Workforce Summary Report

July 19, 2024

Pursuant to the 2022 Budget Bill (HB1), the Education and Labor Cabinet (ELC) presents the findings of the University of Kentucky's Center for Business and Economic Research (CBER) Workforce study.

Background: The 2022 Executive Branch Budget (HB 1), provided for a study to be conducted by the University of Kentucky's Center for Business and Economic Research to evaluate the effectiveness of Kentucky's state-sponsored workforce development programs. For this report, ELC and CBER have defined state-sponsored workforce development programs as those receiving over 50% state funding.

The review is primarily focused on Kentucky Adult Education (KYAE), the Kentucky Community Technical College System (KCTCS) TRAINS program, and the Bluegrass State Skills Corporation (BSSC). While sufficient data was available to evaluate KYAE and TRAINS, the same level of data was not available for the BSSC. The appendix summarizes several components of the workforce development system and provides information on the types of services provided, populations served, and, where possible, expenditures by funding source.

The CBER Workforce Study does not describe all components of the Kentucky workforce development system. Significant programs remain across various agencies and Kentucky cabinets that play a role in workforce development, like funding made available through the CHIPS and Science Act and the Infrastructure and Jobs Act of 2023.

Executive Summary of the Workforce Study:

Chapter 1 Introduction: This study examines how state-sponsored workforce development programs influence salaries and employment. It also examines the demographics of labor outcomes of Kentucky's workforce programming. The findings are encouraging, as effective workforce development has the potential to yield positive labor market results, reduce the demand for unemployment insurance, and increase tax revenue.

Chapter 2 Adult Education: KYAE offers General Education Development (GED) and GED preparation courses to various populations, including those in the justice system and individuals for whom English is a Second Language (ESL). It also provides other services like Integrated Education and Training (IET), workplace literacy, and family literacy through a diverse set of education and training partners. This study compares labor market performance of adults between 18 and 32 years old who participated in adult education programming and those who did not complete high school.

The study indicates that career outcomes are improved with KYAE involvement. Participants had higher employment rates than non-participants after enrollment. However, employment impact gains declined after four years. Male employment rate gains declined more quickly than females reducing by nearly half the initial difference of 14.6%. Specifically Black males lost their employment advantage 3–4 years after enrollment. Although further education may have temporarily lowered salaries due to classes and GED prep hours, wages increased after the initial decline.

Female wages rose gradually and significantly following enrollment. Compared to females, the wages of all men enrolled were slightly higher (2-3%). Like females, when studying males registered in adult basic education, wages experienced a short-term decrease upon enrollment during this period. In comparison to those who continued to attend, it took ESL learners longer to catch up on wages than those with uninterrupted attendance.

Chapter 3 TRAINS: This program was established to assist Kentucky companies in designing and funding employee training. Companies typically contribute 25% of training costs plus 10% of administrative fees, while the state covers the remaining costs, to aid in the creation of training programs for the employers' workers. KCTCS offers college-credit and multiple-day, non-credit training. For-credit courses often address specialized topics. Some of the most common for-credit courses are business administration services, computer information technology, electrical technology, industrial maintenance technology, engineering and electronics technology, mining technology, industrial safety, management, plumbing, and welding.

The study focused on how TRAINS credit courses affect labor market outcomes by identifying personnel who took the courses and those who did not. CBER compared the two groups' employment status and income before and after enrollment in TRAINS. The study found that TRAINS credit courses increase employment rates, both short and long term, but not wages. Specifically, it found 80% of female participants remained employed 16 quarters after enrollment, compared to 65% of non-participants. As for males, participants had as much as a 10% higher employment rate than non-participants after 12 quarters. However, this effect dissipated by the 14th quarter.

While participants did not experience initial higher wages due to TRAINS credit courses, many TRAINS participants were newly hired employees, demonstrating employment improvements and the success of the program.

Appendix of the CBER Report: This section provides an in-depth description of the publicly funded workforce development system via the Workforce Innovation and Opportunity Act (WIOA), including a comprehensive network of federal, state, and local agencies, private businesses, educational institutions, and other entities. This section outlines a wide range of programs that are delivered by the ELC, Kentucky Department of Education, KCTCS, Kentucky Higher Education Assistance Authority, Cabinet for Economic Development, Cabinet for Health and Family Services. The collective goal is to enhance the skills of Kentucky's emerging and existing workforce and facilitate connections between potential workers and employers.

Workforce development services cater to many populations, including veterans, people with disabilities, dislocated workers, youth, and the general workforce. These programs intend to improve employability, skills, and job prospects for Kentuckians and provide resources to support training, education, and employment initiatives. In essence, Kentucky's workforce development system comprises multiple components offering services tailored to different needs and demographics, collaborating across sectors to equip workers with the necessary skills and connect them to employment opportunities.

Kentucky Career Centers are cornerstone of the workforce system which are certified by Local Workforce Development Boards. These Boards are employer-led, understand the regional labor market and invest in preparing the emerging and existing workforce to fill high demand occupation or upskill to advance on a career path. Career center offices are the focal point of Kentucky's workforce system where workers and employers connect. Specifically, these centers can help Kentuckians:

- find job openings;
- screen and test for jobs that match their skills;
- fund eligible on-the-job training and customized training needs;
- arrange space for job interviews, and in some areas, schedule interviews via video conferencing;
- provide access to detailed labor market information for the local area, Kentucky and the nation;
- provide services to help both employer and employees when facing layoffs or other major issues;
- offer unemployment insurance information and contacts; and

- make connections with vocational rehabilitation services.

The Kentucky Career Centers also help Kentucky businesses develop their workforce, serving the critical need of increasing employee retention and finding qualified candidates for hard-to-fill jobs. It grows talent through work-based training initiatives, combining on-the-job training with first-hand experience.

Observations:

The three state-sponsored workforce development programs provide essential services to both individuals obtaining the necessary skills for employment and business customers employing a 21st century workforce. Adult Education seeks to provide the large and diverse population of adults who lack basic skills, a high school credential, or English language skills with the competencies they need to be productive workers in Kentucky's growing economy. KCTCS TRAINS is designed to help companies offset the cost of workforce training so that their employees can meet the business's specific needs.

Adult Education:

Improving literacy skills is essential to developing academic skills, educational progression, employment, and earnings. ELC celebrates the positive outcomes for adult education learners in the areas of placement and outcomes, which are especially significant for females overall and minority populations. The study indicates there was a particularly significant impact on wages for Hispanic females and males.

The diminishing impact on employment after 4 years demonstrates the need to expand the emphasis on developing literacy skills, continually adding skills in adult education services, and further integration with other workforce programs and services. This is often achieved through evidence-based career development and transition instructional models like Integrated Education and Training (IET) programs and bridge classes.

IET is an educational model designed to provide adult learners with training for an in-demand occupation or occupational cluster while simultaneously strengthening their basic skills and building essential employability skills needed for workforce success. These three components are integrated into a single set of learning objectives.

Bridge classes are designed to help learners transition from basic skills programming to postsecondary education and occupational training. Support services, such as social services, basic and life skills training, cohort tutoring, career coaching, and/or job placement and retention support, are essential elements of a comprehensive adult learner service strategy.

TRAINS:

TRAINS is a postsecondary workforce development effort designed to meet the needs of Kentucky businesses and allow them to remain competitive in their respective industries. A key component of TRAINS is upskilling the workforce, which will encourage businesses to stay and expand in the Commonwealth by helping offset the cost of workforce training for current and future employees.

An example would be an employer introducing new technology or a new piece of equipment to a company process and requiring employees to be trained to use the technology and/or operate a new piece of equipment efficiently and safely. This program allows the employee to gain new or better skills that can be essential to retaining employment and provides opportunities for career advancement internally or externally.

The positive outcomes around TRAINS underscores the importance of sectoral training programs and work-based learning (WBL). Sector-based training provides workers with the necessary skills to obtain employment in well-paying jobs in high-demand sectors without requiring a four-year college degree. These programs often prove particularly effective for disadvantaged populations. Sector partnerships help produce the curricula in which

students or workers are trained, and workers are referred to the partners for employment after completing the program.

Work based learning is an educational strategy that provides students with real-life work experiences where they can apply academic and technical skills to develop their employability by obtaining industry recognized credentials and certificates. It provides structured learning experiences through a continuum, including mentorship, internship, pre-apprenticeship, and registered apprenticeship. For success, the work-based learning system must be designed and implemented with the employer at the center through industry partnerships that drive the development of these experiences along the education and training process.

General Notes:

ELC outlines additional observations worthy of note.

Data Limitations and Range of Data Used: There was not sufficient data to analyze the Bluegrass State Skills Corporation program, one of three state-sponsored workforce programs identified. Data constraints also led the study to focus on how TRAINS credit courses affect labor market outcomes. Further, the use of other data like Medicaid, TANF, SNAP, childcare, etc., could provide additional benefits for these programs, such as reducing the reliance on safety net programs beyond income tax revenue.

Capturing the Evolution of the Workforce Development System: The study and analysis did not take into account the policy and organizational shifts at the federal and state levels, the distinguishing characteristics of various programs, etc. A few examples include: 1) the change in law and policy implications and service strategies from the Workforce Investment Act to the Workforce Innovation and Opportunity Act in adult education, such as, a greater emphasis on career pathways and postsecondary transition; and, 2) who is the primary customer for various programs and initiatives like TRAINS, which is focused on the employer as the customer.

Labor Market Dynamics Consideration: The analysis included minimal references and overall effects on labor market conditions, such as the Great Recession and the COVID-19 pandemic, during the study period from 2009 through 2022. Labor market conditions often have a positive or negative impact on enrollment, completion, and labor market outcome data, such as wages. The COVID-19 pandemic, in particular, had an impact on individual participation and program outcomes in adult education and the wages of TRAINS program completers.

Gatton College of Business and Economics

The Effects of Kentucky's Adult Education Program and TRAINS on Labor Market Outcomes

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Executive Summary

The 2022 General Assembly enacted HB 1, which included language directing the Education and Labor Cabinet (ELC) to study the effectiveness of Kentucky's state-sponsored workforce development programs and report its findings to the Interim Joint Committee on Economic Development and Workforce Investment. Kentucky's workforce development system is a complex network of federal, state, and local government agencies, educational institutions, private businesses, and other entities that provide a wide range of workforce development services. Funding for these programs and services come from several sources, but the federal government is the largest contributor of their financial support. Given the wide-ranging scope of workforce activities and the directive to study state-sponsored programs, ELC officials working with the University of Kentucky's Center for Business and Economic Research (CBER) determined that the study should focus on workforce development programs that receive more than half of their funds from the state. ELC contracted with CBER to evaluate how these state-sponsored programs affect workers' labor market outcomes.

Working with ELC officials, CBER identified three state-sponsored workforce development programs where state funds account for more than 50 percent of the programs' funding: Adult Education, TRAINS, and the Bluegrass State Skills Corporation. There was sufficient data available to evaluate adult education and TRAINS but not the Bluegrass State Skills Corporation.

Adult Education

Kentucky's Office of Adult Education (KYAE) primarily serves people aged 18 or older who have a basic skill deficiency, have not completed high school, or are an English language learner. The office awards grants to 26 providers to deliver adult education services across the Commonwealth. Through these providers – which include Morehead State University, Kentucky's community and technical colleges, and local educational agencies—KYAE offers GED preparation courses, English as a Second Language (ESL) classes, and several additional services. KYAE also provides GED preparation courses for individuals who are in the state's justice system.

This report examines the labor market outcomes associated with enrollment in adult education by comparing enrollees aged 18 to 32 to similar individuals who dropped out of a Kentucky high school. Individuals who received adult education services while incarcerated were not included.

The results of this comparison suggest that those who participated in Kentucky's adult education programs experienced some improvement in labor market outcomes. Employment rates for participants increased quickly after they enrolled relative to those who did not enroll, but this increase gradually declined over the four years following enrollment. The employment gains declined faster for males than females. For Black males, the employment effect had completely eroded between three and four years after they enrolled.

