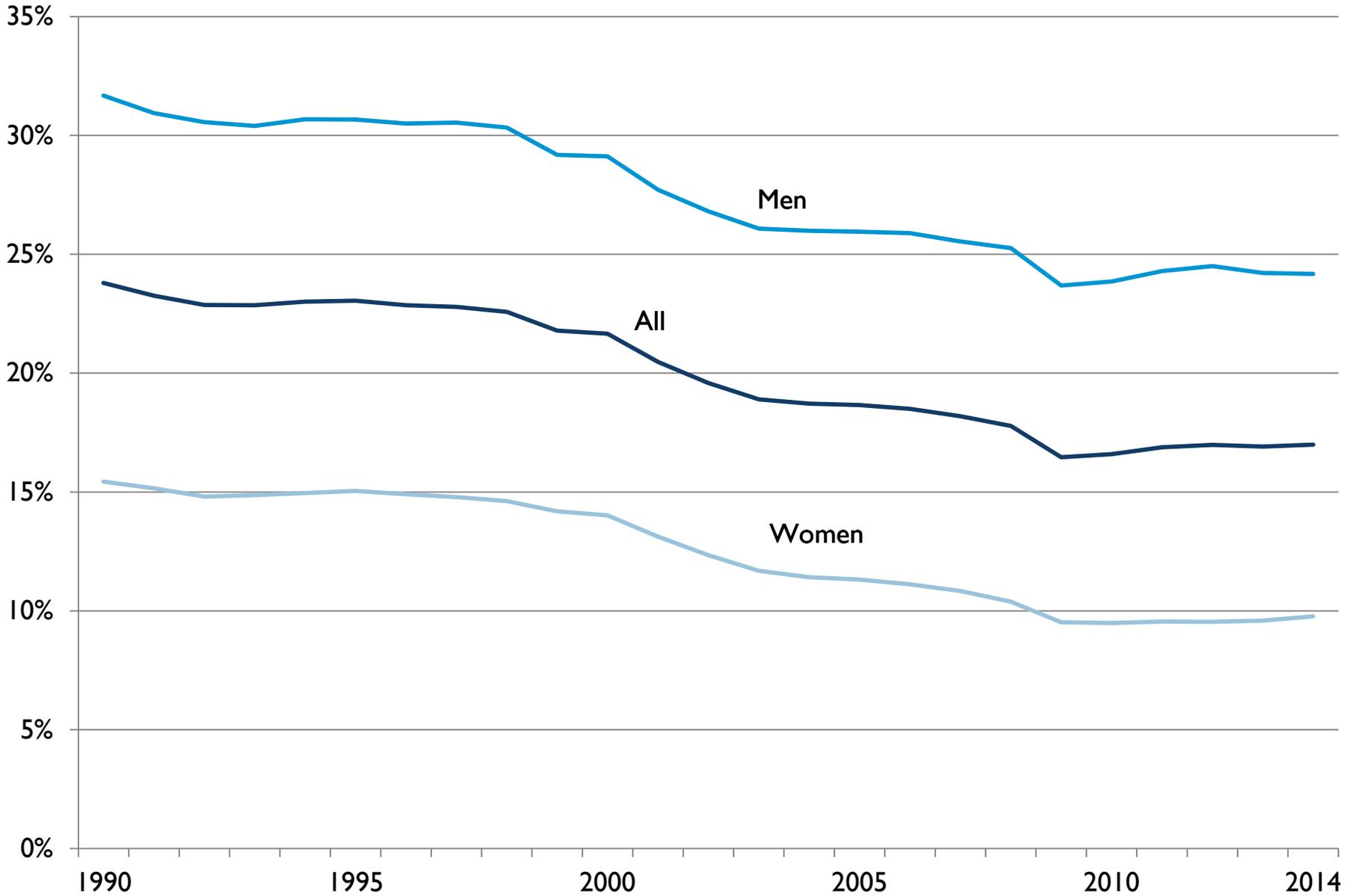
Germany and Switzerland offer examples of countries that strongly emphasize occupational skills, for production, maintenance, transport

