



OFFICE OF ECONOMIC
& DEMOGRAPHIC RESEARCH

Economic Evaluation of CareerSource Florida's Training Programs

Evaluating the Return on Investment for the Quick Response and
Incumbent Worker Training Programs

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Table of Contents

<i>EXECUTIVE SUMMARY</i>	3
<i>Background and Purpose</i>	3
<i>Overall Results and Conclusions</i>	3
<i>OVERVIEW OF TRAINING PROGRAMS</i>	5
<i>Workforce Services in Florida</i>	5
<i>CareerSource Florida’s QRT & IWT Grant Programs</i>	7
<i>Evaluating Training Programs</i>	10
<i>ECONOMIC EVALUATION OF THE STATE AND FEDERAL INVESTMENT IN THE QRT AND IWT GRANT PROGRAMS</i>	13
<i>Purpose</i>	13
<i>Explanation of Return-on-Investment</i>	14
<i>Data and Methodology</i>	15
<i>Key Assumptions</i>	17
<i>Results</i>	18
<i>Comments</i>	20
<i>REFERENCES</i>	21
<i>APPENDIX ONE: THE EVOLVING ECONOMY AND WORKFORCE TRAINING</i>	30
<i>The Evolving Economy, Its Impact on the Labor Market and Implications for Workforce Training</i>	30
<i>The Evolution of Workforce Services</i>	36
<i>Policy Issue: Use of Public Subsidies for Employer-Specific Training</i>	38
<i>APPENDIX TWO: INTERPRETING ROI INDICATORS</i>	41
<i>APPENDIX THREE: GLOSSARY OF ECONOMIC CONCEPTS</i>	42

EXECUTIVE SUMMARY

Background and Purpose...

Legislation enacted in 2013 directs the Office of Economic and Demographic Research (EDR) and the Office of Program Policy Analysis and Government Accountability (OPPAGA) to analyze and evaluate 20 state economic development incentive programs on a recurring three-year schedule.¹ EDR is required to evaluate the economic benefits of each program, using project data from the most recent three-year period, and to provide an explanation of the model used in its analysis and the model's key assumptions. Economic Benefit is defined as "the direct, indirect, and induced gains in state revenues as a percentage of the state's investment" – which includes "state grants, tax exemptions, tax refunds, tax credits, and other state incentives."² EDR's evaluation also requires identification of jobs created, the increase or decrease in personal income, and the impact on state Gross Domestic Product (GDP) for each program. Typically, EDR calculates a return on investment in addition to reporting the impact on the key economic variables.

In this report, the following programs are under review:

- Quick Response Training Program – QRT
- Incumbent Worker Training Program – IWT

The review period covers Fiscal Years 2011-12, 2012-13, and 2013-14.

EDR calculates the state's Return-on-Investment (ROI) as state revenues generated by a program, minus state investment in that program, all divided by the state's investment. Since the IWT grant program is entirely federally funded, there is no state investment from which to calculate a return on investment. For this analysis, the economic impact from the expenditure of the federal dollars is reported instead.

Overall Results and Conclusions...

CareerSource Florida, Inc. (CSF) offers two training grant programs to qualified for-profit businesses. The QRT program provides match funding for customized, skills-based training while the IWT grants are used for training related to a significant upgrade in skills for existing full-time employees. These programs are designed to meet workforce needs of existing, expanding, and new businesses and to promote economic development in Florida. Individual trainees also benefit, as training may result in new (or retained) employment, acquisition of transferable skills, and increased earnings.

This review shows that the state's ROI for the QRT program is small, approximately 0.1, or a \$0.10 return for every \$1.00 invested. No ROI can be calculated for the IWT program as it is fully federally funded; however, the economic activity generated is comparable to, albeit slightly better than, that of the QRT. Even though the federally-funded IWT program receives slightly less overall funding, the economic activity generated is better than that of the state-funded QRT program because state expenditures reduce the funding otherwise available for the general market basket of goods.

¹ Section 288.0001, F.S., as created by s. 1, ch. 2013-39, Laws of Florida & s. 1, ch. 2013-42, Laws of Florida.

² Section 288.005(1), F.S.

While the return associated with the QRT training program is relatively low, two points are worth noting. First, this analysis captures a single three-year period. Returns that would take decades to develop are not captured. In this regard, the long-term benefits to employees may have this feature. Second, a return on investment is a measure of financial returns and does not address issues of overall effectiveness or societal benefit. It is beneficial to the state to have a more productive and educated populous, even if the financial returns are initially minimal. Furthermore, the availability of these programs signals to the business community that the state is actively engaged in devising strategies and providing resources to meet their workforce training needs, and the EDR results indicate that the private sector is made overall better off by these grant programs. Collectively, these programs enhance the state's business climate and support state and local economic development efforts.

OVERVIEW OF TRAINING PROGRAMS

Workforce Services in Florida...

Florida's workforce development system consists "of a highly complex collection of organizations that include federal, state, local, private, and nonprofit agencies."³ The workforce education programs are provided through local school districts, state colleges and universities, independent colleges and universities, and other public and private organizations.⁴ Workforce services include employment services and funding for occupational training to clients, both individuals and businesses, delivered primarily through the CareerSource Florida network.⁵ This network is governed by federal and state laws, local government policies, and state and local business majority governing boards:

- Federal law establishes requirements and sets parameters for state and local workforce systems, and Congress provides most of the funding;
- State law implements the federal law, and may include additional requirements and initiatives, consistent with federal law;
- The business-majority CareerSource Florida, Inc., (CSF) Board of Directors develops policies consistent with federal and state law;⁶
- The Florida Department of Economic Opportunity (DEO) receives and distributes federal funds to CSF and the twenty-four Regional Workforce Boards (RWBs); develops guidelines to implement federal, state and CSF policies; and monitors compliance;
- Local Chief Elected Officials determine the composition of the RWBs, consistent with state and federal law, and approve board budgets and regional plans; and

³ See "Workforce Development System Overview," OPPAGA Report No. 04-19, February 2004.

<http://www.oppaga.state.fl.us/MonitorDocs/Reports/pdf/0419rpt.pdf>.

⁴ Holzer (2013, 133-4) notes that "most federal funding today for employment and training activities are included in the higher education budget, administered through the Department of Education, rather than that for job training or workforce activities, through the Department of Labor....The clearest indication of the funding shifts from job training to higher education can be found in the dramatic increases in federal funding for Pell grants from \$10 billion in FY 2000 to \$35 billion in FY 2011...Spending on Pell grants dwarfs total spending on WIA, and is roughly double the combined spending on all federal workforce programs."

⁵ Schrock (2014, 257) defines workforce services as "the policies, programs and institutions that assist workers and employers in connecting with one another, making future-oriented investments in labor force skills, and promoting career advancement and mobility toward goals of household, business and community and regional economic prosperity."

The 2011 GAO report (GAO 11-92) identified forty-seven workforce service programs administered by nine federal agencies providing a range of employment and training services, expending approximately \$18 billion in 2009, about half of which was appropriated to programs administered by the U.S. Department of Labor, the source of funding for workforce services in Florida. The remaining programs may be delivered by other state agencies to specific populations. Also see OPPAGA Report No. 04-19.

⁶ The Governor determines the size and membership of the board, consistent with the appointment requirements specified in federal law [Pub. L. No. 105-220, Title 1, s. 111(b)(1), which also requires inclusion of two members of each chamber of the State legislature, as appointed by the presiding officers.] CSF is granted broad authority to interpret federal law or agency rules, and is authorized to "...establish policies, interpretations, guidelines and definitions" to implement provisions of federal law "to the extent that such policies, interpretations, guidelines and definitions are not inconsistent with the Act and the regulations issued under the Act..." [20 CFR 661.120 (b)] Section 445.004(5), F.S., grants CareerSource Florida "all the powers and authority not explicitly prohibited by statute which are necessary or convenient to carry out and effectuate the purposes as determined by statute, Pub. L. No. 105-220, and the Governor, as well as its functions, duties, and responsibilities, including, but not limited to..."

- The business-majority RWBs implement federal, state, and CSF policies through the One-Stop Career Centers, and develop local policies and programs to address the needs of clients, both individuals and businesses.

Most workforce services offered through the state are delivered by One-Stop Career Centers, under the supervision of the twenty-four RWBs. These centers provide employment services to job seekers and employers; career counseling and basic employment skills training; and referral to and funding of training and education programs. The centers also serve employers by providing labor market information, recruiting and pre-screening applicants, providing facilities for interviews, and delivering outplacement services relating to layoffs.

Services to job seekers are organized around three basic service types: Core Services; Intensive Services; and Training Services.⁷ Authorized Training Services include:

- Occupational skills training, including training for nontraditional employment;
- On-the-job training;
- Programs that combine workplace training with related instruction, which may include cooperative education programs;
- Training programs operated by the private sector;
- Skill upgrading and retraining;
- Entrepreneurial training;
- Job readiness training;
- Adult education and literacy activities provided in combination with services described in any of the training services identified above; and
- Customized training in coordination with an employer or group of employers with a commitment to employ the trainee upon successful completion of the training.

Occupational skills training is provided to clients by eligible training providers (state colleges, for-profit schools, etc.) through Individual Training Accounts (ITAs), consistent with an individual plan developed with One-Stop Career Center staff. These ITAs are the mechanism to distribute vouchers for academic or occupational training that aligns with targeted occupations approved by CSF. Upon completion of the training, clients are typically awarded certification or a degree, enabling them to qualify for employment related to their credentials.

On-The-Job training programs provide for partial wage reimbursement of qualified employees. The Employed Worker Training (EWT, which may be customized training) programs provide reimbursement for the cost of training prospective or current employees of qualified area businesses.⁸

⁷ For a specific list of these services, see P.L. 105-220, s. 134(d)(4). One-Stop Service Centers may also provide “supportive services” to clients (subsidies for transportation, child care, dependent care, housing, etc.) deemed “necessary to enable an individual to participate in activities authorized” by WIA. See P.L. 105-220, s. 101(46).

⁸The EWT program is similar to IWT grants through CSF, the major distinction being that trainees must be One-Stop clients and eligibility is subject to requirements and restrictions imposed by US DOL. RWBs are now authorized to offer local IWT grants, although they are subject to additional restrictions and reporting requirements imposed by US DOL. http://www.floridajobs.org/pdg/memos/EWT_LAIWT_StateIWT_Distinction.pdf
http://careersourceflorida.com/wp-content/uploads/2014/01/150430_OJT-EWTSurvey.pdf

Within the context of these services and programs, RWBs may also develop sector training strategies⁹ with area businesses to address current and emerging skills gaps; provide a means to engage directly with industry across traditional boundaries; align state and local programs and resources serving employers and workers; and address issues at multiple firms.