Earnings declined temporarily after workers' initial enrollment in adult education, likely due to enrollees reducing the hours they worked to take courses and prepare for the GED exam. After this initial decline, wages for enrollees improved. For females, wages grew steadily, and the

wage gains were statistically different from those who did not enroll. The results for males were less consistent. When examining all males in the specified age range who enrolled, earnings appeared to exhibit similar patterns as those observed for females. That is, wages fell briefly but then quickly exceeded the wages of those who did not enroll. However, when focusing only on males whose adult basic education skills were assessed, a group more likely to include individuals preparing for a GED rather than ESL students, worker earnings declined temporarily upon enrollment, and then took longer to exceed the wages of those who did not enroll, compared to the overall male cohort.

The results of this analysis differ from those from past research on GEDs, which found that earning a GED has no effect on employment or earnings. One possible reason for these dissimilar findings is that this analysis was not able to isolate the individual impacts of the various services provided by adult education and Kentucky's other workforce development programs. In addition to studying for the GED, adult education enrollees might also work towards an occupational certificate. While the research on these types of career pathways models of adult education is mixed, there is some evidence that they can improve employment and earnings. Adult education enrollees are also commonly enrolled in other workforce development programs such as job search training, vocational rehabilitation, and other services provided under the Workforce Innovation and Opportunity Act (WIOA), and these services could also be affecting labor market outcomes. Data describing these co-enrollments were not available for this study, so the individual contributions of the various services could not be determined. Therefore, the results presented in this study should be interpreted as the employment and earnings differences associated with the bundle of services that participants receive, with adult education being one of these services. While Kentucky's adult education services might contribute to the gains reported, the results might also be due to these other programs.

TRAINS

The Kentucky Community and Technical College System (KCTCS) established TRAINS to help eligible Kentucky companies develop and fund employee training. Companies typically provide 25 percent of the cost of training plus a 10 percent administrative fee for an approved project and KCTCS pays the remaining training costs through an appropriation in the executive branch budget. KCTCS administers TRAINS and its colleges works with companies to develop customized training programs for their employees. The training may consist of formal KCTCS courses that provide employees with credit in the state's postsecondary system and not-for-credit training that typically lasts only a few days. Employers often access TRAINS to help train employees on new technology or procedures.

This analysis focused on how participating in TRAINS for-credit courses affects workers' labor market outcomes. This was done by identifying workers who enrolled in TRAINS for-credit courses and their coworkers who were not enrolled in TRAINS. Employment rates and wages for these two groups were compared before and after those who participated in TRAINS enrolled. The results suggest that TRAINS for-credit courses may help to improve employment rates, but they do not appear to improve the average wages of workers who were employed.

Workers who participated in TRAINS for-credit courses saw higher employment rates after enrollment than their coworkers who did not participate in TRAINS. Female TRAINS participants experienced consistently higher employment rates following enrollment than their female non-TRAINS-participating coworkers. By 16 quarters from initial enrollment, 80 percent of female participants were employed compared to 65 percent of female non-participants. Male participants also saw higher employment rates following enrollment than their male non-participating coworkers, but the effects appear to be temporary. By 16 weeks after enrollment, there was no statistical difference in the employment rates of male TRAINS for-credit participants and their male non-participating coworkers.

While participation in TRAINS for-credit courses was associated with improvements in employment, there was no evidence that TRAINS for-credit courses improved workers' wages. Wages for participants grew at roughly the same rate as the wages for coworkers who did not participate in TRAINS.

While the employment gains for those enrolled in TRAINS for-credit courses might be due in part to TRAINS, they might also reflect the fact that many of the TRAINS participants were newly employed. The analysis presented in this report was designed to match and compare TRAINS participants to a group of coworkers who were statistically similar prior to enrollment. However, those who enrolled in TRAINS had lower employment rates before enrollment than their matched coworkers. As a result, the gains in employment for participants might reflect the fact that employers selected them for employment. That is, the employment gains observed likely reflect both the impact of TRAINS and the impact of these workers obtaining employment.

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Chapter 1 Introduction

The 2022 General Assembly enacted HB 1, the Executive Branch Budget, and included language directing the Education and Labor Cabinet (ELC) to study the effectiveness of Kentucky's state-sponsored workforce development programs and report its findings to the Interim Joint Committee on Economic Development and Workforce Investment. The language specified directed ELC to collaborate with the University of Kentucky's Center for Business and Economic Research (CBER) to establish the scope of the study.

Workforce development in Kentucky occurs across a complex network of federal, state, and local agencies, private businesses, educational institutions, and numerous other entities that work to develop the skills of Kentucky's workers and connect these workers to employers. This network has developed numerous programs focusing on various populations such as adults, people with disabilities, dislocated workers, youth, and the general workforce. The funding for these efforts comes from various sources including the federal and state governments, but the federal government typically provides most of the funds to support this work. Given the wide-ranging scope of workforce activities and the directive to study state-sponsored programs, officials with ELC and CBER determined that the study should focus on workforce development programs that receive most of their funds from the state. ELC officials collaborated with CBER to develop the scope of the evaluation, and in May 2023 ELC contracted with CBER to evaluate these programs.

Working with ELC officials, CBER identified three state-sponsored workforce development programs where state funds account for more than 50 percent of the program's funding.

1. ***Adult Education:*** Kentucky's Office of Adult Education (KYAE) is responsible for helping Kentucky's adult population become literate and develop the knowledge and skills they need to be economically self-sufficient. KYAE does this by awarding grants to providers such as the community and technical colleges and local education agencies to deliver instruction and training services to the adult population. Providers offer GED preparation, English as a Second Language (ESL), family literacy, and other courses designed to help Kentucky's adults be more competitive in the labor market.

2. ***TRAINS:*** Kentucky's TRAINS program helps companies fund and develop customized training for their employees. The Kentucky Community and Technical College System (KCTCS) covers 75 percent of the costs of approved training through a state appropriation, and companies utilizing the program pay 25 percent of the costs plus a 10 percent administration fee. KCTCS administers TRAINS and works with eligible companies to design courses and training programs that address the companies' specific needs.

3. ***Bluegrass State Skills Corporation:*** Kentucky's Cabinet for Economic Development (CED) administers the Bluegrass State Skills Corporation (BSSC), which provides Grant-in-Aid and Skills Training Investment Credits as incentives for eligible Kentucky businesses to improve the skills of their workers. The Grant-in-Aid program reimburses approved companies for eligible training costs such as in-house training, educational institution and consultant training, instructional materials and supplies for training, and employee training wages. The Skills Training Investment Credit allows approved companies to receive tax credits on their state income taxes. The amount of tax credits an approved company receives is based on the eligible costs they incur to provide training. Companies must be engaged in manufacturing, agribusiness, nonretail service, or technology, headquarters operations, hospital operations, coal severing and processing, alternative fuel, gasification, renewable energy production, or carbon dioxide transmission pipelines in Kentucky to quality for these incentives.

The evaluation has two main objectives.

The first objective is to evaluate how participating in the state-sponsored program affects workers' labor market outcomes. Workforce development programs are typically designed with the goal of improving labor market outcomes for those who participate. Under this objective, CBER examined the degree to which participation in the selected state-sponsored workforce development programs affects employment and earnings. CBER also examined whether the labor market effects from Kentucky's programs differ across demographic groups. Many of Kentucky's residents face different barriers or challenges to working and earning wages, so these programs' effects could vary for different groups.

The second objective is to examine the potential fiscal impacts associated with the state-sponsored workforce development studies. By improving labor market outcomes, an effective workforce development program can reduce reliance on government assistance programs such as unemployment insurance and possibly increase tax revenue.

CBER worked with the Office of Adult Education, KCTCS, CED, and the Kentucky Center for Statistics (KYSTATS) to identify data available to support this analysis. Through existing data sharing agreements developed by KYSTATS, CBER was able to access data on enrollment in Kentucky's adult education program. KCTCS provided enrollment data for TRAINS. Finally, KYSTATS provided data from Kentucky's unemployment insurance program that included employment, wages, and receipt of unemployment benefits in Kentucky. Data on other public assistance programs, such as TANF and Medicaid, were not available during the project.

While CED maintains a publicly available database of companies that receive incentives from BSSC, the data identifying the companies is not sufficient to match these data to employment records from the Unemployment Insurance program. Linking these data is a crucial step in evaluating the impact that the program has on labor market outcomes. Officials with CED

declined to provide additional data that would allow for these data to be linked, such as federal employer identification numbers (FEIN), due to concerns that this would release sensitive or proprietary data. As a result, the data available is not sufficient to evaluate BSSC's effect on workers' labor market outcomes.

The remainder of this report is organized as follows. Chapter 2 examines the impact that participating in adult education has on peoples' employment, wages, and utilization of unemployment insurance. Chapter 3 describes the TRAINS program and evaluates whether enrollment in TRAINS for-credit courses affects labor market outcomes. Finally, Appendix A describes the main components of Kentucky's workforce development system.

Chapter 2 Evaluation of Kentucky's Office of Adult Education

Kentucky's Office of Adult Education (KYAE) is primarily responsible for helping Kentucky's adult residents become literate and develop the knowledge and skills needed to find employment and become economically self-sufficient (KYAE FY 2024 Program Manual).

The office is governed by both federal and state laws. At the federal level, the Adult Education and Family Literacy Act, also known as Title II of the Workforce Innovation and Opportunity Act (WIOA), requires states to promote adult education and family literacy (United States, Department of Education). Specifically, states must provide services in four areas:

- Adult Basic Education (ABE),
- Adult Secondary Education (ASE),
- Integrated English Literacy and Civics Education (IELCE), and
- English Language Acquisition.

ABE refers to education and skills that would typically be below the high school level. ASE refers to education and skills at the high school level. IELCE and English Language Acquisition focus on helping immigrants and those with limited English proficiency to develop their English and math skills and learn about citizenship in the United States.

At the state level, KRS 151B.408 directs KYAE to administer a statewide adult education and literacy system. The statutes require the system to provide "quality job-specific and workplace essential skills instruction for workers in business and industry, literacy and adult basic education, adult secondary education, including High School Equivalency Diploma program preparation, English as a second language, and family literacy programs" across the state.

KYAE primarily serves individuals who:

- are aged 18 or older,
- have a basic skill deficiency, and
- have not completed high school or earned an equivalent level of education,
- or who are an English language learner.[1]

KYAE works to meet its statutory responsibilities by offering several forms of adult education. The office may be best known for helping those who have not completed high school earn their GED. KYAE does this by providing free GED testing and GED preparation courses through its network of local providers. The office pays for an individual's first GED test in each subject and will pay for up to two re-tests per subject. Those who need additional help to prepare for the GED may enroll in courses provided across the state.

In addition to helping adults earn their GED, the office provides English as a Second Language (ESL) courses for adults with limited English skills and civics programs to assist individuals who want to become U.S. citizens. KYAE also provides family literacy services to help parents and children improve their literacy. KRS 158.360 requires that these services help parents learn basic

[1] KRS 151B.404 defines adult education to include those who are aged 16 or older who are not enrolled or required to be enrolled in secondary school. However, Kentucky requires students to attend school until the age of 18.

academic, life, parenting, and employment skills. The programs are also meant to provide children with educational activities including educational interactions between parents and children.

KYAE provides these various services by awarding grants to providers that design and administer adult education courses and training across the state. The office typically awards these grants through a competitive procurement process. KYAE provides adult education through 26 local providers. Kentucky's Community and Technical Colleges accounted for 14 of these providers. Local education agencies accounted for eleven. Morehead University also serves as an adult education provider.

KYAE also utilizes Integrated Educational and Training (IET) and Workplace Literacy models to deliver education that is focused on specific labor market needs. IET programs provide adult education such as GED or IELCE concurrently with training for in-demand occupations. Through an IET, an individual could earn both a GED and a certificate (Kentucky. Office of Adult Education.) Workplace Literacy programs combine adult education services in collaboration with employer needs to prepare workers for the workforce (Kentucky. Office of Adult Education. FY 2024 Program Manual).