Skill building system well linked to the emerging demands

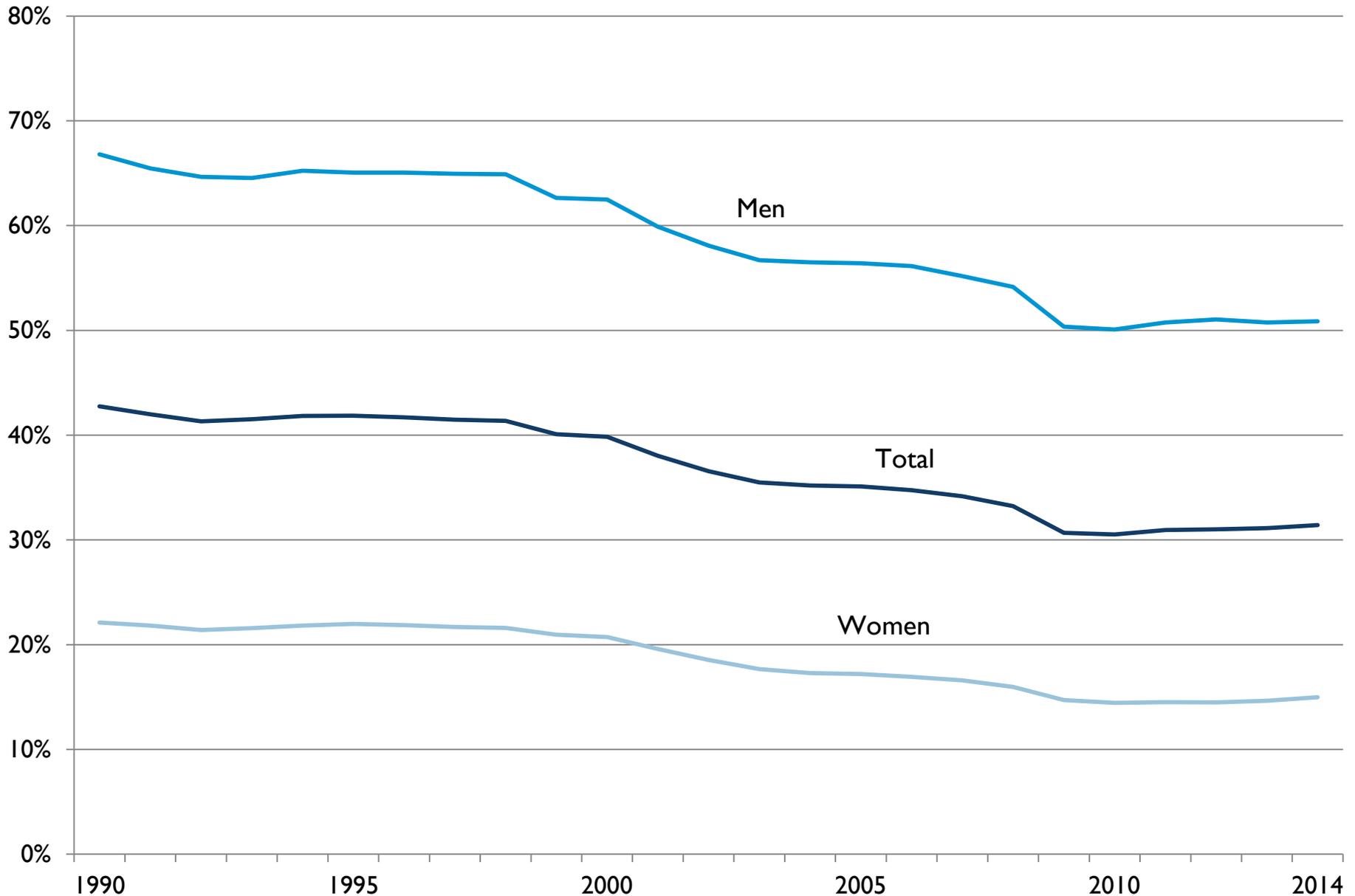
Figure I: Germany & Switzerland Outpace the U.S. in Manufacturing Jobs: 2014



Wisconsin's Employment Share in Construction & Manufacturing



% of Wisconsin Jobs in Goods Production and Transportation



What is apprenticeship?

A combined program of:

Intensive learning at the workplace,

Production of real value, and

Related academic instruction leading to a valued occupational credential.

Covers wide range of occupations.

www.innovativeapprenticeship.org

Apprenticeship characteristics

A skills strategy that affects the supply of skills and the demand for skills

Develops highly relevant skills at low government costs

Apprenticeship characteristics

A skills strategy that affects the supply of skills and the demand for skills

Develops highly relevant skills at low government costs

Workers earn while they learn, apply what they learn

A convenient mechanism for firms to raise skills, lower turnover, while adding value

What Apprenticeship Is Not

Not standard Vocational Education or Career & Technical Education which lacks work-based learning, real output

Not on-the-job training, which lacks depth, standards, credentials, and more broadly, occupational mastery

Types of Apprenticeship in the U.S.