RWBs spent an estimated \$52 million in training services in FY 2014-15, which is 13.2 percent of the total appropriations for workforce services through the CareerSource Florida network.¹⁰

CareerSource Florida's QRT & IWT Grant Programs...

CareerSource Florida, Inc., is "a business-led statewide workforce investment board that provides policy oversight and designs strategies to address critical statewide workforce needs."¹¹ Organized under a public-private partnership, CSF is charged to:

"...design and implement strategies that help Floridians enter, remain in, and advance in the workplace, so that they may become more highly skilled and successful, which benefits these Floridians, Florida businesses, and the entire state, and fosters the development of the state's business climate."¹²

The Quick Response Training and Incumbent Worker Training grant programs are two of CSF's strategies to address the workforce-skill needs of existing, expanding, and new businesses in Florida.

Since 1993, Quick Response Training grants have provided match funding to for-profit businesses for customized, skills-based training¹³ for new or retained entry-level, high-quality jobs¹⁴ in Florida's

⁹ Sector strategies involve "partnerships of employers within one industry that bring government, education, training, economic development, labor, and community organizations together to focus on the workforce needs of an industry within a regional labor market." US DOL, DOC, DOE, and DHHS, "What Works in Job Training: A Synthesis of the Evidence," 2014/10, citing Woolsey & Groves, "State Sector Strategies Coming of Age: Implications for State Workforce Policy Makers," 2013. This is a paper written for Corporation for a Skilled Workforce, National Skills Coalition, and the National Governors Association Center for Best Practices. Also see Glover and King (2010, 221-252). Long (2011, 119-120) which profiles US DOL sector training initiatives implemented by the state and local workforce boards.

¹⁰ Funding for the CareerSource Network includes CSF, the 24 RWBs, the nearly 100 One-Stop Career Centers, and DEO support staff. Sources: Specific Appropriations 2290- 2200 & 2209-2215, ch. 2014-51, L.O.F., and CSF Program Expenditure Report, 2014-2015 Annual Report: ITA Expenditures.

¹¹ <http://careersourceflorida.com/about-careersource-florida/> Last accessed 8/27/15.

¹² Section 445.004(2), F.S., as created by s. 1, ch. 94-232, L.O.F., and subsequently amended by s. 53, ch. 99-252, s. 4, ch. 2000-165, L.O.F., and s. 28, ch. 2015-98, L.O.F.

¹³ Section 288.047(1) and (2), F.S., as created by Ch. 93-147, L.O.F. CSF also refers to QRT as FloridaFlex.

¹⁴ 2014 CSF Guidelines characterize "high-quality jobs" as jobs paying an average annual wage of at least 115 percent of local or state private sector wages. Exceptions to this qualifying criterion may be granted for jobs located in distressed urban or rural communities or brownfield areas (or Enterprise Zones before July, 2015). http://careersourceflorida.com/wp-content/uploads/2015/06/2014-15_FLORIDA_QUICK_RESPONSE_TRAINING_PROGRAM_GUIDELINES.pdf, p. 4

Section 288.047(2), F.S., specifies that grants may not be awarded to retail businesses, or for training in connection with the intrastate relocation of a business unless it is determined that without such relocation the business will move outside this state or that the business has a compelling economic rationale for the relocation which creates additional jobs.

targeted industries¹⁵ which produce an exportable product or service.¹⁶ To be eligible, companies must create permanent, full-time jobs that require specialized training that is not available through the local community college or school district. Priority is given to businesses in distressed urban and rural areas of Florida. Training must be completed within two years from the date of award approval.

Grants are performance-based, payable to the business after submission of documentation that the pre-approved training has been provided.¹⁷ Methods of authorized training include structured on-site training, classroom, laboratory, "Train-the Trainer," and computer-based training. Reimbursable costs include: instructors'/trainers' salaries, curriculum development, and textbooks and manuals. Reimbursable costs do not include pay for trainees' wages and travel, training equipment, materials and supplies, capital improvements, or costs incurred prior to the approval date of the application. Qualified expenditures for employer matches include cash or in-kind contributions, such as: wages paid to trainees during the training period, equipment purchased for use during the training project, materials and supplies, facility usage, and travel. State funding for the QRT program was \$24 million over the three-year period encompassing Fiscal Years 2011-12, 2012-13, and 2013-14.¹⁸

Since 1999, Incumbent Worker Training grants have provided up to \$50,000 match funding for training related to a significant upgrade in skills for existing full-time employees of for-profit businesses, excluding retail establishments.¹⁹ Businesses with 25 or fewer employees located in distressed urban and rural areas of Florida may be eligible for up to 75 percent reimbursement of pre-approved training-related costs. Priority is given to the aforesaid businesses, businesses in targeted industries, businesses whose grant proposals represent a significant upgrade in employee skills, and businesses whose grant proposals represent a significant layoff avoidance strategy. To be eligible for reimbursement, the training must be completed within twelve months from the date of award approval.

Grants are performance-based, payable to the business after submission of documentation that the pre-approved training has been provided. Methods of authorized training include structured on-site training, classroom, laboratory, and on-line training. Training programs range from soft skills and workplace literacy (until 2013), custom occupational skills, computer software, and leadership (professional development) training. Reimbursable training-related costs include the following expenses: instructors'/trainers' salaries, tuition, curriculum development, and textbooks and manuals. Reimbursable costs do not include pay for trainees' wages during training, travel, equipment, capital improvements, or costs incurred prior to the approval date of the application. Qualified expenditures for employer matches include only pre-approved training-related costs, which may include trainee wages and equipment used in the training project. Annual federal funding for the IWT program is provided through the federal Workforce Investment Act Program. The Florida Legislature authorized the expenditure of \$6 million of the federal funds over the three-year period encompassing Fiscal Years

¹⁵ "Targeted industries" are high growth, recession resistant, and market independent industries as designated by Enterprise Florida, Inc., and the Department of Economic Opportunity pursuant to the statutory parameters in s. 288.106(2)(q), F.S. Retail and Hotel/Restaurants are specifically excluded in the definition of this term.

¹⁶ 2014 CSF Guidelines clarify that "Exportable good or service" means "beyond regional markets." (p. 4)

¹⁷ Current Guidelines link reimbursements to trainees hired and trained, while CSF staff indicates that previous Guidelines linked reimbursements to training completed by authorized trainer.

¹⁸ \$12 million, Specific Appropriation 2181 and s. 71, ch. 2013-40, L.O.F.; \$6 million, Specific Appropriation 2271, ch. 2012-118, L.O.F.; and \$6 million, Specific Appropriation 2022A, ch. 2011-69, L.O.F.

¹⁹ Section 445.003(3)(a)3., F.S., as created by section 57, ch. 99-251, L.O.F.

2011-12, 2012-13, and 2013-14.²⁰ An additional \$7 million in state-level supplemental federal funding is reserved by CSF for the program.²¹

The expressed purpose of the QRT grant program is “to meet the workforce-skill needs of existing, new, and expanding industries.”²² The IWT grant program exists to provide for “continuing education and training of incumbent employees at existing Florida businesses.”²³ Through their design, the benefits from these programs are primarily to the recipient businesses and their trainees, with incidental benefit to the state treasury.²⁴

CSF administers the QRT and IWT grants on a “first come, first serve” basis.²⁵ The grants are provided to qualified businesses for pre-approved expenditures related to initial training or retraining of employees. While functioning as a business subsidy for training costs, the QRT program (and to a lesser extent, the IWT program)²⁶ may also serve as a meaningful inducement for businesses to remain or expand in, or relocate to the state. This conclusion is based on surveys of economic development officials and grant recipients,²⁷ and research regarding similar programs in other states.²⁸

²⁰ \$2 million, Specific Appropriation 2182, ch. 2013-40, L.O.F.; \$2 million, Specific Appropriation 2272, ch. 2012-118, L.O.F.; \$2 million, Specific Appropriation 2023, ch. 201-69, L.O.F.

²¹ See CSF Annual “Federal Programs” Reports for end of year supplemental funding designated for IWT grants, @ <http://careersourceflorida.com/reports-publications/>

²² Section 288.047(1), F.S.

²³ Section 445.003(3)(a)3., F.S.

²⁴ The ROI to the state is conditioned by the state’s tax policy, which restricts taxing personal and business income. However, as with other publicly-financed education programs, these relatively small per-unit investments in training through QRT and IWT programs may generate an appreciable ROI to the state over the long-term.

²⁵ CSF Guidelines: <http://careersourceflorida.com/wp-content/uploads/2015/06/2014>

[15 FLORIDA QUICK RESPONSE TRAINING PROGRAM GUIDELINES.pdf](http://careersourceflorida.com/wp-content/uploads/2015/06/2014-15_FLORIDA_QUICK_RESPONSE_TRAINING_PROGRAM_GUIDELINES.pdf), and

<http://careersourceflorida.com/wp-content/uploads/2015/06/2015-2016IWTProgramGuidelines.pdf> However, the guidelines also state that “priority” or “special consideration” is given to certain projects.

²⁶ One of the factors considered for IWT project priority-ranking is whether “grant proposals represent a significant layoff avoidance strategy.” (see CSF IWT Guidelines, p. 1.)

²⁷ Forty-nine respondents to a 2012 survey of regional and local economic developers in Florida were asked “which incentive programs have the largest impact on our ability to win multi-state competitive projects?” CSF’s QRT program ranked highest among the 12 incentive programs listed. (See “Florida Target Industry Competitiveness Report,” McCallum Sweeney Consulting, Greenville, SC. September 13, 2012.)

Fifteen of 24 respondents (63 percent) to a 2015 OPPAGA survey of QRT grant recipients reported that the grant played a role in the business’ decision to establish or expand in Florida. See Florida Office of Program Policy Analysis and Government Accountability, Florida Economic Development Program Evaluations – Year 3, OPPAGA Report No. 15-11, November 2015.

²⁸ Wandner, Balducci and O’Leary (2015, 20) find that most states consider their state-funded customized training programs “to be part of their economic development strategy rather than a workforce strategy. Customized training is used as an incentive for businesses to locate, remain, or expand in a state.”

Moore, et.al. (2003, 2) note that customized or incumbent-worker training programs were often designed as incentives for businesses to locate, remain, or expand in the state.

In their profile of the 47 state-funded customized training programs in the U.S., Duscha and Graves (2007, 9-10) conclude that each program “views training from the perspective of an employer and sees training as an economic development enterprise...training money is often part of larger packages of economic development incentives... a customized training offer is primarily a way to offset costs... [and] to signal to the employer that the state welcomes its business.”