Finally, KYAE has initiatives focused on individuals who are involved in the justice system. One initiative, Putting Kentuckians First, helps incarcerated adults earn their GED and gain skills for employment. KYAE also works with the Kentucky Justice and Public Safety Cabinet, the Administrative Office of the Courts, and the Kentucky Cabinet for Health and Family Services to assist with the Behavioral Health Conditional Dismissal Program. This educational and training program can serve as an alternative to incarceration and is currently available in 11 counties (Kentucky. Education and Labor Cabinet. WIOA Statewide Annual Narrative).

All students who participate in adult education take a standardized assessment to evaluate their functional level. Depending on the participants' circumstances, the assessments will evaluate their Adult Basic Education functional level or their English Language Learners functional level. The Adult Basic Education assessment evaluates their literacy and mathematics skills. For English Language Learners, the assessment evaluates their English proficiency. This includes listening and speaking, basic reading and writing, and functional and workplace skills. Counselors use these assessments to help students develop an educational plan that utilizes the services available from the adult education providers or resources available through other offices and community partners.

It is important to note that individuals who participate in an adult education program may also receive additional workforce development training and services through other offices or programs. For example, many people participating in WIOA who do not have a high school diploma work toward their GED through adult education but also receive additional workforce development services through WIOA. Kentucky co-enrolls participants across its workforce development programs based on their needs and the services available. Consider an individual who did not complete high school and has a disability. This individual might enroll in adult education courses to prepare for the GED. When doing so, counselors might also help this person enroll in services through the Office of Vocational Rehabilitation, which provides employment

services to people with disabilities. Adult education participants may also receive employment services through the Kentucky Career Centers that help connect them to employers or develop resumes and job search skills.

Past Research on Adult Education

Given that helping people earn their GED is one of the main services that KYAE provides, it is useful to understand what researchers have learned about how GEDs affect labor market outcomes. Fortunately, there is a considerable body of research on this topic.
Earning a GED could potentially improve an individual's labor market outcomes in three main ways. First, those who study for the GED may improve their human capital by developing new skills. If employers value these skills, they may pay more to attract these workers. However, some researchers have suggested that GED recipients likely spend far too few hours studying for the GED test to catch up to the knowledge acquired by typical high school graduates (Heckman, Humpries, and Kautz 2014).

A GED might also provide employers with a signal of an individual's productivity. That is, individuals who drop out of high school but go on to earn their GED may have characteristics that make them more productive than those who drop out but do not earn a GED. GED recipients may be more reliable or motivated, or they might have a higher level of human capital. Earning a GED might even communicate to prospective employers that an individual has matured since leaving high school. In these cases, the GED allows employers to more accurately identify applicants who could be more productive. However, Heckman, Humpries, and Kautz (2014) point out that the signal may be ambiguous. They note that the character skills that employers value are often worse for GED earners than for other dropouts.

Finally, earning a GED may also improve access to postsecondary education, which could potentially lead to improved labor market outcomes in the long term. Jepsen, Mueser, and Troske (2016) found that passing the GED was associated with an increase in postsecondary enrollment of up to four percentage points for males and eight percentage points for females. However, it appears that most GED recipients who enroll in postsecondary education do not complete their education (Cameron and Heckman 1993). Jepsen, Mueser, and Troske (2017) found that men passing the GED earn only about two credit hours and women who pass the GED earn six credit hours. They point out that this is quite small compared to the 30 credit hours for a typical full-time course load over two semesters. While GED recipients appear to earn certificates at comparable rates as high school graduates, they are much less likely to earn a postsecondary degree (Heckman, Humpries, and Kautz 2014; Tyler 2003).

Past research suggests that earning a GED has little impact on the labor market outcomes for the general population. Heckman, Humpries, and Kautz (2014) found that males who complete their GED have similar employment rates and earnings as other males who drop out of high school. In their analysis, females who earned a GED saw employment improve but did not experience an increase in hourly earnings. Jepsen, Mueser, and Troske (2016) also found little effect for males. However, they did note that males who earned a GED experienced an increase in earnings during the second year after taking the test. They did not observe this effect in the following years,

suggesting that the impact was temporary. They also found that the GED did not have a statistically significant effect on females' employment or earnings.

Much of the previous research compares people who completed a GED to people who did not complete a GED. These studies ignore the selection into the decision to take the GED. In contrast, Heckman, Humpries, and Kautz (2014) compare those who decided to take the GED exam to those who did not. Those who dropped out of high school and did not even try the GED did much better in the labor market than those who did take the GED exam. Heckman attributes this difference to non-cognitive ability—such as the ability to simply show up for work. Those who dropped out of high school and did not take the GED appear to have much higher non-cognitive abilities than those who did take the GED exam. This study on Kentucky adult education programs will provide another estimate of the effect of treatment on the treated, not the average treatment effect estimates of Heckman, Humpries, and Kautz (2014).

For the general population, the evidence that GEDs improve labor market outcomes is weak. However, some researchers have suggested that the GED could improve outcomes among some subsets of the population. Darolia, Mueser, and Cronin (2021) examine the effects of GED earned by individuals while they were incarcerated. They found improvements in both employment and earnings that were strongest shortly after release. Tyler, Murname, and Willett (2003) found that earning a GED seemed to improve labor outcomes among females who dropped out and had weak cognitive skills, which were measured using math test scores. They suggest that after dropping out of high school, these individuals might initially be among the least promising job applicants. By earning a GED, they might signal to prospective employers that they have matured. There is also some evidence that earning a GED may help workers who were foreign-born and educated (Clark and Jaeger 2006). For these workers, the GED may serve as a more convincing U.S. credential to employers.

State adult education programs have moved beyond simply helping people earn their GEDs. Many states have utilized career pathways approaches to delivering adult education. A 2019 report by Jobs for the Future describes the career pathways approach as a structured curriculum that helps individuals prepare for job entry and career advancement within high-demand occupations (Braggs et al. 2019).

An important component of this, which Kentucky has utilized, is Integrated Education and Training (IET). IET programs provide adult education, such as GED or IELCE, concurrently with specific training for in-demand occupations. This may include obtaining certificates specific to an occupation. Two reviews of the research—one conducted by Jobs for the Future and the other conducted by Mathematica—suggest that IET programs show promise as a workforce development tool (Bragg et al. 2019 and Borradaile et al. 2021).

Both reviews concluded that the existing research provides strong evidence that IET can improve educational progress. The Mathematica report—which was conducted under a contract with the U.S. Department of Education's Institute of Education Sciences—identified five studies that met the department's standards for high quality research (Modicamore etal. 2017; Anderson et al. 2017; Martinson et al. 2018; Hamadyk and Zeidenberg 2018; and Miller et al. 2016). While these studies focused on programs serving different populations, providing different types of services,

and targeting different occupations, they all examine programs that provided adult education through an IET context.

All five of the studies that Mathematica reviewed found that individuals participating in IET programs made more educational progress than comparison groups that did not participate in IET.[2] Typically, educational progress was measured in terms of credentials or course credits earned. For example, Modicamore et al. (2017) evaluated IET programs implemented at nine sites in Maryland, Connecticut, Georgia, and Texas. They found that participants were more likely to earn a vocational, technical, or professional certificate or license than non-participants.

A 2018 study of Washington State's Integrated Basic Education and Skills Training (I-BEST) found that participants were more likely to earn a credential and more likely to enroll in a college course than non-participants (Martinson et al. 2018). A 2021 follow-up to this study found that while participants were more likely to receive some amount of college credit than non-participants, there was no difference in the "receipt of credentials requiring a year or more of college study" (Martinson et al. 2021. vi). The authors of the study noted:

> *This result indicates that after completing their one- to three-quarter I-BEST program, treatment group members were not more likely than the control group members to complete additional courses that lead to higher-level credentials. The short-term impact report found that two thirds of those who attended I-BEST took courses after the I-BEST program; however, this additional coursework did not result in higher-level credentials during the three-year follow-up period. (Martinson et al. 2021. iv).*

Anderson et al (2017) examined the Accelerating Opportunity initiative in Illinois, Kansas, Kentucky, and Louisianna. The Accelerating Opportunity initiative is a form of integrated education and training program that provides teaching, navigation, and additional services. The study found that the program improved the attainment of credentials in all four states.

While there appears to be strong evidence that IET programs improve participants' educational progress, the evidence on whether these programs improve employment and earnings was mixed. Of the five studies reviewed, Mathematica reported that one found positive impact on employment and earnings (Modicamore etal. 2017); one found mixed results (Anderson et al. 2017); two found no effects (Martinson et al. 2018 and Hamadyk and Zeidenberg 2018); and one found negative effects (Miller et al. 2016).

Martinson et al. (2021) observed a decrease in earnings for those participating in the program relative to those not participating for two quarters following enrollment. Earnings for participants exceeded those of non-participants, but these differences were generally not statistically different and had completely disappeared 16 quarters after enrollment.

Anderson et al. (2017), which found that participating in IET improved credential attainment in four states including Kentucky, noted that attaining credentials "did not always translate into labor market gains in the observed timeframe" (ix). However, they did find that employment and

[2] However, the analysis of educational progression by Anderson et al. (2017) did not meet Mathematica's standards.

earnings for adult education participants in Kentucky improved. Despite these gains, a follow-up study suggested that the benefits from participating in these IET programs were not sufficient to offset the costs states and college incurred to provide these services (Kuehn et al. 2017). Net social benefits were positive for only Kansas. The authors of this report noted the following:

> *The results also provide a cautionary tale about creating credentials and targeting them as a performance measure rather than the ultimate labor market outcomes that help participants to achieve self-sufficiency. Credentials are easily created and accumulated by colleges, but the labor market value of a credential varies considerably across fields of study and occupations. (Kuehn et al. 2017. 8).*

Given the mixed results associated with IET programs on employment and earnings, Mathematica noted the need for rigorous studies to establish evidence-based adult education strategies. They stated that "there is not yet much evidence to guide decision making around instructional and support strategies for adult learners." Future research should also focus on why these types of programs appear to work in some cases and not others.

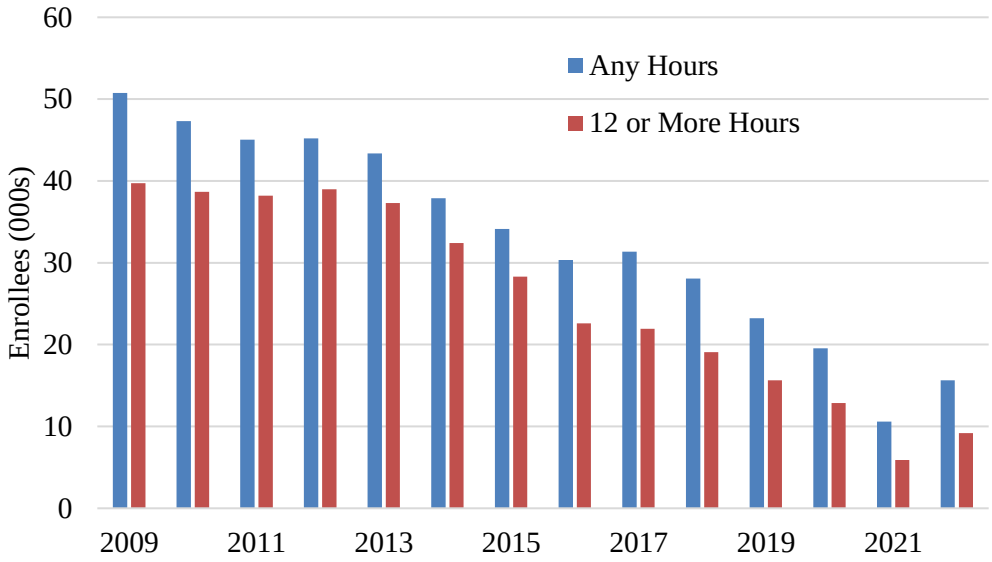
Kentucky Adult Education Enrollment Trends and Demographics

Enrollment in Kentucky's adult education declined significantly from 2009 through 2022 (Figure 2-A). The U.S. Department of Labor's definition of enrollment counts individuals who are enrolled for at least 12 contact hours. However, individuals with fewer than 12 hours account for a sizable share of those who participated in the services provided by KYAE. In 2021, individuals with less than 12 hours made up 44 percent of those enrolled. For this discussion, enrollment refers to the number of people participating in adult education, regardless of the hours taken.