Registered apprenticeship—sponsors register with 26 state agencies or with the federal office of apprenticeship

Unregistered apprenticeship—some solid programs but numbers unclear

Youth apprenticeship in a few states

Youth Apprenticeship

Embedded in late high school

Counseling in sophomore year, apply for apprenticeship as juniors, seniors

Work-based learning with related courses financed by high schools

Should save money but not always

Generates Student Engagement

Apprenticeships provide youth a sense of joining and contributing to a tradition, embodied in a discipline or civic sphere. Apprentices work and learn in the setting in which a craft, trade or discipline is practiced. The knowledge and skills young people need are used throughout the setting. Adults and youth share responsibility for the work and the products created. Adult mentors share his or her disciplinary knowledge and skills with youth. Youth are responsible for working hard to begin to become proficient at something specific, and for contributing...” Robert Halpern, *The Means to Grow Up*

Learning for Careers

“Young people are learning what it takes— and how hard it is— to get good at something. They are beginning to learn how adults construct careers. They are assuming specific identities, even if temporarily. They are having adult-like conversations, feelings, and relationships.”

Benefits & Costs to Apprenticeship

Micro evidence shows gains to **workers**, in European countries, also in U.S. and Canada

Micro evidence shows returns to **firms**; they recoup costs during the apprenticeship with the apprentice's productivity; savings in recruitment & training

Macro evidence that high apprenticeship countries generally have low youth unemployment rates

Earnings Impacts in Washington State of Community College Professional/Technical and Apprenticeship Training

	First 2.5 Years After Leaving Training		All Work Years Through Age 65	
	Participant	Public	Participant	Public
Community College Profession-Technical Education				
Benefits	\$15,079	\$4,177	\$146,035	\$29,977
Costs	-\$8,560	-\$11,293	-\$8,560	-\$11,293
Total (Net)	\$6,519	-\$7,116	\$137,475	\$18,684
Apprenticeship Training				
Benefits	\$35,338	\$8,786	\$296,753	\$81,042
Costs	\$20,837	\$2,526	\$20,837	\$2,526
Total (Net)	\$56,176	\$11,311	\$317,591	\$83,567

Total Government Costs and Benefits

Government Costs and Benefits Per Participant

	Total Costs	Tax Benefits	Tax Benefits per Dollar Invested	Total Benefits	Total Benefits per Dollar Invested
Florida	715	15,877	22.21	20,437	28.58
Georgia	767	17,747	23.14	20,999	27.38
Missouri	737	19,699	26.73	23,863	32.38
Pennsylvania	720	25,484	35.39	34,531	47.96
Texas	693	19,183	27.68	25,234	36.41
AVERAGE	718	19,875	27.68	25,748	35.86

Source: MPR study based on OA and SAA budget experts, RAPIDS, and UI wage records.

Why Persist in This Policy?

Misunderstanding of the concept of skill in the US and perhaps elsewhere

Skill measures in many places almost entirely based on academic outcomes

Misplaced notion of equality

Sameness is not equality

Apprenticeships in Wisconsin

Like other states, most apprenticeships in Wisconsin are in construction trades and most apprentices are in their mid-20s or older

Like 25 states, Wisconsin's program is governed by a state apprenticeship agency

Includes a wide range of occupations but with modest numbers of apprentices; overall about 10,000 but not many graduates-about 0.3% of the work force-still a low %

Youth Apprenticeship in Wisconsin

Begun in the early 1990s by Governor Tommy Thompson & Superintendent Herbert Grover

Era of interest of youth apprenticeship

National example & exception as a well-structured program with serious occupational standards and wide range of occupations

About 2,500 juniors and seniors participate; most gain certifications, stay with employer

Figure 1. Wisconsin's Youth Apprenticeship programs fall under 10 career clusters with enrollments varying by wage, gender, and minority status.

Enrolled Student Breakdown by Program Area (2014-15 Fiscal Year)

Program Area Name	Student Count	Average Wage	Female	Minority
Agriculture, Food, & Natural Resources	442	9.74	30% Female	2% Minority
Architecture & Construction	84	9.98	8% Female	21% Minority
Arts, A/V Technology, & Communications	5	9.26	60% Female	40% Minority
Finance	183	9.44	64% Female	12% Minority
Health Services	395	10.34	90% Female	12% Minority
Hospitality, Lodging, & Tourism	397	8.18	62% Female	9% Minority
Information Technology	74	9.06	12% Female	4% Minority
Manufacturing	617	10.01	8% Female	8% Minority
Science, Technology, Engineering, & Math (STEM)	95	9.23	25% Female	7% Minority
Transportation, Distribution, & Logistics	257	11.44	6% Female	4% Minority