For a general discussion on the role of economic development incentives in business expansion and location decisions, see Appendix Three.

Today, state and locally administered workforce services in Florida include employment and training services to individuals and businesses alike. To program supporters, the QRT and IWT programs exemplify how the state workforce system is responding to the requirements of the evolving economy, as well as to state and federal directives to design strategies that address business needs. While some question whether public resources should be used for firm-specific, customized training, proponents offer that such spending is necessary and is beneficial to interests beyond the recipient business. For an in depth discussion of these topics, see Appendix One.

Evaluating Training Programs...

Given the significant public investments in workforce training over the past fifty years, there have been numerous attempts to assess the effectiveness and value of these types of programs. Barnow and Smith (2015, 88-106) recently identified and assessed the 'high-quality' evaluations frequently seen for the wide-ranging federally-funded, means-tested training programs of the last few decades.²⁹ For the federal Workforce Investment Act (WIA) Adult and Dislocated Workers program, they offer the following generalization:

WIA training and WIA overall have fairly robust positive earnings effects for both men and women served under the adult funding stream, effects that tend to pass cost-benefit tests under reasonable assumptions. In contrast, WIA training and WIA overall appear to have a negative effect on individuals served under the dislocated worker funding stream. (122)

For the most recent five-year period, customized training constituted a very small portion of WIA training funding, ranging from 0.7 percent to 1.5 percent, while skill upgrading and retraining ranged from 13.6 percent to 16.3 percent. (Barnow and Smith 2015, 150) Occupational skills training through client ITAs captured most of the funding: 74.4 percent to 78.2 percent.

A review of the literature indicates there are few studies that evaluate the effectiveness of customized, skills-based training programs,³⁰ and fewer still that specifically address the program's ROI from the state's perspective. Long (2011, 120-134) identifies the features of successful customized training programs and their intended effects: for employees, improved skills and increased earnings; for employers, "increased output, improved flexibility and team performance, and a better pipeline of skilled employees"; and for the economy at large, rapid economic growth. Long notes that measuring

²⁹ While Barnow and Smith (2015, 121) acknowledge the existence of "valuable research on employment and training programs" over the past decade, they conclude the "quantity of high quality work remains low."

³⁰ Van Horn and Fichtner (2003, 99) find that "no comprehensive evaluation, using multiple methodologies," had been conducted on state-subsidized, firm-based training, despite increased spending and interest in these programs throughout the 1990s. Of the 47 state-financed customized training programs they identified in 2006, Duscha & Graves (2007, 4 and 12) found that program evaluation for programs was almost non-existent: "Program operators say they know their programs work because their employer-customers give them good ratings." King (2004, 63, 89-91) found that "few rigorous evaluations have been conducted to demonstrate the effectiveness" of state-financed, firm-specific training programs. Long (2011, 133) states that while customized training is thought to have additional effects on the broader economy, such effects are hard to measure and isolating the specific contribution of training programs is difficult. In their review of California's incumbent worker training program, Moore, et. al. (2003, 4) noted that there is very little published research on state's customized training programs. Also see Osterman and Batt (1993), and Pindus and Isbell (1997, 24-31).

the effectiveness of customized training programs is hindered by the absence of “a control or a comparison group, which provides the counterfactual (or baseline) for impact measurement.”³¹ He also notes that such assessments are likely conditioned upon current local and national economic conditions.

Most studies address a broad spectrum of workforce training issues, measure specific increases in employee earnings over time, or identify general benefits to employers.³²

CSF measures the effectiveness of their QRT and IWT programs by tracking employee’s post-training average wage gains over the one-year period following the training. These wage gains are calculated for CSF using the Florida Education and Training Placement Information Program (FETPIP).³³ The Florida Department of Education describes FETPIP as:

“... a data collection and consumer reporting system ... to provide follow-up data on former students and program participants who have graduated, exited or completed a public education or training program within the State of Florida ... All elements of Florida's workforce development system [are required] to use information provided through FETPIP ... This information is part of the performance accountability processes for all parts of the K-20 system and serves as an indicator of student achievement and program needs.”³⁴

FETPIP links individual identifiable data (social security numbers) from several different administrative databases to track earnings, continuing education, and related outcomes. Program performance for IWT

³¹Long (127-130) identifies the few examples he found that include control groups in the evaluation of customized sector training programs. Also see Barnow and Smith (2015, 53-76); Orr, et. al. (2011, 431-3), McConnell, et. al. (2011, 452-3), D’Amico (2006, 3-7), and Moore, et. al. (2003, 36-42) for a general discussion of issues relating to addressing the counterfactual in program evaluations.

³² Schrock (2014, 16); Chrisinger (2013, 29); Holzer (2013, 135-137, 140); Heinrich, et. al. (2013, 1); Mueser and Stevens (2003); and Van Horn and Fichtner (2003, 108). O’Leary, Eberts, and Hollenbeck (2011, 14-24) reviewed the research addressing the effectiveness of employment programs delivered by public agencies in developed economies. They found that:

The studies use data from many different countries and pertain to many different types of programs offered under differing labour market contexts. ...The studies generally suggest that skills development delivers positive labour market impacts for adults. Training or education tends to improve the likelihood of employment and to increase earnings, if employed. ... While impacts on the labour market are positive (for adults), authors who have attempted to calculate the social and private costs of training question whether the benefits of skills development activities exceed their costs. The general consensus here is that positive net impacts on employment and earnings must last several years in order for the benefits to exceed the costs.

In an unpublished report, using a non-experimental methodology, Hollenbeck (2009a, 13) estimated the net impacts and private and social benefits and costs of workforce development programs (not including customized, skills-based, firm-specific training) in four separate studies; two of them examining programs in Washington, one in Virginia, and one in Indiana. As for the rate of return to the state, he found the return to be positive, “although the payoffs generally take more than 10 quarters to offset the costs.” Also see Hollenbeck (2011).

³³ Initially developed as a legislative project in 1984 (Specific Appropriation 337A, ch. 84-220, L.O.F.), then authorized and codified by s. 17, ch. 89-189, L.O.F. (s. 229.8075, F.S.), and subsequently transferred to s. 1008.39, F.S., in 2002. Also see s. 445.004(9)(e), F.S.

³⁴ <http://www.fldoe.org/accountability/fl-edu-training-placement-info-program> last accessed July 6, 2015.

For more specificity on the FETPIP methodology, see “Florida Should Not Use the Targeted Occupations Lists as the Sole Criteria to Fund Career Education Programs,” OPPAGA Report No. 10-26, March 2010. Page 4, 7-8.

<http://www.oppaga.state.fl.us/MonitorDocs/Reports/pdf/1026rpt.pdf>

is reported annually in FETPIP’s “Annual Outcomes Report.”³⁵ FETPIP produces custom reports for CSF on both the IWT and QRT programs, primarily to track the wage progression of past program participants.

³⁵ For the latest report, see <http://www.fldoe.org/core/fileparse.php/7592/urlt/1213FETPIPAnnualOutcomesReport.pdf>

ECONOMIC EVALUATION OF THE STATE AND FEDERAL INVESTMENT IN THE QRT AND IWT GRANT PROGRAMS

Purpose...

EDR is tasked with evaluating the economic benefits of the QRT and IWT programs. Economic Benefit is defined as “the direct, indirect, and induced gains in state revenues as a percentage of the state’s investment” – which includes “state grants, tax exemptions, tax refunds, tax credits, and other state incentives.”³⁶ In this report, the term Return-on-Investment (ROI) is synonymous with economic benefit, and is used in lieu of the statutory term. This measure does not address issues of overall effectiveness or societal benefit; instead, it focuses on tangible financial gains or losses to state revenues, and is ultimately conditioned by the state’s tax policy.

EDR used the Statewide Model to estimate the ROI for the QRT grant program and the economic activity generated by the federally funded IWT grant program. The Statewide Model is a dynamic computable general equilibrium (CGE) model that simulates Florida’s economy and government finances.³⁷ Among other things, it captures the indirect and induced economic activity resulting from the direct project effects. This is accomplished by using large amounts of data specific to the Florida economy and fiscal structure. Mathematical equations³⁸ are used to account for the relationships (linkages and interactions) between the various economic agents, as well as likely responses by businesses and households to changes in the economy.³⁹ The model also has the ability to estimate the impact of economic changes on state revenue collections and state expenditures in order to maintain a balanced budget by fiscal year.

When using the Statewide Model to evaluate economic programs, the model is “shocked”⁴⁰ using static analysis to develop the initial or direct effects attributable to the projects funded by the incentives. In this analysis, direct effects are essentially the changes experienced by the businesses receiving the grants. The combined annual direct effects (“shocks”) took the form of:

- For the QRT program, removal of the grant payments from the state budget, with a corresponding award to businesses as subsidies to production.
- For the IWT program, receipt of the federal funds from outside the state, essentially a helicopter drop that expands the economy through business subsidies to production.
- Increased outputs based on trainee wage appreciation attributed to the project.

³⁶ Section 288.0001, F.S., as created by s. 1, ch. 2013-39, Laws of Florida & s. 1, ch. 2013-42, Laws of Florida.

³⁷ The statewide economic model was developed using GEMPACK software with the assistance of the Centre of Policy Studies (CoPS) at Victoria University (Melbourne, Australia).

³⁸ These equations represent the behavioral responses to economic stimuli – to changes in economic variables.

³⁹ The business reactions simulate the supply-side responses to the new activity (e.g., changes in investment and labor supply).

⁴⁰ In economics, a shock typically refers to an unexpected or unpredictable event that affects the economy, either positive or negative. In this regard, a shock refers to some action that affects the current equilibrium or baseline path of the economy. It can be something that affects demand, such as a shift in the export demand equation; or, it could be something that affects the price of a commodity or factor of production, such as a change in tax rates. In the current analyses, a shock is introduced to remove the impact of the incentive on the economy.

The model is then used to estimate the additional—indirect and induced—economic effects generated by the projects, as well as the supply-side responses to the new activity, where the supply-side responses are changes in investment and labor supply arising from the new activity. Indirect effects are the changes in employment, income, and output by local supplier industries that provide goods and services to support the direct economic activity. Induced effects are the changes in spending by households whose income is affected by the direct and indirect activity.

All of these effects can be measured by changes (relative to the baseline) in the following outcomes:

- State government revenues and expenditures
- Jobs
- Personal income
- Florida Gross Domestic Product
- Gross output
- Household consumption
- Investment
- Population

EDR's calculation of the Return-on-Investment uses the model's estimate of net state revenues and expenditures. Other required measures for this report include the number of jobs created, the increase or decrease in personal income, and the impact on gross domestic product, all of which are included in the model results.