In 2009, nearly 51,000 individuals were enrolled in a Kentucky adult education program. By 2022, enrollment had fallen to just over 15,600. Several factors, likely, have contributed to this decline. The first is the general state of the economy. The national and state economies were generally improving from 2009 through 2019. As the economy improves, workers can more easily find work and might see their wages improve. This may have reduced the incentive for some workers to seek out a GED. The pandemic also likely hurt enrollment in 2020 as many businesses shut down and the delivery of education across the country shifted to remote learning. As governments eased social distancing requirements imposed to reduce the spread of COVID, employers found strong consumer demand for the goods and services they produce but struggled to find workers to help them meet this demand. As a result, they increased wages to attract new workers and retain existing workers. These higher wages might have also contributed to lower adult education enrollment following the pandemic.

Another factor affecting enrollment occurred in 2014. Prior to 2014, there were concerns that the GED was not sufficiently challenging and did not improve labor market outcomes. In response to these concerns, reforms were adopted to make the GED more challenging. During the months prior to these reforms, the number of people earning their GED increased. Since then, however, the number of GEDs awarded and the number of people enrolled in adult education have declined.

Figure 2-A
Kentucky Adult Education Enrollment



Figures 2-B, 2-C, and 2-D describe the demographics of those enrolled in Kentucky's adult education from 2014 through 2022. The figures only include those aged 18 to 64. While the majority of those enrolled are White, Hispanics account for a growing share. In 2014, Hispanics made up 12.5 percent of those enrolled. By 2022, they accounted for just over 20 percent. Adult education enrollees are evenly distributed among males and females over this period. Those aged 30 or younger make up the largest share of adult education enrollees. However, this has changed over the years. In 2014, those between the ages of 31 and 50 accounted for 38 percent of enrollees. By 2022, they accounted for nearly half (48 percent).

Figure 2-B
Adult Education Enrollment by Race/Ethnicity

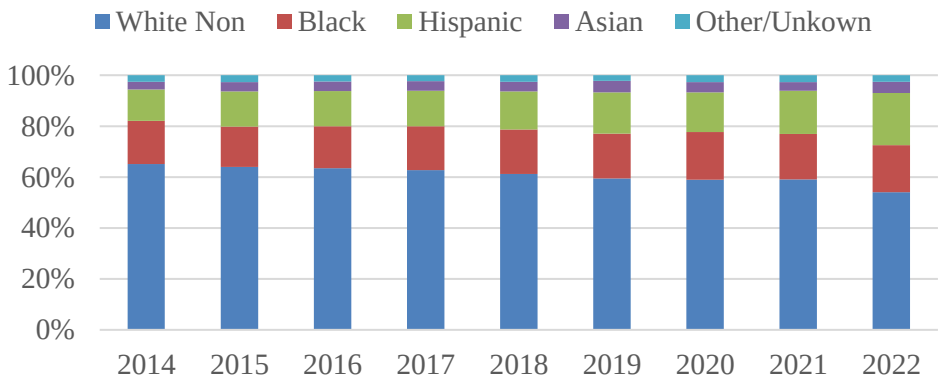


Figure 2-C
Adult Education Enrollment by Gender

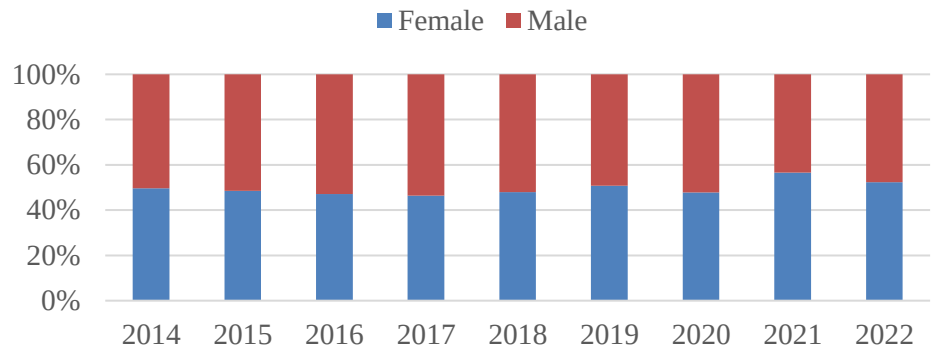


Figure 2-D
Adult Education Enrollment by Age

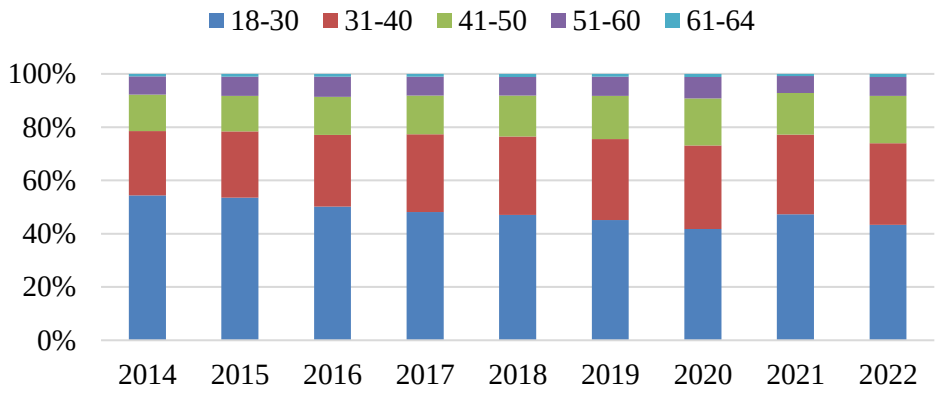


Figure 2-E and Table 2-1 summarize the amount of time participants are enrolled in adult education. Many who enroll in adult education experience breaks in enrollment. To reflect this, Figure 2-E shows two measures. The first reflects the number of months from the date of initial enrollment until the last separation recorded. The second shows the number of months enrollees are actively enrolled in adult education. Most participants are enrolled for only a few months. Half of adult education participants were enrolled for just over five months.

Figure 2-E
Months Enrolled in Adult Education

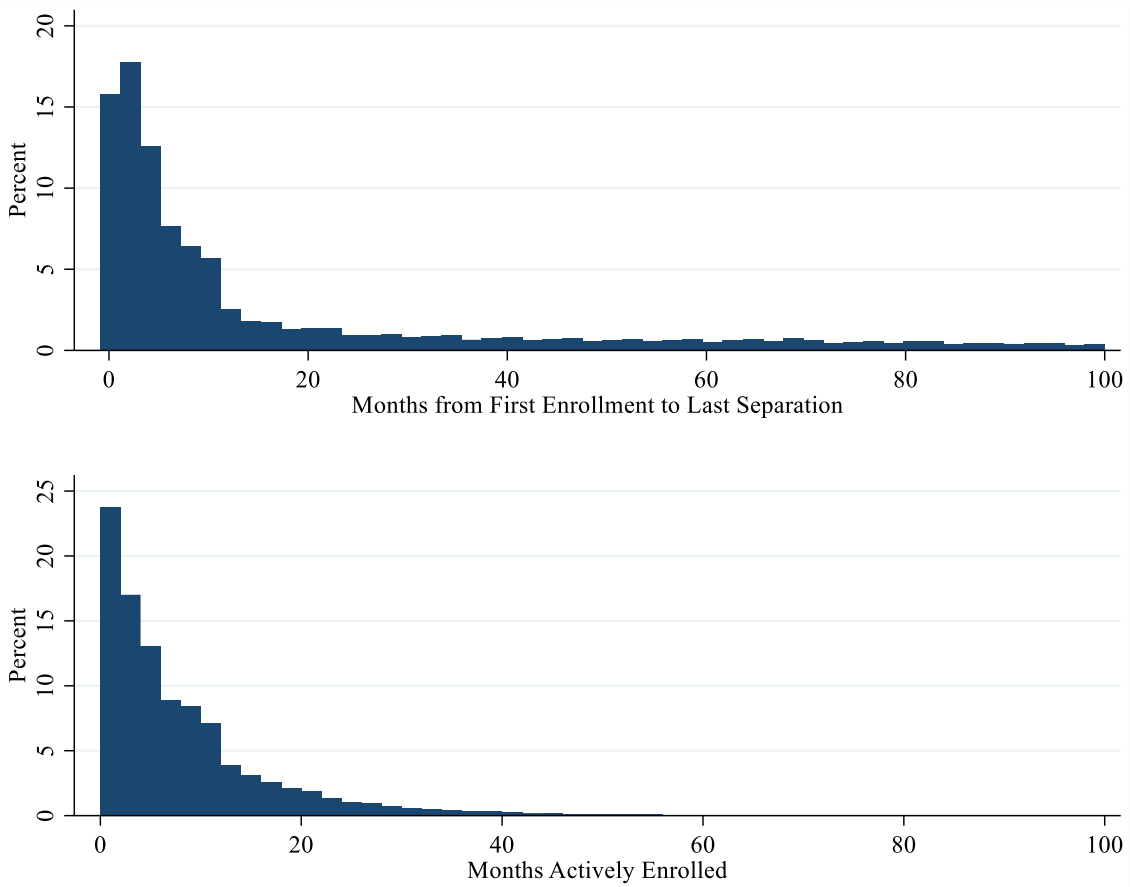


Table 2-1
Months of Active Enrollment in Adult Education

Percentile	Age 18 to 64
25th	2.1 months
50th	5.3 months
75th	11 months

Figure 2-F and Table 2-2 describe how long it takes enrollees to earn a GED. Again, Figure 2-A shows two measures. The first reflects the number of months from the date of initial enrollment until the GED was earned. The second shows the number of months GED recipients were actively enrolled in adult education. Note that both Figure 2-F and Table 2-2 only include those who completed their GED.

Half of those aged 18 to 64 who earned their GED did so in less than eight months of active enrollment. One-fourth needed less than 3.5 months of active enrollment to earn their GED. These individuals appear to have required relatively little additional work to prepare for the GED

exam. Twenty-five percent appeared to be actively enrolled for 14 months before earning their GED.