**Data provided on September 24, 2015 by the Wisconsin Youth Apprenticeship Program, Department of Workforce Development.*

Special relevance to minority youth

Segregation-lack of social capital, networks

Tacit knowledge—not learning in school

Respect and pride

Special impact on boys

Action must be cultural and structural

Relevance to family formation

Stagnating men's earnings weaken marriage

In turn, declines in marriage contribute to worsening job outcomes, especially for men

Current education and training programs are not working well for many young men

Completing BA or AA lower among young men of all races, especially minorities

Need Engagement, Workplace Experience

Comprehensive high schools do not engage youth

Researchers argue for a variety of high school options; provide significant experiences in workplace settings connecting school and workplace skills

Employability skills among young workers are vital, include communication, problem-solving, listening, working in teams, and having a good attitude

Apprenticeship promotes maturity

Integration into the workplace requires apprentices to learn self-discipline as well as communication, team-work, problem-solving and resource management skills

Complementarities between employability and couple relationship skills are plausible

Brings youth to an adult culture, includes a natural mentoring process and discipline

Creates a sense of pride upon completion

Two big questions about expansion

Will workers, young people take up apprenticeships?

Will companies, other employers be willing to offer apprenticeships?

Two big questions about expansion

Will workers, young people take up apprenticeships?

- Yes, so far good programs are oversubscribed

Will companies, other employers be willing to offer apprenticeships?

- Evidence from England & South Carolina shows firms can be convinced to do so

Apprenticeships Go Beyond the Traditional Apprenticeship Countries

Recent expansions in Australia, Britain, and a few places in the U.S. demonstrate that apprenticeships are not limited to traditional, highly regulated countries

British increases are particularly impressive, rising from about 150,000 to over 850,000 over the last 6-7 years even in recessions

South Carolina provides a good U.S. example

What are the key lessons from the past and from more successful countries?

All provide funding for the academic instruction linked with apprenticeship work-based learning

All provide extensive funding for branding and marketing the program

All have oversight independent of the firm

What are the key lessons from the past and from more successful countries?

All provide funding for the academic instruction linked with apprenticeship work-based learning

All provide extensive funding for branding and marketing the program

All have oversight independent of the firm

Few offer subsidies to employers for wages

US would reach 4 million if it achieved the average of the Australia, Canada, and England

Apprenticeships in England

National and retail marketing to reach employers, makes apprenticeships attractive

Government mainly subsidizes training costs

Subsidies empower an extensive array of private training providers and further education colleges to recruit employers to offer apprenticeships

Apprenticeship fits with national qualification regime

Both political parties strongly back apprenticeship

How Did South Carolina Expand?

Stimulated by state chamber, S.C. provides \$1 million/year to sell apprenticeship and a tax credit of \$1,000/year/apprentice to employers

Effort led to increases in firms that offer apprenticeship from 90 to over 700 since 2008

Effective team able to convert 8 out of 10 firms they reach to offer apprenticeships

All apprenticeships are registered with the U.S. Department of Labor

Moving to expand youth apprenticeship

Expansion at Low Cost is Feasible

Great potential benefits at low public costs, with governments largely playing a coordinating role, marketing and technical assistance

Subsidies for apprenticeship can be offset by reduced spending on high school, college, and youth programs of weak effectiveness

Research is critical to examine occupational standards but also to assess youth development, earnings and family impacts

Critical Step is to Generate More Apprenticeship Offers by Employers

Why should employers invest?

If they do, won't the skills be too specific and lead to immobility in the future?

Employers recoup investments quickly

Skills acquired in apprenticeship used over careers; offers employers more flexibility in using workers

Elements Required for Expansion

- Effective branding—Apprenticeship Carolina
- National activities promoting apprenticeship
- Certification body to research and oversee content of apprenticeships and issue credentials
- Incentives for “retail marketing”; possible to use existing training organizations
- Use individuals with business experience, sales ability to reach individual employers
- Make it simple for employers

American Apprenticeship Grants

U.S. Department of Labor has used H1B funds to provide \$175 million over five years to 46 projects to stimulate apprenticeship

Wisconsin wins a competitive grant

New project to develop competency-based standards for U.S. apprenticeships

What Success Can Mean

A society with less income inequality and less need for government social transfers

A country with more workers achieving occupational mastery, pride, and identity

Potential for increases in marriage and stability

An improved business climate/productivity

Reduced frustration in the transition from the army and school to careers