Explanation of Return-on-Investment...

The ROI is developed by summing state revenues generated by a program less state expenditures invested in the program, and dividing that calculation by the state's investment. It is most often used when a project is to be evaluated strictly on a monetary basis, and externalities and social costs and benefits—to the extent they exist—are excluded from the evaluation. The basic formula is:

$$\frac{(\text{Increase in State Revenue} - \text{State Investment})}{\text{State Investment}}$$

Since EDR's Statewide Model is used to develop these computations and to model the induced and indirect effects, EDR is able to simultaneously generate State Revenue and State Investment from the model so all feedback effects mirror reality. The result (a net number) is used in the final ROI calculation.

As used by EDR for this analysis, the returns can be categorized as follows:

- **Greater Than One (>1.0)**...the program more than breaks even; the return to the state produces more revenues than the total cost of the investment.
- **Equal To One (=1.0)**...the program breaks even; the return to the state in additional revenues equals the total cost of the investment.
- **Less Than One, But Positive (+, <1)**...the program does not break even; however, the state generates enough revenues to recover a portion of its cost of the investment.

- **Less Than Zero (-, <0)**...the program does not recover any portion of the investment cost, and state revenues are less than they would have been in the absence of the program, typically because taxable activity is shifted to non-taxable activity.

The numerical ROI can be interpreted as return in tax revenues for each dollar spent by the state. For example, a ROI of 2.5 means that \$2.50 in tax revenues is received back from each dollar spent by the state.

The basic formula for ROI is always calculated in the same manner, but the inputs used in the calculation can differ depending on the needs of the investor. Florida law requires the return to be measured from the state's perspective as the investor, in the form of state tax revenues. In this regard, the ROI is ultimately shaped by the state's tax code.

Data and Methodology...

In order to evaluate the QRT and IWT programs, data was provided by CareerSource Florida (CSF) and the Florida Education and Training Placement Information Program (FETPIP). CSF administers the QRT and IWT programs and maintains a cumulative database of projects awarded grant money. Of importance to this analysis, this database contains the North American Industry Classification System (NAICS) code of the business, the dates that each training project began and ended, the cumulative amount of grant money paid, the number of trainees trained, and the amount of funding matched by the business. This database is maintained based on the date the contract was initiated between the business and the state, not on when the training actually occurred. Given the nature of the contract lengths, this means that it is necessary to have data from contracts initiated in FY 2009-10 and onward for QRT and FY 2010-11 and onward for IWT in order to fully evaluate the activity that took place within the FY 2011-12 through FY 2013-14 review period of this analysis.⁴¹

The CSF database provides data for the QRT and IWT programs between July 1, 2010, and approximately March 31, 2015. Data cleaning was necessary in order to reduce this to the July 1, 2011, through June 30, 2014 required review period. All projects that had a training end date prior to July 1, 2011, or a training begin date after June 30, 2014, are excluded from the analysis. All projects for which training began and ended within the review period are fully included. Any project for which training occurred both outside and inside the review period is divided fractionally by the share of training that occurred within the review period. This division applies to 86 of the 130 QRT and 259 of the 646 IWT projects for which any training occurred in the review period. See Table 1 for a summary of the total number of employees trained and the dollar amount the state paid in the review period⁴² using this methodology.

⁴¹ All of this data was obtained excluding the FY 2009-10 QRT data. CareerSource indicated that this data was not available.

⁴² Note that this data is maintained by CareerSource on a cumulative, by project basis. Therefore, it is not possible to determine exactly when specific employees were trained; rather, just that a given number were trained in a certain timeframe.

Table 1. Estimated Employees Trained and State/Federal Investment in QRT and IWT

	FY 11-12	FY 12-13	FY 13-14	Total
Total Trained (QRT)	6,657	9,553	6,638	22,849
Total Trained (IWT)	11,362	7,582	6,679	25,623
State Payments (QRT)	\$4,897,737	\$6,155,322	\$6,265,418	\$17,318,478
Federal Payments (IWT)	\$3,476,589	\$3,721,287	\$2,500,921	\$9,698,797

This measure of the number of employees trained is not, however, fully attributable to the state or federal investment in the programs. The recipient businesses provide a sizeable match to the state or federal investment, frequently in excess of ten times⁴³ the grant amount. Given the size of the matches, it would be unreasonable to assume that, but for the state or federal investment, the training would not have occurred. Therefore, for this analysis, the number of trainees is attributed proportionally⁴⁴ based on the state or federal share of the total training investment for each project. Table 2 aggregates the trainees attributable to the state or federal government by fiscal year.

Table 2. State/Federal Share of Employees Trained in QRT and IWT

	FY 11-12	FY 12-13	FY 13-14	Total
State Share Trained (QRT)	1,318	1,147	776	3,241
Federal Share Trained (IWT)	2,233	1,849	1,201	5,283

In this manner, the CareerSource database provides a means to determine the state or federal investment and number of employees trained attributable to that investment on a project by project basis.⁴⁵ Consistent with evaluations of training programs identified in the literature, information on the wage growth of employees who underwent training is required to assess the benefit of these projects. FETPIP⁴⁶ maintains quarterly employment records of all trainees⁴⁷ of the QRT and IWT programs. This data was provided based on the fiscal year in which the employee underwent training. As it is unknown when in the fiscal year the training occurred, two years of wage growth are considered and attributed to the training programs, minus a baseline adjustment for inflation. That is, the growth from the fiscal year prior to the training to the year of the training, and the growth from the fiscal year of the training to the

⁴³ The average QRT business match is 1,473.5 percent of the state's investment, for IWT this amount is 785.2 percent of the federal investment.

⁴⁴ When the financing responsibilities for projects are shared, the economic benefit should be proportionately attributed among the contributors. See J.P.A Burns and T.J. Mules. 1986. A Framework for the Analysis of Major Special Events. *The Adelaide Grand Prix: The Impact of a Special Event*, J.P.A Burns, J.H. Hatch, T.J. Mules, eds. (Adelaide: The Centre for South Australian Economic Studies): 10, 31.

⁴⁵ Through the NAICS codes, these values are aggregated to industry totals for the purposes of shocking the model.

⁴⁶ Social Security Numbers are submitted electronically to CareerSource by the businesses, which are then transferred to FETPIP. CareerSource destroys the records from the firms and the submission to FETPIP.

⁴⁷ Note that these records are total wages paid based on Reemployment Insurance data. Individuals who start their own businesses, become private contractors or leave the state will not have their income reported in this data set.

following fiscal year are considered. Total wage growth⁴⁸ attributable to the QRT and IWT programs is shown in Table 3.

Table 3. Total Wage Growth of Employees Trained Attributable to QRT and IWT

	FY 11-12	FY 12-13	FY 13-14	Total
Wage Growth (QRT)	\$42,868,888	\$116,908,541	\$128,771,711	\$288,549,140
Wage Growth (IWT)	\$8,443,450	\$44,320,584	\$47,117,414	\$99,881,448

The Bureau of Economic Analysis maintains data on total wages and employment by industry in the state. Using this measure and the total number of trainees by industry, an estimate of total wages by industry of trainees prior to training is determined. The total wage growth shown in Table 3 is attributed to each industry according to that industry’s share of trainee wages. This methodology allows for the expectation that higher paying industries will see a larger share of the aggregate wage growth than lower paying industries. This wage growth is then proportionally attributed to the state or federal government by industry based on the state or federal share of employees trained in that industry, respectively. This is the same methodology that determined the number of employees attributable to the state or federal government in Table 2. Total wage growth attributable to the state’s investment in QRT and the federal investment in IWT training is shown in Table 4.

Table 4. State/Federal Share of Wage Growth of Employees Trained in QRT and IWT

	FY 11-12	FY 12-13	FY 13-14	Total
Wage Growth (QRT)	\$8,547,119	\$12,380,029	\$14,118,776	\$35,045,924
Wage Growth (IWT)	\$1,602,740	\$10,342,568	\$8,250,298	\$20,195,607

To determine the economic benefit of the QRT program, the wage growth attributable to the state is introduced to the Statewide Model as a productivity shock to the businesses, and the state payments are input as subsidies⁴⁹ to those businesses. The process is similar for the IWT program, however, the state budget is not reduced since the dollars come from outside the state. This implies that no spending choices are made to sacrifice one expenditure for another. Overall, the essence of the QRT and IWT programs is that the state or federal government is giving money to businesses, and they are using it to make their employees more productive.

Key Assumptions...

The following key assumptions are used in the Statewide Model to determine the economic benefits of the QRT and IWT programs. Some of the assumptions are used to resolve ambiguities in the literature, while others conform to the protocols and procedures adopted for the Statewide Model.

⁴⁸ Note that the FY 2011-12 numbers appear smaller because they do not include the second year of growth from the FY 2010-11 trainees since their training did not occur within the review period.

⁴⁹For a general discussion of the term, see Appendix Three.

1. Funding of the IWT program is strictly federal, thus there is no state investment for a return to be evaluated upon.
2. The analysis assumes that the grants were the determining factor in the business decision to train the employee.
3. The state or federal government receives credit only for the additional training that its investment is proportionally attributed compared to the investment of the business itself. This attribution further applies to the state or federal share of the wage growth resulting from the training.
4. The size and purpose of the grants are not conducive to capital investment. As such, any concurrent capital investments of businesses receiving QRT or IWT grants are not considered to be attributable to the state or federal investment.
5. Other state and local economic incentives are not attributed any of the training or wage growth that occurs as a result of the QRT and IWT programs.
6. Training completion occurs and grant payments are made at a uniform rate over the timeframe of the training.
7. Absent the training, individuals who were trained through QRT or IWT would have seen wage growth equal to the rate of inflation in the state.
8. Wage growth for individuals resulting from QRT or IWT training will be proportional to the comparative wage across industries of that individual's industry of employment.
9. As data was not yet available, wages for the second quarter of 2015 were imputed as being the same share of FY 14-15 that the second quarter of 2014 was of FY 13-14.

Results...

With the direct benefit and direct cost to the state determined, the state's Return-on-Investment from the QRT program and the economic activity generated from the IWT program are evaluated using EDR's Statewide Economic Model. It is calculated that, for every dollar spent by the state of Florida on QRT between Fiscal Year 2011-2012 and Fiscal Year 2013-2014, \$0.09 of additional tax revenue was generated, or an ROI of 0.09. Additional economic impacts of the wage growth generated due to the state's investment in QRT over the three-year period are shown in Table 5. The negative total of "Consumption by Households and Government" is a result of the positive impact on household consumption being outweighed by the negative impact on the state government's consumption. Expenditures for QRT reduce the funding otherwise available for the general market basket of goods. A guide to interpreting these indicators can be found in Appendix Two.