Figure 2-F
Months to Earn GED

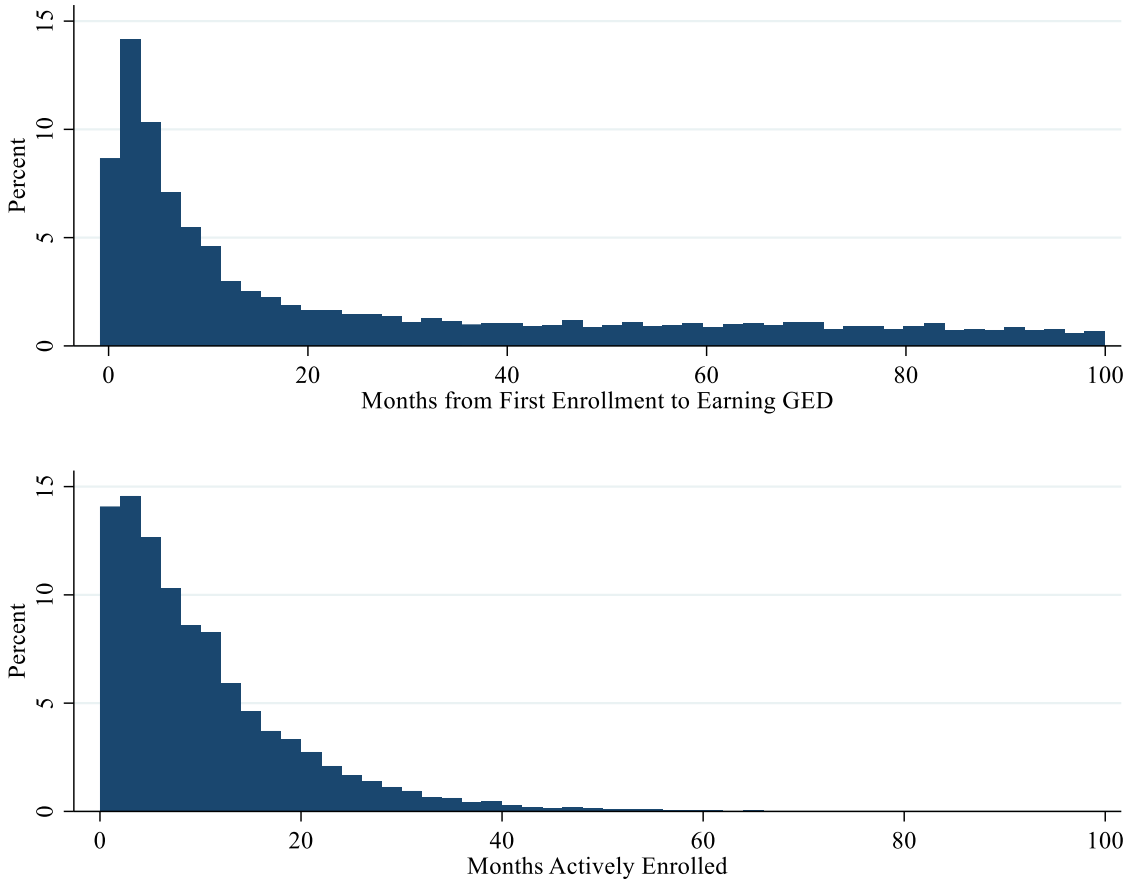


Table 2-2
Months of Active Enrollment to Complete GED

Percentile	Age 18 to 64
25th	3.5 months
50th	7.7 months
75th	14 months

Data

The Kentucky Center for Statistics (KYSTATS) provided CBER with several extracts from its Longitudinal Data System. The data covered two main groups.

The first group consists of those who enrolled in Kentucky's adult education system from FY2009 to FY2022. Kentucky's Office of Adult Education provided these data to KYSTATS.

For each fiscal year, these data show when individuals enrolled and separated from adult education and the hours they were enrolled. For those pursuing their GED, these data also show GED Ready Scores and whether and when enrollees earned their GEDs.

While the adult education data include a field for the type of educational services individuals received, the data are limited as this field was blank for most individuals. From 2014 to 2022, 68 percent of the records did not list the educational services received. These data also include fields for whether enrollees have barriers that could limit their employment, such as whether they are homeless, disabled, or a migrant or seasonal worker. Unfortunately, this information is also not available for most enrollees.

The second group consists of those who dropped out of a Kentucky high school from 2008 through 2022. These data show when individuals left high school and whether they returned. Because these data are only available back to 2008, the oldest individuals in the dropout records would be approximately 32 years old by 2022.

For both groups, KYSTATS provided data from the state's unemployment insurance program for 2009 through 2022. These data show each individual's quarterly employment and wage history and whether they received unemployment insurance each quarter. Because these records are from Kentucky's UI system, they do not show work history outside of the state. KYSTATS also provided data showing each individual's year of birth, gender, and race/ethnicity.

Methodology

CBER used a quasi-experimental research design to measure how Kentucky's adult education programs affect labor market outcomes for individuals during and after program participation. While experimental research design is often considered the gold standard, it requires individuals to be randomly assigned. In an evaluation of adult education, potential participants would be randomly assigned to one of two groups. Those randomly assigned to the treatment group would enroll in adult education. Those randomly assigned to the control group would not enroll. Researchers would compare their labor market outcomes before and after the treatment group enrolls. Randomly assigning individuals to these two groups helps ensure they are similar prior to the treatment group enrolling in adult education. As a result, any differences in the labor market observed after enrollment are likely due to enrollment rather than a pre-existing difference. Experimental research designs have very strong validity but are used less frequently in practice, since individuals would have to submit to being randomly assigned.

Quasi-experimental research designs offer an alternative to random assignment. In quasi-experimental research designs, researchers still compare outcomes for a treatment and control group. For this study, the treatment group consists of those who chose to enroll in adult education, with the classes, training, and services they receive being the treatment. The control group consists of individuals who left high school before graduation but did not enroll in Kentucky's adult education programs. Differences between these groups are addressed by using propensity score matching to provide a control group that is statistically similar to the treatment group. Quasi-experimental research designs can have high validity and are commonly used by researchers for evaluating programs where random assignment would be challenging, such as workforce development programs.

The analysis was restricted to those who were 18 to 32 years old due to the data available on those who dropped out of high school. This analysis also excluded those for whom the data indicated a receipt of services through the Department of Corrections. Finally, the analysis was limited to those who enrolled in adult education from 2014 to 2022. While data was available for those prior to 2014, major changes to the GED were adopted in 2014. These changes appear to have made it more difficult to pass the GED, suggesting that those enrolling before 2014 and those enrolling after 2014 might have very different labor market outcomes.

The analysis compares labor market outcomes before and after individuals enrolled in adult education. Of course, factors other than adult education, such as the general state of the economy, could be contributing to any changes in labor market outcomes. The labor market outcomes of the control group help to address this concern. Essentially, the control group serves as a benchmark by showing how labor market outcomes of the treatment group might have changed if they had not enrolled in adult education. However, as noted, for the control group to serve as a meaningful benchmark, those in the control group should be similar to those in the treatment group.

Propensity Score Matching. The analysis used propensity score matching to ensure that those in the control group were similar to those in the treatment group. This methodology closely follows Bollinger and Troske (2023), Heinrich, Mueser, and Troske (2008), and Chesnaye et al. (2022). For this study, propensity scores represent the probability that an individual will enroll in adult education based on the individual's demographic characteristics and past labor market history. The propensity scores are used to calculate weights for both the treatment and control group.

Propensity scores were estimated separately for males and females. For each quarter, the data was restricted to the records for those in the treatment group who first enrolled in adult education during the quarter and the records for the entire control group from that quarter. Logistic regression was used to estimate how race/ethnicity, age, and past labor market outcomes affect the probability that an individual would enroll in adult education during each quarter. The logistic regression included dummy variables indicating whether the individual was Black, Hispanic, or other—with White being the excluded category for race/ethnicity. Dummy variables for each age were also included. Labor market history consisted of employment, wages, and receipt of unemployment benefits for the eight previous quarters. Employment was represented by dummy variables for each of the prior quarters. An individual was considered employed in the quarter if they received any wages during the quarter. Wages were represented using the total wages earned from all jobs during each of the prior quarters. Receipt of unemployment insurance benefits was represented using dummy variables based on whether the individual received any unemployment insurance payments during the quarter.

The results of the logistic regressions for each quarter were used to estimate the probability of enrolling in adult education during the quarter for those in the treatment group and those in the control group. Weights were then calculated for each individual as follows:

$$Treatment\ Group: \quad w_i = \frac{1}{(P)}$$

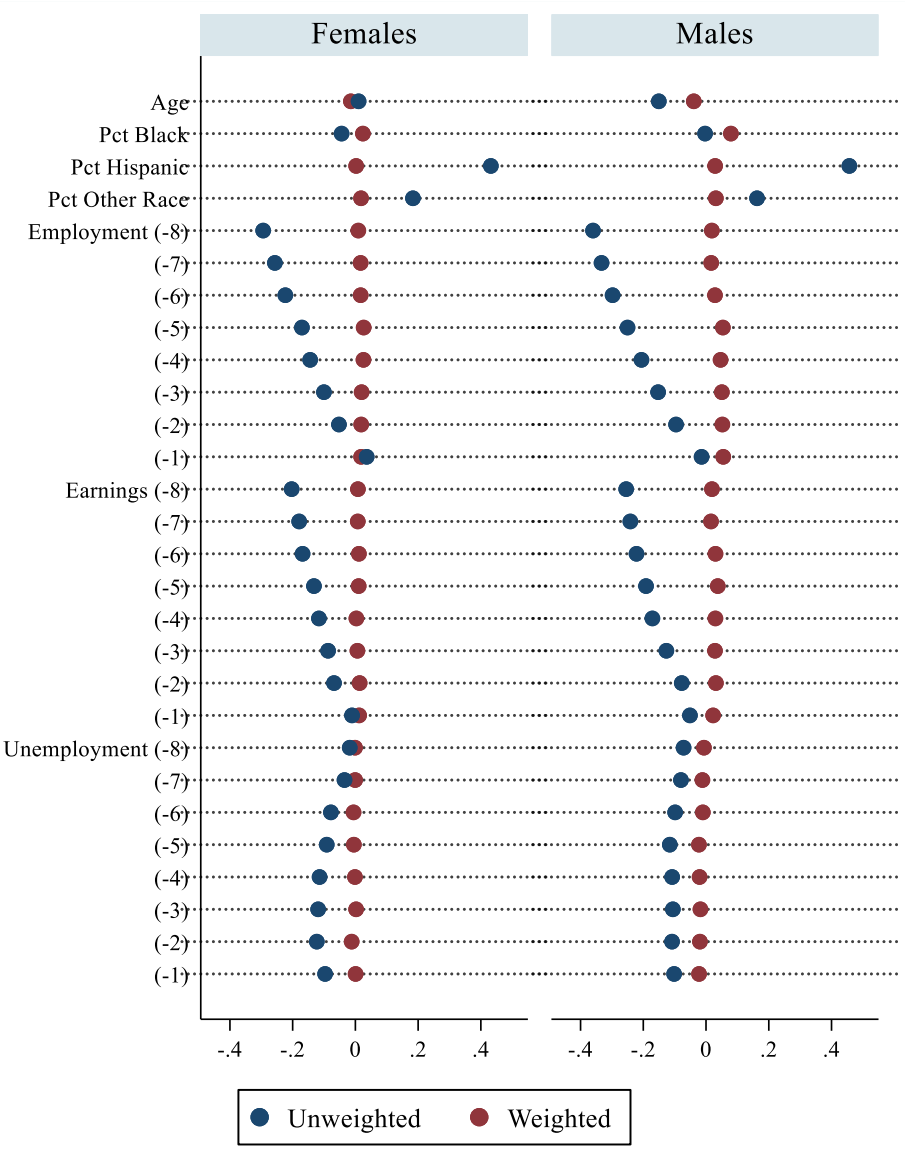
$$Control\ Group: \quad w_i = \frac{1}{(1-P)}$$

Where P represents the probability of enrolling in adult education during the quarter. This gives greater weight to those who enrolled even though they had a low probability of enrolling based on their demographics and labor market history. It also gives more weight to those who had a high probability of enrolling based on their demographics and labor market history but did not (Chesnaye et al. 2022).

Ideally, when these weights are used to estimate statistics such as age, employment, and wages, the control group should be statistically similar to the treatment group prior to enrollment. Figure 2-G shows unweighted and weighted standard mean differences between the treatment and control groups. After applying the weights, the standard mean differences are small and all less than 10 percent.

These results indicate that the weighted treatment and control groups are statistically similar, and therefore, the control group provides a reasonable benchmark. One limitation is that this analysis does not address unobservable differences between those who enrolled and those who did not. Those who enrolled in adult education might be inherently more motivated in ways that are not reflected in their past labor market history.

Figure 2-G
Standard Mean Differences



Note: Standard mean differences are shown for employment, earnings, and unemployment over the eight quarters prior to enrollment.

The observations for each quarter were combined. This process uses sampling with replacement to develop the control group from those who did not enroll appear in the analysis for each quarter. However, their weights will differ across the quarters. For females, the treatment group consists of 16,256 individuals who enrolled, and the control group consists of 3,370 individuals. For males, the treatment group consists of 16,621 individuals, and the control group consists of 6,410 individuals. Table 2-3 shows the characteristics and sample sizes for each group.

Table 2-3
Sample Sizes

	Treatment	Control
Females		
All	16,256	3,370
Black	2,141	557
Hispanic	3,617	247
White	9,175	2,368
Enrollees with ABE Score	12,096	3,370
Males		
All	16,621	6,410
Black	2,461	1,106
Hispanic	3,326	411
White	9,258	4,464
Enrollees with ABE Score	12,609	6,410

Note: Sample size represents the number of unduplicated individuals people represented in the analysis.

Measuring Differences in Labor Market Outcomes. The impacts that enrollment in adult education had on labor market outcomes were estimated by calculating the weighted means for the measures in each of the eight quarters prior to the enrollment, the quarter of enrollment, and each of the 16 quarters after enrollment.[3] Differences between the treatment and control group were evaluated for statistical significance using t-tests at the 95 percent confidence level.

Results

The results are first presented for females and males regardless of race or ethnicity. Because the effects of adult education could differ across racial/ethnic groups, the analysis was also repeated for Blacks, Hispanics, and Whites.

Females. Figure 2-H summarizes the results for females. Prior to enrollment, females who enrolled in adult education had very similar employment rates as those who dropped out of high school but never enrolled (Panel A). The common trend prior to enrollment suggests the treatment and control groups were very similar prior to enrollment. For those who enroll, employment relative to those who do not enroll appears to improve during the same quarter they enroll. During the 2nd quarter after enrollment, approximately 55 percent of those who enrolled were employed. Only 43 percent of those who did not enroll were employed at this point. This suggests that enrollment in adult education was associated with a 12-percentage point improvement in employment rates (Panel B). This difference was statistically significant at the 95 percent confidence level.

After the 2nd quarter, the employment difference begins to decline slowly but steadily. By the 16th quarter after enrollment, females who enrolled were 7.4 percent more likely to be employed

[3] For wages, the natural logarithm of wages were compared, but the results are shown as wages.

than females who did not. While the employment difference does appear to decline over time, it is still statistically significant 16 quarters after initial enrollment in adult education.

Panels C and D of Figure 2-H show the difference in wages earned by females who were employed.[4] Again, prior to enrollment, the wages earned by females who did enroll were not statistically different from females who did not enroll. Those who did enroll in adult education appear to have experienced a temporary drop in wages initially. The drop in wages may occur due to enrollees working fewer hours while they allocated more time to adult education classes. The decline appears to last only for two quarters. During the initial quarter of enrollment, wages fell by $374 relative to those who did not enroll. This decrease was statistically significant. The following quarter wages were $163 lower than those who did not enroll, but the difference was not statistically significant.

After this initial decline in wages, females who enrolled began to see their wages rise faster than females who did not enroll. By quarter 5, the wage gains for enrollees were statically higher than the wages of those who did not enroll. The wage gains appear to grow through the 8th quarter. After this, the difference appears to be stable. During the 16th quarter after enrollment, those who enrolled earned $335 more per quarter than those who did not enroll. This represents an improvement of 12.5 percent over the wages earned by those who did not enroll and amounts to an annual improvement of $1,342.

Panels E and F show the difference in receipt of unemployment insurance benefits. The analysis suggests that there was little difference between the two groups. The expected net impact of adult education on the use of unemployment insurance is unclear. If the training and services that adult education provides improve employment, those who enroll might be less likely to lose their jobs and file for unemployment insurance. However, a worker only qualifies for unemployment benefits in Kentucky if they have earned sufficient wages during the first four of the last five completed calendar quarters. If adult education improves employment and wages, it might also help more individuals qualify for benefits. Overall, enrolling in adult education appears to have no impact on females' use of unemployment insurance.

Males. Figure 2-I shows the results for males. Generally, the results for males were very similar to those for females. Just prior to enrolling, male enrollees' employment levels were only about two to three percentage points higher than for males who did not enroll. After enrolling, their employment initially improved, with those enrolling experiencing employment levels up to 14.6 percentage points higher. The employment difference for males then declines and at a faster rate than for females. The trend through 16 quarters after initial enrollment suggests that the difference likely erodes after five or six years. By the 16th quarter, the employment gains fell to less than half of the initial differences.

While the employment effect appears to be temporary for males, those who did enroll and were employed appeared to see long-term gains in their wages compared to those who did not enroll but were employed. During the 16th quarter, male enrollees earned $617 more than males who did not enroll, representing a difference of 16 percent. As with females, there appears to be no

[4] While the differences were evaluated using log wages, the figures show the differences in wages.

difference in male enrollees' use of unemployment insurance compared to men in the control group.

Figure 2-H
Adult Education Labor Market Outcomes
From Enrollment, Females Aged 18 to 32

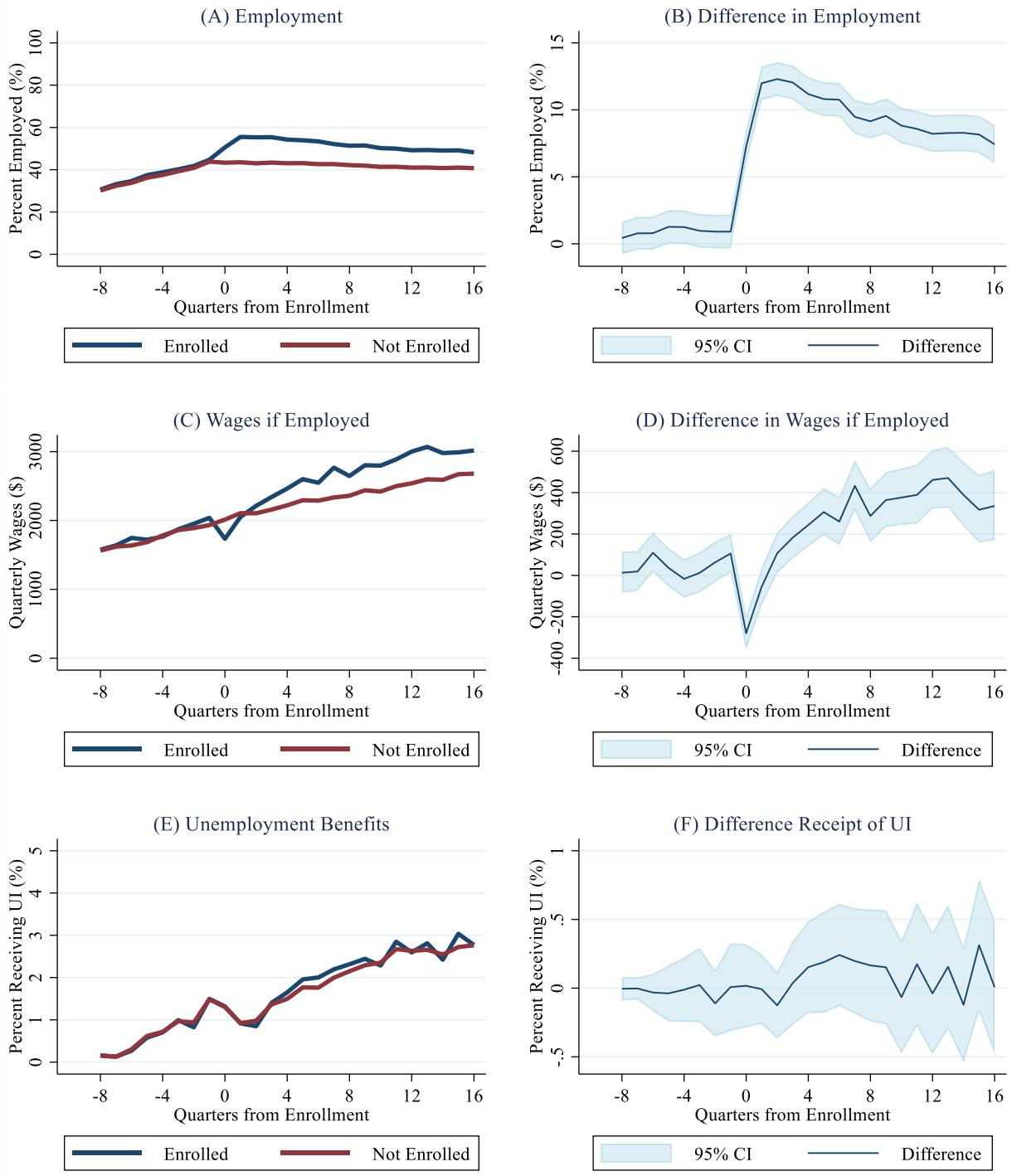
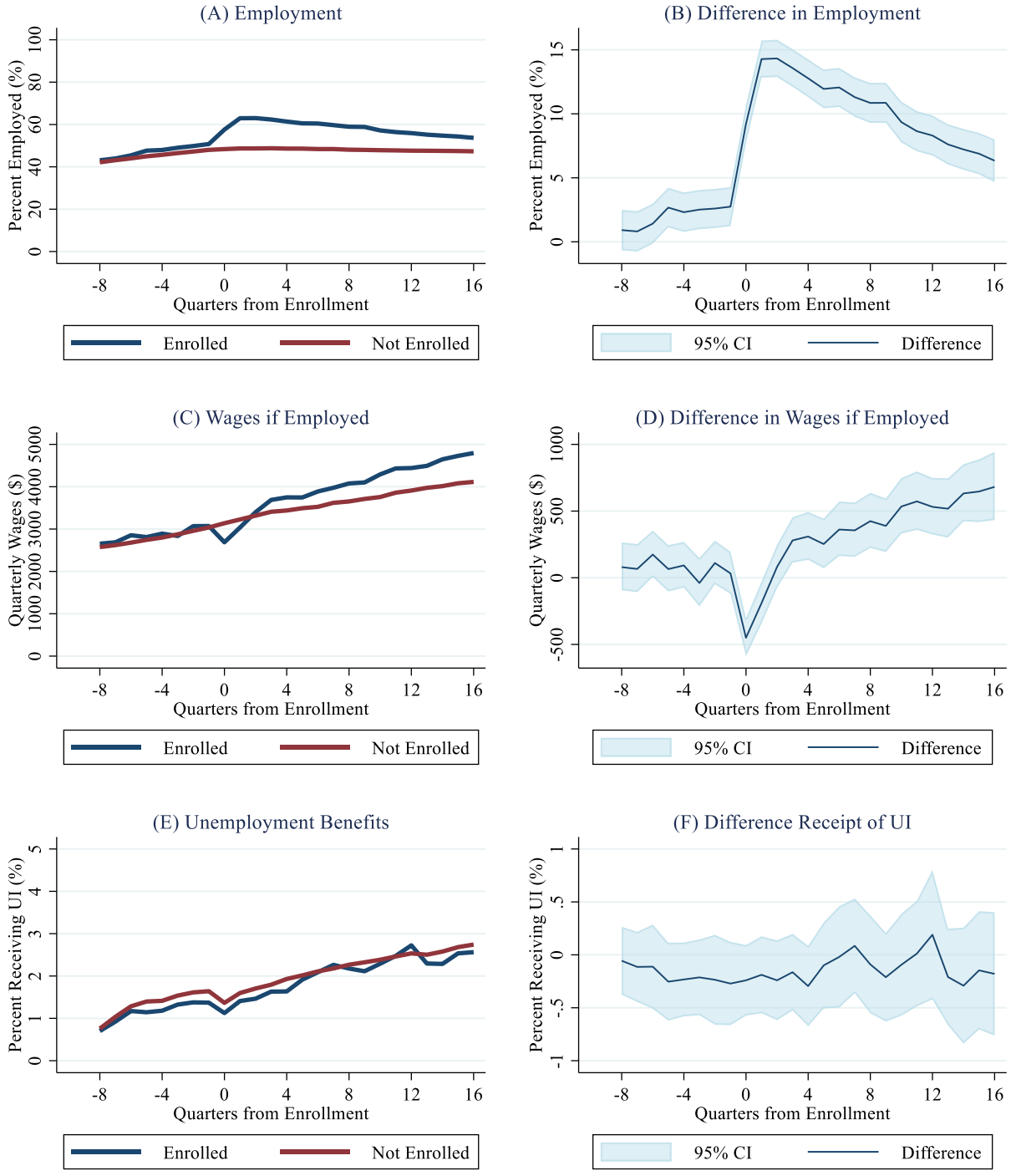


Figure 2-I
Adult Education Labor Market Outcomes
From Enrollment, Males Aged 18 to 32



Black Females. The changes in labor market outcomes for Black females who enrolled in adult education were similar to those of all females who enrolled (Figure 2-J). Employment improved quickly after enrollment. The improvements in employment declined over the four years after enrollment but remained positive. Wages also improved for Black females who enrolled. At 16 quarters after enrollment, enrollees earned $532 per quarter more than those who did not enroll, representing a 25 percent increase compared to the control group's wages.