Table 5. Economic Impact of the Quick Response Training Program

	FY2011 - 2012	FY2012 - 2013	FY2013 - 2014	Total
State Payments in the Window \$ (M)	4.9	6.2	6.3	17.4
Total Net State Revenues \$ (M)	0.3	0.5	0.7	1.6
Return-on-Investment by Year	0.1	0.1	0.1	
Return-on-Investment for the 3 year period				0.09

		FY2011 - 2012	FY2012 - 2013	FY2013 - 2014	Total		Average per Year
Personal Income	Nominal \$ (M)	4.4	7.2	10.1	21.6		7.2
Real Disposable Personal Income	Fixed 2009 \$ (M)	4.0	6.1	8.3	18.4		6.1
Real Gross Domestic Product	Fixed 2009 \$ (M)	3.1	6.3	10.0	19.4		6.5
Consumption by Households and Government	Fixed 2009 \$ (M)	(2.6)	(1.0)	1.3	(2.2)		(0.7)
Real Output	Fixed 2009 \$ (M)	10.5	17.4	23.5	51.4		17.1
		FY2011 - 2012	FY2012 - 2013	FY2013 - 2014	Minimum	Maximum	Average per Year
Total Employment	Jobs	7	22	41	7	41	23.3
Population	Persons	0	16	48	0	48	21.3

For the IWT program, no ROI can be calculated since the funding is entirely federal. Economic impacts of the wage growth generated due to the federal investment in IWT over the three-year period are shown in Table 6. Again, a guide to interpreting these indicators can be found in Appendix Two.

Table 6. Economic Impact of the Incumbent Worker Training Program

	FY2011 - 2012	FY2012 - 2013	FY2013 - 2014	Total
State Payments in the Window \$ (M)	0.0	0.0	0.0	0.0
Total Net State Revenues \$ (M)	0.3	0.5	0.6	1.4
Return-on-Investment by Year	N/A	N/A	N/A	
Return-on-Investment for the 3 year period				N/A

		FY2011 - 2012	FY2012 - 2013	FY2013 - 2014	Total		Average per Year
Personal Income	Nominal \$ (M)	7.4	9.0	9.3	25.6		8.5
Real Disposable Personal Income	Fixed 2009 \$ (M)	5.9	7.2	7.4	20.6		6.9
Real Gross Domestic Product	Fixed 2009 \$ (M)	6.9	9.2	10.1	26.2		8.7
Consumption by Households and Government	Fixed 2009 \$ (M)	5.8	6.6	6.5	18.9		6.3
Real Output	Fixed 2009 \$ (M)	12.5	18.8	21.4	52.7		17.6
		FY2011 - 2012	FY2012 - 2013	FY2013 - 2014	Minimum	Maximum	Average per Year
Total Employment	Jobs	42	38	32	32	42	37.3
Population	Persons	16	48	80	16	80	48.0

The results presented here are dependent upon the assumptions listed earlier. These assumptions are sound and consistent with the literature; however, arguments could be made to be more or less exclusive.⁵⁰

Comments...

While the return associated with the QRT training program is relatively low, it is worth reiterating that a Return-on-Investment does not address issues of overall effectiveness or societal benefit. It is beneficial to the state to have a more productive and educated populous, even if the financial returns are initially minimal. Additionally, returns to the employees may take decades to develop and may not be captured in a three-year period. Furthermore, the availability of these programs signals to the business community that the state is actively engaged in devising strategies and providing resources to meet their workforce training needs. Collectively, these programs enhance the state's business climate and support state and local economic development efforts.

⁵⁰ For example, if assumption 2 is excluded, meaning the training was in no way dependent upon the state funding, the QRT program would be treated as a pure subsidy and its ROI would be 0.0. If instead assumption 3 is excluded, meaning all of the training is attributable to the state funding rather than proportionally attributed between the state and the business, the ROI for the QRT program would be 0.7.

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APPENDIX ONE: THE EVOLVING ECONOMY AND WORKFORCE TRAINING

In response to the evolving economy and state and federal directives to design strategies that address business needs, most states have implemented programs that use public funds for firm-specific, customized, skills-based training. Proponents claim that such programs are a practical strategy to address the needs of workers, employers, state economic development efforts, and the economy at large.

The Evolving Economy, Its Impact on the Labor Market and Implications for Workforce Training...

The US employment model has changed since the mid-1980s, evolving “from a closed, internal system to one more open to external markets and institutional pressures.”⁵¹ Major changes affecting employment stability include increased restructuring through layoffs; growing use of contingent workers; increased outsourcing (to include off-shore outsourcing); increased use of variable incentive pay; reduced employer role in funding employee health and retirement benefits; growing regulation of workplace practices; and the increased influence of social movement organizations.⁵²

These changes have contributed to a weakening of employer/employee attachment. Farber (2008, 14) found that from 1973 - 2006, the “incidence of long-term employment has declined dramatically for men employed in the private sector.” Bidwell (2013, 28) notes that since 1979, job tenure has “declined by 30 percent among prime aged men, with particular increases in the proportions of men with less than three years of tenure.”⁵³ In her review of the literature regarding employment stability, Hollister (2011, 320) offers additional conclusions:

- Despite the mixed messages that emerged from initial research on employment stability, there is consistent evidence of a decline in stability since the 1970s in the United States.
- Employment stability for women has been level or in some cases is increasing. This trend may be due to their increased labor force attachment [since the 1960’s], countering overall declines in stability.
- Employment stability has declined for private-sector workers but increased for public-sector workers.
- Additional research shows increases in occupation changing, shifts in employer pay practices, and increases in nonstandard employment, which together provide further evidence of changes in employment relationships.
- Measures of short-term churning and job loss have generally been level over time, although more advantaged workers saw both increased churning and increased concern about job loss in

⁵¹ Bidwell, Briscoe, Fernandez-Mateo & Sterling (2013, 61 & 67). They suggest these changes are the consequence of many factors, including demographic change; union decline; identity-based movements; the influence of the shareholder value movement; technological change; and global competition. (73) Also see Glover and King (2010, 216-222); and Cappelli (2000).

⁵² Bidwell, Briscoe, Fernandez-Mateo & Sterling (2013, 67 - 68)

Contingent workers are workers who work for an organization on a non-permanent basis, also known as freelancers, independent professionals, temporary contract workers, independent contractors or consultants.

⁵³ Further, Bidwell finds (5, 12, 28-33) that changes in tenure have been concentrated in large organizations, and that many of these changes can be explained by controlling for the changing levels of unionization across industries. Additionally, he suggests that along with declining support for unionization, foreign competition and the declining costs of technology strengthen business’ bargaining position with workers, and contributed to the demise of unions.

the 1990s. In addition, the overall measures of short-term employment remained level even when unemployment rates declined.

- Although real declines in employment stability have occurred, they are not as strong as might be expected given popular perceptions.

The type of jobs in the economy has also changed. Especially since 1990, there has been an occupational shift in the labor market, as many middle-income, “routine” occupations⁵⁴ are disappearing, and are replaced with lower-paying service jobs and high-skilled cognitive occupations or professions.⁵⁵ The shift is likely due to many factors, principally globalization and technological innovations. Imported goods have replaced domestically produced goods, and U.S. businesses have closed obsolete production facilities.⁵⁶ Many U.S. firms have outsourced jobs offshore, or substituted routine jobs with automated processes.⁵⁷

Another way the U.S. employment model may have changed is related to the incidence of employer training. First, as new technologies are integrated into the evolving workplace, specialized training is increasingly necessary to enable employees to operate and maintain the equipment, and manage the

⁵⁴ Referencing Autor (2003) and Acemoglu and Autor (2011), Jaimovich and Siu (2014, 8-9) explain the distinction between routine and non-routine occupations: If the tasks involved can be summarized as a set of specific activities accomplished by following well-defined instructions and procedures, the occupation is considered routine. If instead the job requires flexibility, creativity, problem-solving, or human interaction skills, the occupation is non-routine. In this delineation, non-routine cognitive occupations include managerial, professional, and technical workers, such as physicians, public relations managers, financial analysts, computer programmers, and economists. These high-skilled professions generally require academic credentials or certifications, experience, and well-developed soft skills. Routine cognitive occupations are those in sales, and office and administrative support; examples include secretaries, bank tellers, retail salespeople, travel agents, mail clerks, and data entry keyers. These middle-skilled occupations generally require more than a high school diploma but less than a four-year degree. Routine manual occupations are middle-skill occupations (“blue collar” jobs), such as machine operators and tenders, mechanics, dressmakers, fabricators and assemblers, and meat processing workers. Non-routine manual occupations are service jobs, including janitors, gardeners, manicurists, bartenders, home care aides, and personal care workers. These low-skill jobs generally require minimum education and experience. Also see Autor and Dorn (2013, 1559) and Kearney, Hershbein & Jacome (2015).

Tüzemen and Willis (2013, 9) found that from 1983 to 2012, excluding the self-employed, military and agricultural occupations, the employment share for

- High-Skilled professions shifted from 26 to 37 percent;
- Low-Skilled jobs shifted from 15 to 18 percent; and
- Middle-Skilled occupations shifted from 59 to 45 percent.

⁵⁵ See Ebenstein, Harrison, and McMillan (2015); Kearney, Hershbein, and Jacome (2015); Ebenstein, Harrison, McMillan, and Phillips (2014); Jaimovich and Siu (2014); Oldenski (2014); Autor and Dorn (2013); Autor, Dorn and Hanson (2013); Elsby, Hobijn and Sahin (2013); Tuzemen and Willis (2013); Levine (2012); Dewey and Denslow (2012); Sirkin, Zinser and Hohner (2011); and Acemoglu and Autor (2011).

This “occupational shift” has also been referred to as “job polarization” or “wage and job polarization,” which describes the hollowing of the middle of the skill distribution coupled with strongly rising relative pay for high-skill jobs, slightly rising relative pay for low-skill jobs, and falling relative pay for middle-skill jobs.

⁵⁶ Autor, Dorn, and Hanson (2013, 21) found that between 1990 and 2007, import competition accounted for twenty-one percent of the contemporaneous aggregate decline in U.S. manufacturing employment.

⁵⁷ While Jaimovich & Sui (2014, 18) recognize that job losses in manufacturing have contributed to job polarization in the U.S., they credit the loss of routine jobs following the three most recent recessions of 1991, 2001, and 2009 primarily to advances in automation, as “the arrival of robotics, computing, and information technology has allowed for a large-scale automation of routine tasks.” (Jaimovich & Sui 2015, 21)

associated production processes. While automated processes generally require higher skills than the processes they replace, they require, by design, fewer employees.

Second, Cappelli (2015, 277) finds that while “credible evidence on employer-provided training in the United States is remarkably hard to come by,” there are quantifiable indications such training has declined.⁵⁸ For example, he cites the sharp decline in apprenticeship programs, which may correspond to the decline in union labor.⁵⁹ Cappelli (2015, 254) suggests that some businesses have adopted a labor “supply chain” approach, where “skills are seen as coming with the applicant to the job, and job requirements are absolute, such that candidates either have the necessary skills to do a job or not and, if not, they cannot do the job.” If the right hire is not found, employers have new options to invest in capital to accomplish tasks, outsource the task, or hire temporary talent rather than train a suitable hire or available in-house talent.

Additionally, Kalleberg (2009, 16) suggests that “employers are reluctant to provide training to workers given the fragility of the employment relationship and the fear of losing their investments” to competing firms. Moore, et.al (2003, 23) observed that the existence of state training programs “is predicated upon underinvestment in training by private employers – otherwise there would be no need for intervention.”

Another factor impacting the labor market and informing the training discussion is a perceived “skills mismatch” by industry. While businesses have always had the problem of finding the “right hire with the right skills, right now,” industry-affiliated research and anecdotal accounts suggest there is a talent mismatch between job opportunities and job seekers.⁶⁰ First, it is asserted that job applicants lack the

⁵⁸ The few sources quantifying employer-provided training tend to be pre-2005. Additionally, the research suggests that larger firms tend to provide training, and training tends to be provided to higher-skilled workers. See King (2004, 59-60); O’Leary, Straits and Wandner (2004 11-13); Lerman, McKernan and Riegg (2004, 238-241); Moore, et. al. (2003, 23-25); and Pindus and Isbell (1997, 19-21). While perhaps now dated, Mikelson & Nightingale’s 2004 report found that employer-provided training (and funded primarily using non-public source of funds) was relatively constant from the mid 1990s to 2003. They based these findings on published reports and available surveys of firms. Findings that inform their conclusions include: (1) There is considerable discrepancy between workers and firms about how much training workers receive – firms report somewhat more training than workers report; and (2) More-educated workers are increasingly likely to receive employer-provided training. (2004, 37) Also see the American Society for Talent Development annual State of the Industry reports for employer survey data, at <https://www.td.org>.

Recently, a guest contributor to the Wall Street Journal identified expanded on-the-job training efforts by major U.S. retailers, including Wal-Mart, with the goal of certification in customer service for front-line, entry-level workers. “Wal-Mart Tests ‘Upskilling’: The giant retailer is examining a new program to train entry-level service workers, with potentially far-reaching implications for employment and upward mobility nationwide,” by Tamar Jacoby, WDJ Sept. 4, 2015. <http://www.wsj.com/articles/wal-mart-tests-upskilling-1441393973>

⁵⁹ Citing US DOL statistics, the Wall Street Journal reported that apprenticeship programs, or “formal programs that combine on-the-job learning with mentorships and classroom education fell 40 percent in the U.S. between 2003 and 2013.” <http://www.wsj.com/articles/SB10001424052702303978304579473501943642612> last accessed 6/8/15.

⁶⁰ Generally, the “jobs gap” describes the difference between job openings and available labor, who may be unable (as they are unsuitable or unqualified due to lack of skills or credentials or are disqualified due to criminal history, failed drug test, failed credit check, suspension or revocation of licensure, etc.) or unwilling (to relocate, accept offered wage or working conditions, to accept a position in the formal economy where their wages could be garnished or where they would lose entitlement benefits, etc.) to fill these job openings. (See Holzer 2013, 134) The “skills gap” and “skills mismatch” may be understood as a subset of the jobs gap, a more precise description of

basic skills needed to function in the modern workplace, and attribute this deficiency, in part, to the failure of the primary education system. In effect, the available talent pool is unprepared for most offered jobs. Second, there is a growing shortage of available middle and higher-skilled workers. This, it is claimed, is especially evident in emerging industries and technologies, where there may be a structural lag between the demand and the supply of workers with the required experience, certification, or academic credentials.⁶¹

This perspective was initially echoed by Narayana Kocherlakota, President of the Federal Reserve Bank of Minneapolis (2010), when he addressed the unexpected increase in the gap between job postings and job hires as the country was recovering from the Great Recession:

What does this change in the relationship between job openings and unemployment connote? In a word, mismatch. Firms have jobs, but can't find appropriate workers. The workers want to work, but can't find appropriate jobs. There are many possible sources of mismatch— geography, skills, demography—and they are probably all at work.⁶²

Recent research by other independent economists suggests these skills-mismatch claims may be overstated. Sahin et al. (2012, 4), of the Federal Reserve Bank of New York, found that the skills mismatch can explain at most one-third of the rise in the U.S. unemployment rate around the Great Recession.⁶³ In his assessment of the “plausibility of structural explanations” for the sustained high unemployment rate between 2007 and 2011, Rothstein (2012, 495) examined employment changes across industries, job-openings rates, estimates of the effects of unemployment insurance extensions,

the difference between the skill and talent demands and unqualified supply, which could be remedied by training programs or additional education.

⁶¹ Kahn (2015, 247); also see Fuller (2014); Hilliard (2013); Institute for a Competitive Workforce (2012); McKinsey Global Institute (2011); Deloitte and the Manufacturing Institute (2011 & 2015); Estevao and Evidiki (2011); Holzer and Lerman (2009); and Goldin and Katz (2007).

⁶² Kocherlakota, Narayana. 2010. “Inside the FOMC.” Available at http://www.minneapolisfed.org/news_events/pres/kocherlakota_speech_08172010.pdf.

Importantly, the New York Times reported in 2014 that Kocherlakota’s assessment had changed:

“Over the next two years, Mr. Kocherlakota said that a wave of research gradually convinced him that he was wrong. Mr. Kocherlakota had speculated, for example, that some workers might be unable to take jobs in other cities because their mortgage debts exceeded the value of their homes. Research by his own staff, however, found little evidence of this ‘house lock’ phenomenon.” In the article, Mr. Kocherlakota is quoted: “It’s a little embarrassing to say this, but you make a speech in August of 2010 and it inspires a whole quantity of work where people say, ‘This is what Kocherlakota says and we will now show in this paper that Kocherlakota was wrong,’ ... There’s a number of ways that people can react to that, and I reacted in the only way that a sensible person can, which is to update.”

Appelbaum, Binyamin. 2014. A fed policy maker, changing his mind, urges more stimulus. New York Times, January 27, 2014. Accessed at <http://www.nytimes.com/2014/01/28/business/a-federal-reserve-policy-maker-urges-it-to-do-more.html> (June 4, 2015).

⁶³ Further, they conclude (p.40):

“If mismatch only accounts for a portion of the persistently high unemployment rate, what are the other economic forces at work? As we explained, both the aggregate vacancy rate and aggregate matching efficiency are still well below their pre-recession level of 2006. Weak aggregate demand combined with wage rigidity, uncertainty about future productivity and future economic policy, or selective restructuring by firms during recessions do, qualitatively, imply a slow recovery in job creation. The disincentive effects on job search effort from prolonged extension of unemployment benefits, and the diminished recruitment intensity on the firm’s side are consistent with the fall in aggregate matching efficiency.”

and labor-participation rates. He concluded that “recent policy changes and new structural impediments to adjustment (as distinct from those operating over the longer run) can be blamed for no more than a small share of the recent rise in long-term unemployment.”⁶⁴ In February 2014, the Congressional Budget Office (2014, 9) estimated that “about one-half of a percentage point of the net increase in the unemployment rate” between the end of 2007 and 2013 was due to the mismatches in skills and locations. Further:

That effect will diminish gradually over the next few years, in CBO’s judgment, as the causes of dampened matching efficiency recede and as workers acquire new skills, shift to faster growing industries and occupations, or relocate to take advantage of new opportunities.

Abraham (2015, 311 & 303), as well, finds “little support ... for the skill mismatch as an important part of the explanation for current unemployment.” She observes that the “idea that the labor market is suffering from structural mismatch is a hardy perennial that often blooms during periods of elevated unemployment. The current period is no exception.”⁶⁵ Finally:

For an economist, evidence of rising wages, especially in industries or occupations where employers claim they are experiencing recruiting difficulties, would make the most compelling case for the existence of labor shortages. As others have noted, average real wages have shown no sign of accelerating since the end of the recession, suggesting that worker shortages cannot be widespread.

Likewise, Rothstein (2012, 486) argues that “if employers are facing shortages of suitable, interested workers, they should be responding by bidding up the wages of those workers who can be found.”

In their recent survey of U.S. manufacturing establishments, Weaver and Osterman (2013, 4) found that three quarters of establishments “do not have persistent problems hiring the skilled production workers they demand.” They conclude that “factors such as institutional climate and managerial strategy are potentially important in mediating hiring outcomes and that simple stories about inadequate workforce skills are misleading.” Additionally, the authors (2014, 2) conclude that:

“...other economic data do not indicate a skills gap. Most tellingly, wages for manufacturing production workers—particularly those with the highest levels of training—have not increased as would be expected if a skills shortage existed in the manufacturing sector.”

⁶⁴ Rothstein (497) offers three caveats to his finding: he has not addressed longer-run (pre-2007) structural changes, such as deindustrialization or skill-biased technical changes; it is possible that structural problems that are now being masked by low aggregate demand would become apparent in a strong economic recovery; and an extremely long downturn is likely to itself create structural problems, as the long-term unemployed will become less employable.