Black Males. Even before enrolling, Black males who enrolled were more likely to be employed than those who did not enroll (Figure 2-K). Like all males, employment improved after enrollment and then began to decline. However, the employment gains for Black males appear to have decayed more quickly than for all males, disappearing entirely between two and three years from enrollment. It is unclear why the employment gains erode more quickly for Black males. It could reflect labor market discrimination, higher rates of justice involvement, or other factors that create challenges for Black males participating in the labor market.

Wages for Black males who enroll do improve after enrollment compared to non-enrollees. This positive effect improves over time, persisting over the four years after enrollment.

Hispanic Females. Hispanic females who enrolled experienced larger employment gains than females in general, with their employment rates increasing by up to 20 percentage points (Figure 2-L). Also, while their employment gains did decay somewhat, they were more persistent than for females in general. Wages also increased for this cohort: by 16 quarters after enrolling, Hispanic female enrollees earned $973 per quarter more, a 26 percent increase compared to the wages of those who did not enroll.

Hispanic Males. Hispanic males also saw employment gains, but like Black males, the gains in employment were temporary (Figure 2-M). By 14 quarters after enrolling, the differences in employment between enrollees and non-enrollees were similar to the differences that existed prior to enrollment. Wages, however, did improve for Hispanic male enrollees who were employed, and they showed persistent growth over time.

White Females and Males. The estimates for White females suggest that both employment and wage effects were somewhat smaller than for females in general. For White males, the results were similar to males generally. However, the wage effect took longer to be realized.

Figure 2-J
Adult Education Labor Market Outcomes
From Enrollment, Black Females Aged 18 to 32

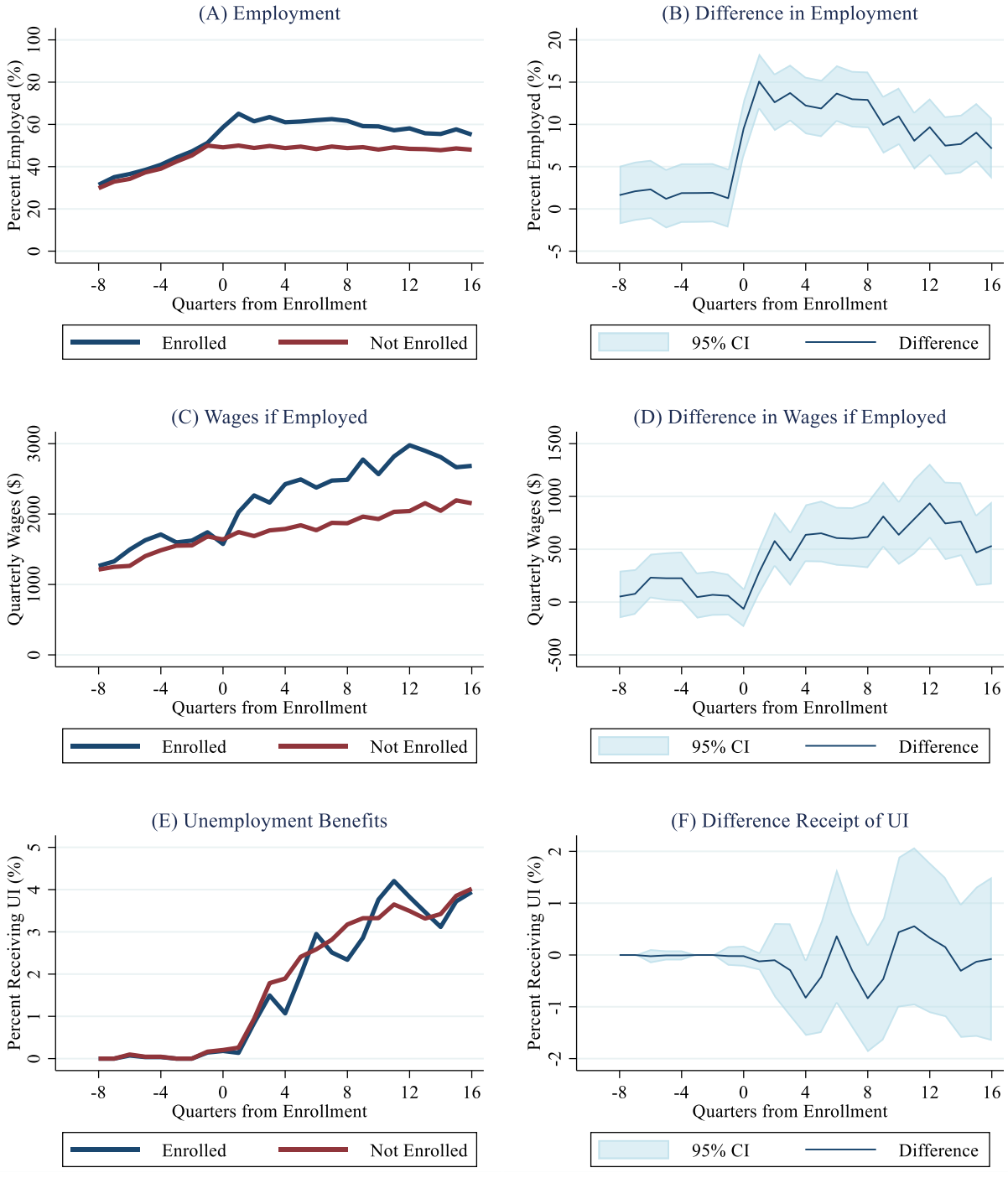


Figure 2-K
Adult Education Labor Market Outcomes
From Enrollment, Black Males Aged 18 to 32

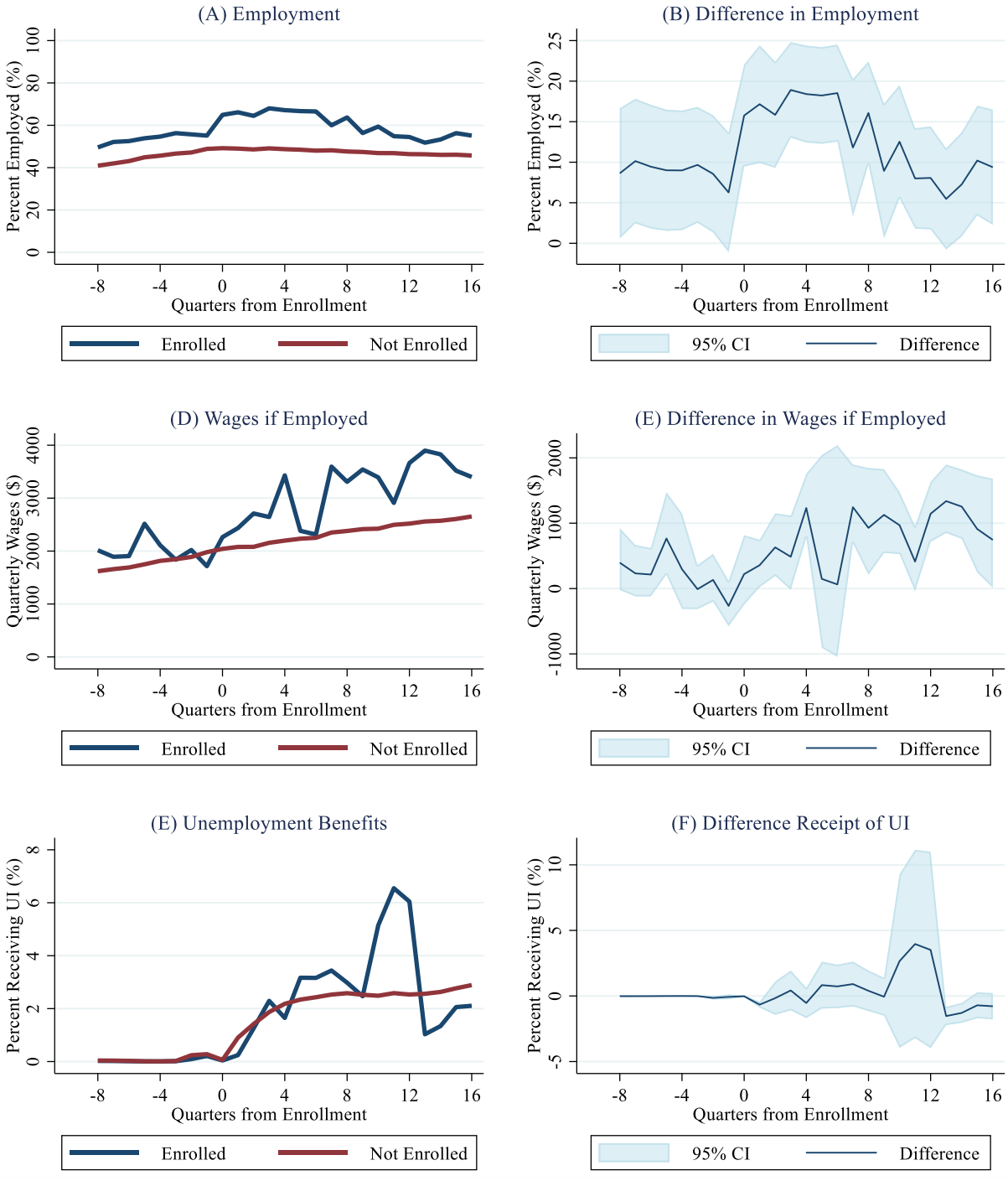


Figure 2-L
Adult Education Labor Market Outcomes
From Enrollment, Hispanic Females, Aged 18 to 32