⁶⁵ Researchers have also identified another phenomenon occurring during periods of high unemployment: “upskilling” or “up-credentialing.” Modestino, et. al (2014, 26) found that employers opportunistically raise education and experience requirements, within occupations, in response to increases in the supply of relevant job seekers. A recent Burning Glass (2014, 1) “analysis of shifting workforce credential requirements finds a broad range of occupations where employers are seeking a bachelor’s degree for jobs that formerly required less education, even when the actual skills required haven’t changed or when this makes the position harder to fill.” http://burning-glass.com/wp-content/uploads/Moving_the_Goalposts.pdf

In his recent review of industry consultant surveys and reports, and related academic research, Cappelli (2015, 260-277, 280) concludes that “overall, the available evidence does not support the idea that serious skill gaps or skill shortages exist in the U.S. labor force.”⁶⁶

In contrast to the skepticism of some economists regarding the skills gap in the economy at large, business surveys consistently report that individual businesses in the U.S. have difficulty in filling vacant positions because applicants lack the required experience and skills to fill those positions.⁶⁷

Notably, manufacturing industry representatives frame their solution to this problem by acknowledging that they have a significant role in addressing the skills gap. However, they state that:

“...manufacturing companies cannot do it alone: manufacturers are part of a larger ecosystem of players that must work together to solve the skills gap. ...Manufacturers should build robust community outreach programs, design curriculums in collaborations with technical and community colleges...The federal government and state governments also play an active role in mitigating the talent shortage.” (Deloitte 2015, 17 &3)

The U.S. Competitive Project, a research-led effort by the Harvard Business School (Fuller 2014, 3), offers the following recommendations to address the middle-skills gap:

- Business leaders must champion an employer-led skills-development system, in which they bring the type of rigor and discipline to sourcing middle-skills talent that they historically applied to their supply chains for materials;
- Educators must embrace their roles as partners of employers and help their students realize their ambitions by being attentive to developments in the jobs market and the evolving needs of employers; and
- Policymakers must actively foster collaboration between employers and educators, invest in improving publicly available information on the jobs market, and revise metrics used by educators and workforce development programs such that success is defined by placing students and workers in meaningful employment.

The Institute for a Competitive Workforce (2012, 42), an affiliate of the U.S. Chamber of Commerce, sought input from education and business leaders on strategies to address the perceived skills gap. The resulting report offered recommendations regarding public workforce development programs,

⁶⁶ For additional recent supporting research, see Herz and Van Rens (2015); Jaimovich and Siu (2014); Faberman and Mazumder (2012); Rothstein (2012); Daly, Hobijn, Sahin, & Valletta (2012); Dickens (2011); Elsby, Hobijn, Sahin, & Valletta (2011); and Herz and Van Rens (2011). Also, Abraham (2015, 16-20) argues that understanding the existence or extent of the skills gap is not merely an academic exercise since it has significant implications for policy (monetary, immigration, as well as workforce development).

⁶⁷ For example, see the recent annual ManpowerGroup surveys of U.S. Businesses. The latest version is: “The Talent Shortage Persists: The 10th Annual Talent Shortage Survey” of U.S. Businesses. ManpowerGroup, 2015. <http://manpowergroup.us/campaigns/talent-shortage-2015/assets/pdf/2015-Talent-Shortage-Whitepaper.pdf> This is important because the availability of a skilled workforce consistently ranks at or near the top of considerations in business decisions to expand or relocate. For example, see the annual surveys by Area Development, the latest available at: <http://www.areadevelopment.com/Corporate-Consultants-Survey-Results/Q1-2014/28th-Corporate-Executive-RE-survey-results-6574981.shtml?Page=2> Accessed February, 2015.

suggesting that such programs be “reinvented” to “...view the employer as the customer.” The report found that:

Traditionally, the workforce development system has served two primary customers equally: the individual and the employers. One participant described workforce development as a safety net program that is funded to serve maybe 5 percent of the eligible population. These job seekers can receive various services to improve their skills with a goal of making them more attractive to employers. This has focused on the supply side. ...But a few participants felt strongly that workforce development could be dramatically improved if employers were viewed as the primary customer. Workforce programs would be solely focused on meeting the needs of these customers, by filling open positions with qualified individuals. Instead of “placing candidates” (a worker-focused approach), workforce development programs would supply employers with qualified candidates. By focusing on employers as the customers, everyone would benefit.⁶⁸

The Evolution of Workforce Services...

Today, the federally-funded, state and locally administered workforce system is more than an employment service or occupational training program for individual clients, as it includes a mix of services that also develop talent and provide services in response to business needs. The system is increasingly business-focused, testing the idea that employer-based training strategies could be a more efficient and effective means to provide training services to job-seekers. The QRT and IWT grant programs are indicative of this evolution.⁶⁹

The Wagner-Peyser Act of 1933 established the U.S. Employment Service in the U.S. Department of Labor. This law provided for a nationwide system of free public employment services, in partnership with the states. The US DOL was responsible for setting standards for operations, providing statistical research, and issuing employment policies. The states were charged with administering the offices and job placement operations. Funding for these programs was split between the Federal government and the states. Today, this law requires states to provide federally-financed employment services that match employers with qualified applicants, job search and referral services, career counseling, and production of labor market information.

After 1962, the concept of “workforce services” expanded to include classroom education, skills training, and public employment programs for targeted populations, to include youth, veterans, persons on public assistance, and workers displaced by recessions, innovations in the workplace, or foreign competition. In addition, the administration of federal programs devolved to local governments, non-profit organizations, and local agencies. Increasingly, business leadership was integrated into the workforce system to guide policies and oversee implementation of programs. New funding mechanisms were implemented, including block grants to states, to enable flexible allocation of resources. Programs

⁶⁸ “Help Wanted 2012: Assessing the Skills Gap,” Institute for a Competitive Workforce, September 2012. 42.

⁶⁹ Duscha and Graves (2007, 9-10) note that state-financed customized training programs (such as Florida’s QRT grant program) predate the federal initiatives on employer-based or demand-driven, training programs. State-financed programs began in 1958 in North Carolina, increasing to five additional states in the 1960s, then to all but 3 states by 2006. The popularity of state-financed programs likely influenced the recent changes in federal law.

were eventually consolidated and services integrated into the most recent versions of the federal workforce system.⁷⁰

In 1998, Congress enacted the Workforce Investment Act (WIA), to consolidate the federal workforce programs and integrate employment services funded under Wagner-Peyser into a comprehensive workforce investment system. The Act required states to, among other things:

- Implement the Individual Training Account (ITA, or training vouchers for public and private providers of educational services) system-wide as the primary means to fund client-directed academic occupational training, with credentialing (certification or degree) as the initial goal, and job placement as the final outcome;⁷¹
- Engage businesses as customers by helping employers identify and recruit skilled workers;⁷² and
- Establish not-for-profit, public-private state and regional workforce boards, and that these boards be “business majority.”

In summarizing WIA, Decker (2011, 316-8) states that:

WIA consolidated the Job Training Partnership Act’s fragmented system of employment and training programs and provided universal access to basic services. It also promoted customer choice, gave state and local agencies more flexibility in service design, strengthened local accountability for customer outcomes, engaged businesses, and fundamentally changed the services provided to youth.

Similarly, Schrock (2014, 15 & 22) states that WIA represents a policy shift “toward business and locally-led system governance” and universal access, which allowed for services to clients other than the disadvantaged -- the unemployed and minimum-wage, entry-level job seekers. This policy shift has facilitated “initiatives to merge local economic and workforce development agencies, expand business services within federally-funded One Stops, and target WIA funds toward key industry sectors...” These initiatives include IWT programs, on-the-job training, work experience and internships, and customized training conducted with a commitment by an employer or group of employers to employ an individual upon successful completion of the training.⁷³

⁷⁰ For a historical review of the federal workforce system, see Wandner, Balducci and O’Leary (2015, 44-50); Barnow and Smith (2015, 7-35); Holzer (2013); Jacobs (2013b); O’Leary, Straits and Wandner (2004); and D’Amico and Salzman (2004).

⁷¹ O’Leary, Straits and Wandner (2004, 10-11) conclude that this new approach to alleviate poverty through employment policy “shifts responsibility from government to the individual...” Holzer (2013, 134) notes that this shift in emphasis to consumer-directed occupational training tracks the expansion of the Pell grant program, which provides vouchers that pay college tuition and related expenses for qualifying low-income individuals.

⁷² Blank, et. al (2011, 57) state that “engaging employers is seen as critical to successfully connecting job seekers with available jobs.”

⁷³ D’Amico and Salzman (2004, 124) noted that customized training had advantages over ITA funded academic training: lower unit costs, immediate job placement and income stream to the client, and addressing the needs of the business client and the area’s economic development efforts.

In 2014, Congress replaced WIA with the Workforce Innovation and Opportunity Act (WIOA),⁷⁴ which maintained the framework of WIA but, among other things, requires that:

- The state plan describe the state’s overall strategy for workforce development and how the strategy will meet identified skill needs for workers, job seekers, and employers;
- Regional Workforce Board (RWB) plans be aligned to the state’s strategy, and describe how services will be aligned to regional labor market needs, to facilitate employer engagement and to meet business needs;
- Performance measures be developed for employer engagement; and
- RWBs develop, convene, or implement industry or sector partnerships.

WIOA also encourages and funds the expansion of on-the-job training, apprenticeship programs, incumbent worker training, and customized training programs.

These most recent changes to expand employer engagement and employer-based training strategies are indicative of the evolution in the federally-funded, state and locally administered workforce system. Florida’s QRT and IWT programs predated these changes, but share much of this focus.

Policy Issue: Use of Public Subsidies for Employer-Specific Training...

The increased emphasis in WIOA on employer-based training elicits this policy question: whether or to what extent limited public resources, federal or state, should be used to address the specific skill needs of an individual employer. Further, if subsidizing firm-specific training is an appropriate use of public funds, is it an efficient and effective use of these limited resources?

Historically, the public has been supportive of general occupational training, as evidenced by the significant public investments in career training through public schools, technical schools and community colleges, and state colleges and universities. While individual students are the primary beneficiaries of such investments, the business community and the economy at large also benefit from an educated and “work-ready” labor pool. Citing Becker (1975), King (2004, 57) explains the difference between general and specific training:

General training provides the trainee with skills that apply to many employers in the labor market, while specific training mainly offers skills that have value within a given firm or for a given employer. The presumption is that individuals (or government) should finance more of the former, while employers should support more of the latter, since they are its principal beneficiaries.

Cappelli (2015, 253; 1999) notes that in the past, employers selected employees “for their general abilities at entry-level positions” and trained and developed them “to meet their specific skill needs.”

⁷⁴ List compiled from Pub. L. No. 113-128, information provided by CSF staff, US DOL (TEGL 19-14)
http://wdr.doleta.gov/directives/attach/TEGL/TEGL_19-14.pdf
http://www.nationalskillscoalition.org/resources/publications/file/2014-10_WIOA-Side-by-Side.pdf
<http://careersourceflorida.com/wioa/>
<https://www.dol.gov/apprenticeship/docs/WIOA-RA-Fact-Sheet.pdf>

Also see Barnow and Smith (2015, 30-33).

However, he notes that this “approach appears to have eroded substantially in recent years.” Duscha and Graves (2007, 24) note that:

“... state-financed customized training is criticized by economists for subsidizing “specific” training for employers rather than “general” training that an individual can use at multiple worksites and in his or her personal life.... Others criticize the programs for offering “handouts” and “corporate welfare” to business, with public money substituting for employers’ own money.”

Osterman and Batt (1993, 462-3) reviewed employer-centered training programs in two states, observing that:

- Employer-centered training runs the risk of providing subsidies to firms to engage in practices that they would otherwise undertake and finance on their own;
- Employer-centered programs raise troublesome distributional issues, even in the context of non-income-targeted programs; and
- Too often, employer-centered programs are project-based and pay inadequate attention to system building.

However, proponents offer that such spending is necessary and is beneficial to interests beyond the recipient business. In their review of New Jersey’s Workforce Development Partnership Program, Van Horn and Fichtner (2003, 97-98) found that the state-subsidized, firm-based incumbent worker training program helps the workers “remain employed, or at least make them more employable in the future.” Additionally, “governments benefit from state-subsidized, firm-based training programs through increased taxes paid by businesses and by decreased costs of social programs.” They also note that such programs are a component in state firm recruitment strategies.

Hollenbeck (2008, 3) identifies proponents’ rationales for public spending on incumbent worker training grants:

- Employers tend to avoid offering training that imparts general skills because of potential “poaching” by other employers;
- Capital markets do not readily fund investments in human capital...Human capital cannot be collateralized, and business financing has a short-term payoff bias that mitigates against the funding of training; and
- There is a low incidence of corporate training for low-wage, entry-level employees -- public funding of incumbent worker training programs can alleviate this equity gap.

Long (2011, 116-118) offers four additional arguments:

- The U.S. economy now requires more educated and skilled workers, with a corresponding decline in the demand for less-skilled labor;
- It is “clearly in the interest of businesses collectively -- that is, the U.S. economy -- to make such investments”;
- Individuals do not invest enough in skills training; and
- Absent funding from government or private foundations, customized training arrangements develop slowly.

Echoing Long's assessment, Jacobs (2013a, 13-14) offers that government investment in training is necessary to correct for market failures, as "employers are reluctant to invest in transferable skills" and "individuals are reluctant to invest in specific skills" that "have more uncertain future returns."⁷⁵ Duscha and Graves (2007, 25) conclude that while subsidized training "does not create jobs...it can improve the likelihood of jobs remaining in the U.S. and decrease the incidence of displacement."

Finally, proponents offer that public subsidies for firm-specific, customized training programs may be justified if such programs, when compared to traditional occupational training, are more cost-effective and more efficiently address immediate and emerging labor market demands.⁷⁶ Such programs may also be valuable if they prove determinative in firm decisions to initiate or expand their economic activity, and help the host state overcome competitive disadvantages with other states. Van Horn and Fichtner (2003, 1) suggest that:

"..as governments and private companies throughout the world search for the most effective ways to encourage economic growth, state-subsidized, firm-based training programs can form an important element of successful strategies for human and economic development."

⁷⁵ Also see Barnow and Smith (2015, 5-6) for a discussion on how publicly funded employment and training programs may be a means of correcting market imperfections such as imperfect information regarding the current and future labor markets, externalities, and interpersonal utility preferences.

⁷⁶ In their 2003 review of California's incumbent worker training program, Moore et.al. (2003, 123) found that "the closer training is to the employer, and the greater the employer's direct investment, the more effective it is. Hence, programs that train employees "off the clock," away from the work place, and in generic skills will not yield the same benefits as arrangements closer to home."

APPENDIX TWO: INTERPRETING ROI INDICATORS

Key terms used in Table 5 are described below:

State Payments – Represents the state’s expenditure on the program in the fiscal year.

Total Net State Revenues – Represents the change in state tax collections from all sources.

Personal Income (Nominal \$(M)) – Income received by persons from all sources. It includes income received from participation in production as well as from government and business transfer payments. It is the sum of compensation of employees (received), supplements to wages and salaries, proprietors' income with inventory valuation adjustment (IVA) and capital consumption adjustment (CCAdj), rental income of persons with CCAdj, personal income receipts on assets, and personal current transfer receipts, less contributions for government social insurance.

Real Disposable Personal Income (Fixed 2009 \$(M)) – Total after-tax income received by persons; it is the income available to persons for spending or saving.

Real Gross Domestic Product (Fixed 2009 \$(M)) – A measurement of the state's output; it is the sum of value added from all industries in the state. GDP by state is the state counterpart to the Nation's gross domestic product.

Consumption by Households and Government (Fixed 2009 \$(M)) –The goods and services purchased by persons plus expenditures by governments consisting of compensation of general government employees, consumption of fixed capital (CFC), and intermediate purchases of goods and services less sales to other sectors and own-account production of structures and software. It excludes current transactions of government enterprises, interest paid or received by government, and subsidies.

Real Output (Fixed 2009 \$(M)) – Consists of sales, or receipts, and other operating income, plus commodity taxes and changes in inventories.

Total Employment (Jobs) – This comprises estimates of the number of jobs, full time plus part time, by place of work. Full time and part time jobs are counted at equal weight. Employees, sole proprietors, and active partners are included, but unpaid family workers and volunteers are not included.

Population (Persons) – Reflects first of year estimates of people, includes survivors from the previous year, births, special populations, and three types of migrants (economic, international, and retired).

APPENDIX THREE: GLOSSARY OF ECONOMIC CONCEPTS

Economic Benefit

Economic Benefit is defined in the Florida Statutes as “the direct, indirect, and induced gains in state revenues as a percentage of the state’s investment” – which includes “state grants, tax exemptions, tax refunds, tax credits, and other state incentives.” (Section 288.0001, F.S.)

Return-On-Investment

In this report, the term Return-on-Investment (ROI) is synonymous with economic benefit, and is used in lieu of the statutory term. This measure does not address issues of overall effectiveness or societal benefit; instead, it focuses on tangible financial gains or losses to state revenues, and is ultimately conditioned by the state’s tax policy.

Economic Impact

In this report, the term economic impact is defined as the variations, resulting from the policy change, in state revenues, personal income, state gross domestic product, household and government consumption, total output, employment and population for each program. It does not include the Return-on-Investment as defined above.

The “But-For” Assertion & Business Decisions

Business expansion decisions are primarily resource and market driven. State and local governments use many strategies to promote economic development within their jurisdictions, including the provision of economic incentives to qualified businesses.

Economic development incentives are public subsidies intended to induce an economic activity or capital investment by a private business in a jurisdiction in which such activity or investment would not otherwise take place. The necessity of offering such incentives has been the subject of much research.

Some incentive proponents assert that “but for” the incentive, business expansions would not have occurred in their area – in effect, the incentive is the primary or the determining factor in business locational decisions. Site selection and economic development professionals claim that incentives may “tip the scales” between competing sites when all other factors are relatively equal or a deficiency has to be overcome.

Evaluating the extent to which economic development incentives are determinative in business expansion decisions is challenging. Survey research is instructive but may be unreliable, principally due to the unavoidable self-interest of respondents. The studies commissioned by various states identify the problems in verifying that the “but-for” condition is satisfied. While econometric studies show, to some extent, the relationships between incentives and business behavior, there is some skepticism in the academic community regarding their usefulness and applicability. Finally, a review of the academic literature reveals a lack of consensus on the degree of influence that incentives have on business locational decisions, with one researcher concluding that “there are very good reasons – theoretical, empirical, and practical – to believe that economic development incentives have little or no impact on firm location and investment decisions.”⁷⁷

⁷⁷ Alan Peters and Peter Fisher, “The Failures of Economic Development Incentives” *Journal of the American Planning Association*, Vol. 70, No. 1 (Winter 2004): 32.

The “but for” assertion is less likely to be satisfied for those projects where the incentive is relatively insignificant in proportion to capital investment, production or operating costs, or where a project is otherwise dependent on in-state markets or resources. While relatively high awards may increase the likelihood of landing the project, it could adversely affect the state’s ROI by driving up the cost.

Perhaps the most that can be presumed is that it is highly unlikely that all projects receiving EDIs satisfy the “but for” condition; it is more likely that some projects do satisfy the condition and some do not – and perhaps only the EDI recipients know the category in which their respective project fits.

Understanding the extent that the “but for” condition is satisfied has implications for measuring the Return-on-Investment (ROI) of economic development programs. For EDR’s purposes, the ROI is a measure of the change in state revenues in response to state incentives. Depending on the program under review, EDR may find that the change is attributed solely to those state investments, partially to those investments, or not at all.

If the incentive does not influence a business’ decision to expand, then the jobs created and economic gains stemming from that business’ increased presence cannot be attributed to the incentive, and instead the payments or credits are only a cost to the State.⁷⁸

This “cost” has two negative outcomes: an unnecessary shift of recipient business costs to taxpayers and a reduction in available funding for other public services, some which promote or are necessary for economic growth.

Treatment as a Subsidy

Economic development is facilitated by investments in public infrastructure, expansion of certain public services, or through the provision of economic development incentives to the business sector. These incentives are public subsidies intended to induce an economic activity or capital investment by a private business in a jurisdiction in which such activity or investment would not otherwise take place. From an economic perspective, a subsidy is:

“.. a grant of money made by government in aid of the promoters of any enterprise, work, or improvement in which the government desires to participate, or which is considered a proper subject for government aid, because such purpose is likely to be of benefit to the public.”⁷⁹

Generally, economic development subsidies are an investment of public resources (whether budgeted or from foregone revenue) with an anticipated ROI to the public treasury, as well as an indirect benefit to the general public. While subsidies still constitute a transfer of wealth from the class of general taxpayers to individual businesses, such transfers are intended to expand the state’s economic infrastructure and wealth-creation capacity.

Even though subsidies can be used to accomplish specific policy goals, they cause market distortions which result in inefficiencies and inequalities in the marketplace. This outcome forces decision-makers

⁷⁸ Joint Legislative Audit and Review Commission, “Review of State Economic Development Incentive Grants” Senate Document No. 8 (November 2012): 25.

⁷⁹ Black’s Law Dictionary, 5th Edition, 1999.

to weigh the negative repercussions of incentives against the benefits associated with the underlying goal. It also makes periodic, in-depth evaluations critical to the use of incentives.

Economic literature is fairly uniform in its assessment of potential repercussions. First, to the extent that subsidies are influential or determinative in business decisions, they can:

- decrease risk in the marketplace, thereby distorting economic decision making by businesses;
- shift capital from more profitable uses in the private sector; and
- foster inefficient projects that may not survive absent the subsidy.

Second, regardless as to whether subsidies are influential or determinative in business decisions, they can:

- distort the marketplace by artificially lowering production costs;
- shift business costs from the private sector to the public sector, as economic incentives—like all government expenditures—are funded through taxes;
- create inequities among similar industries and firms within the state; and
- divert public resources from spending on other public goods and services, which may be more productive uses of the funds.