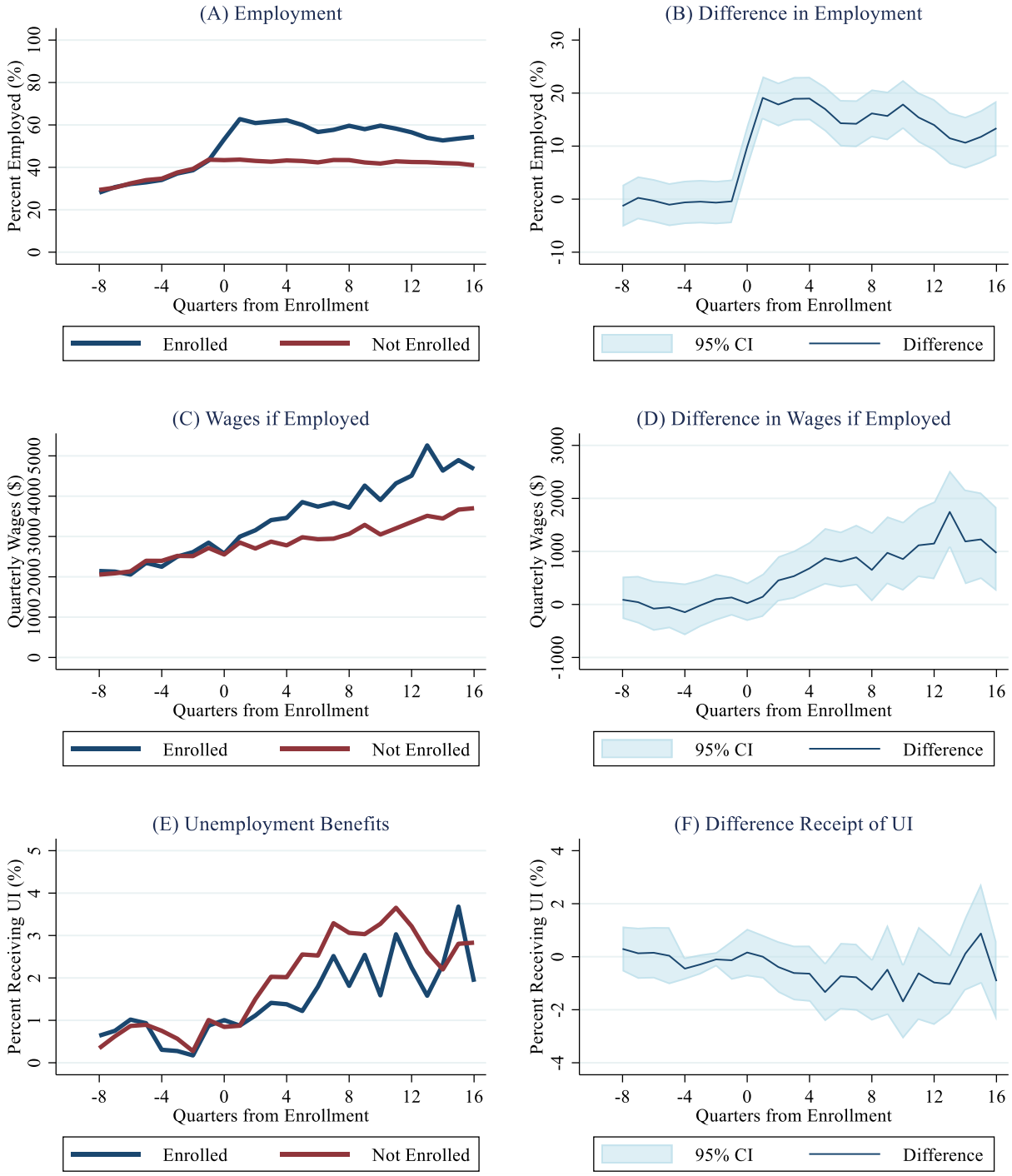


Figure 2-M
Adult Education Labor Market Outcomes
From Enrollment, Hispanic Males, Aged 18 to 32

Figure 2-N
Adult Education Labor Market Outcomes
From Enrollment, White Females, Aged 18 to 32

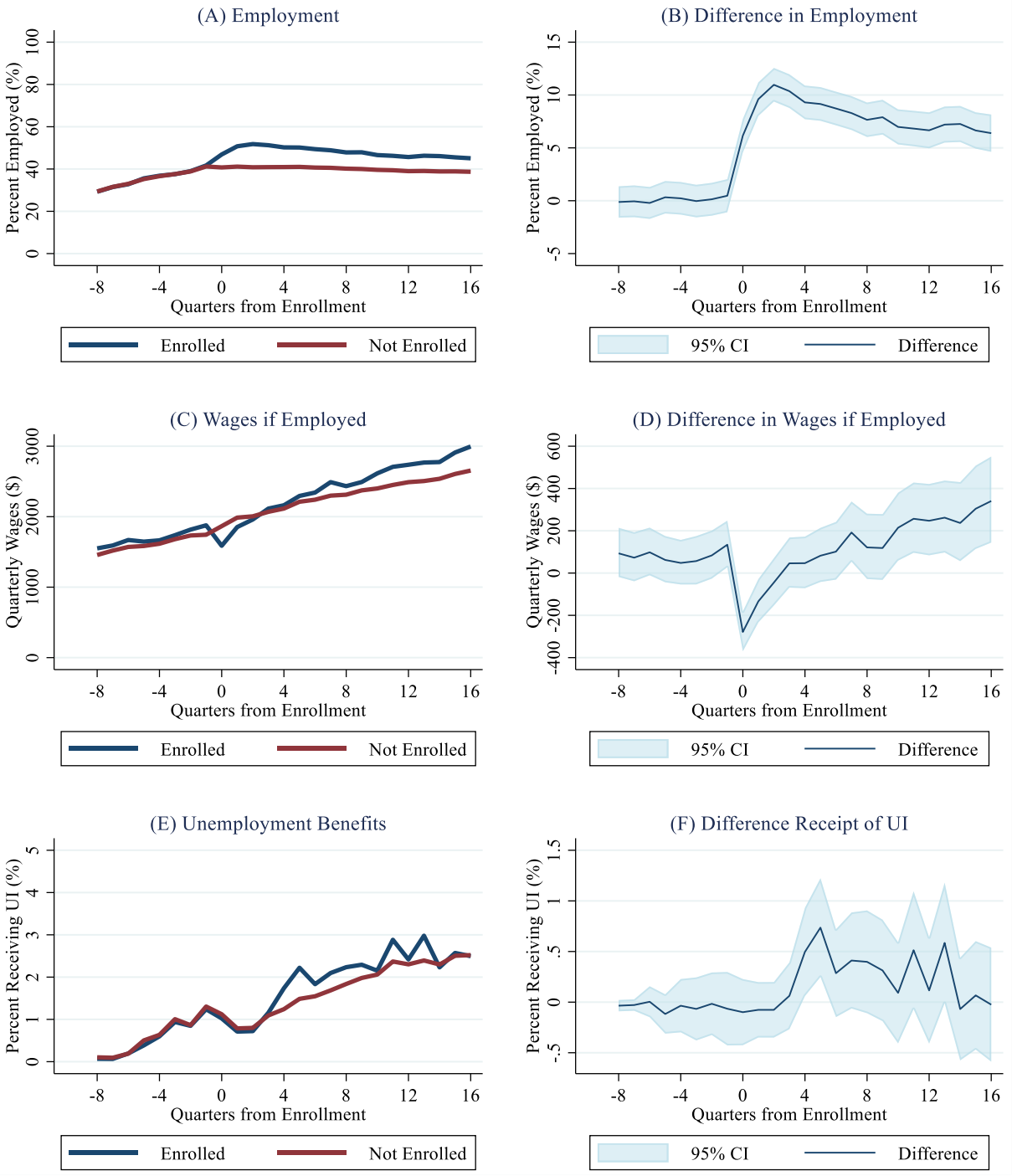
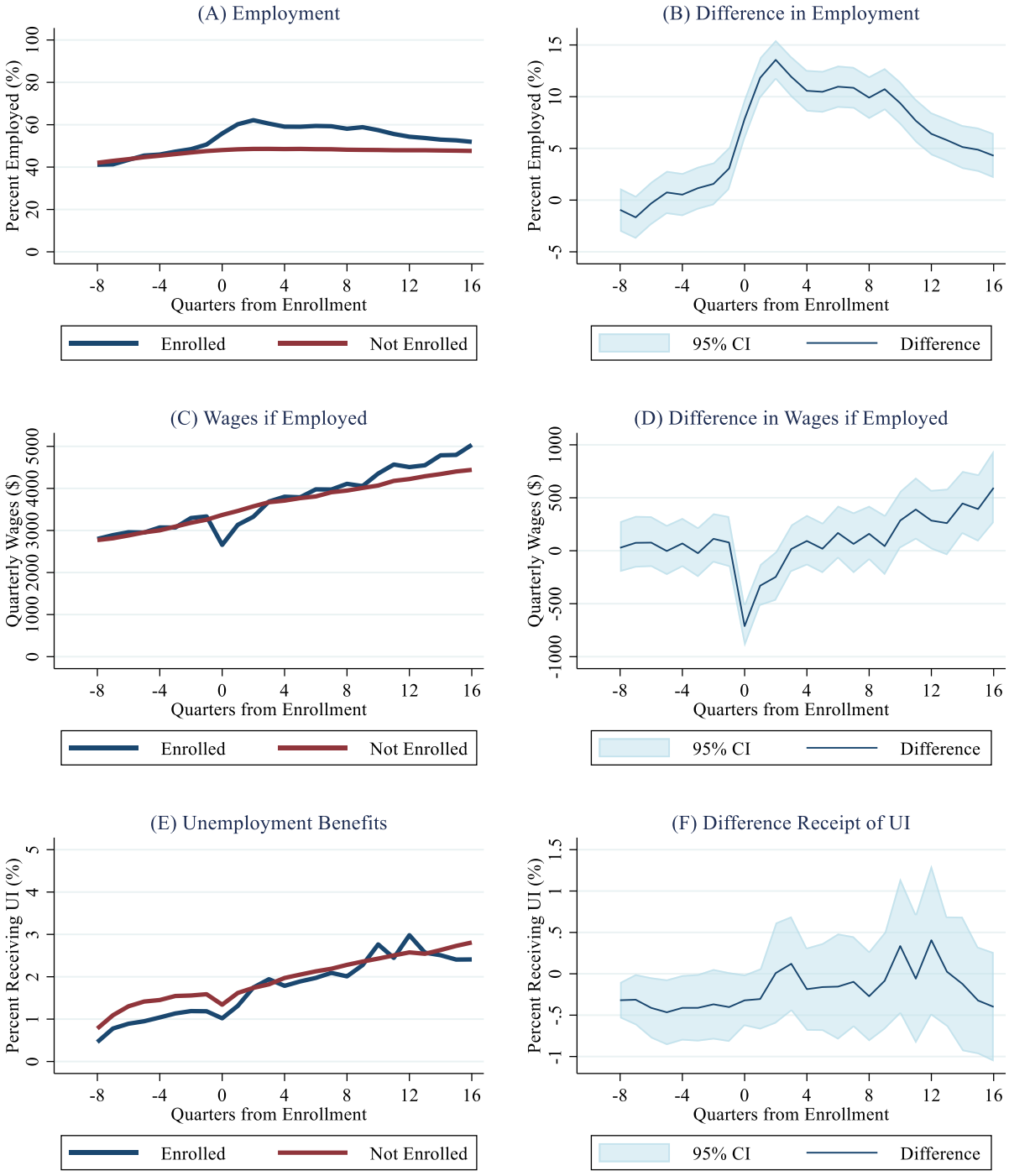


Figure 2-O
Adult Education Labor Market Outcomes
From Enrollment, White Males, Aged 18 to 32



Enrollees with Adult Basic Education Assessment. The analysis above focuses on all individuals aged 18 t 32 who enroll in Kentucky's adult education programs because the available data does not indicate the services enrollees receive. The data does, however, include a measure of the enrollees' functional level. Prior to enrollment, participants must take one of two assessments. One measures their basic education level. The other measures their English language skills. Which one they take is based on discussions with a counselor. The results of their assessments are then used to recommend adult education services for the enrollee. According to KYAE, those who take the basic education assessment generally enroll in courses to help them earn their GED, while those who take the English language assessment might take English courses. Therefore, the assessment may provide a signal of the types of services received. However, enrollees may still receive multiple types of services.

The analysis discussed above was replicated focusing on just those who had an Adult Basic Education (ABE) score and, therefore, likely enrolled in courses to prepare for the GED. The same methodology discussed above was used to develop weights for those enrolling in adult education and those who dropped out of high school but did not enroll in adult education programs. Figure 2-P and Figure 2-Q show the difference in labor market outcomes for females and males who had an ABE score.

The results focusing on females who had an ABE score (Figure 2-P) were similar to the results for females in general (Figure 2-H). Following enrollment, employment rates for females participating in adult education were higher than those who did not enroll, but these gains declined over the 16 quarters after enrollment. Earnings for those employed also improved following enrollment in adult education. The magnitudes of the effects were also similar.

The employment results for males with an ABE score (Figure 2-Q) differed somewhat from the results for males in general (Figure 2-I). Employment rates for males participating in adult education were higher following enrollment but declined over time. Observed employment gains declined more quickly for males than for females.

The earnings results differed when focusing on males who had an ABE score. In this comparison, those who enrolled still saw a temporary decline in their earnings compared to those who did not. After this initial decline, their wages caught up to, but did not exceed, the wages of those who did not enroll through the 8th quarter. Following the 8th quarter, males who enrolled began to see their wages exceed those of males who did not enroll. Overall, the earnings results for males with an ABE score suggest that the effect of adult education enrollment on their earnings is smaller than the earnings results for males in general.

Figure 2-P
Adult Education Labor Market Outcomes
Females Who Took Adult Basic Education Assessment, Aged 18 to 32

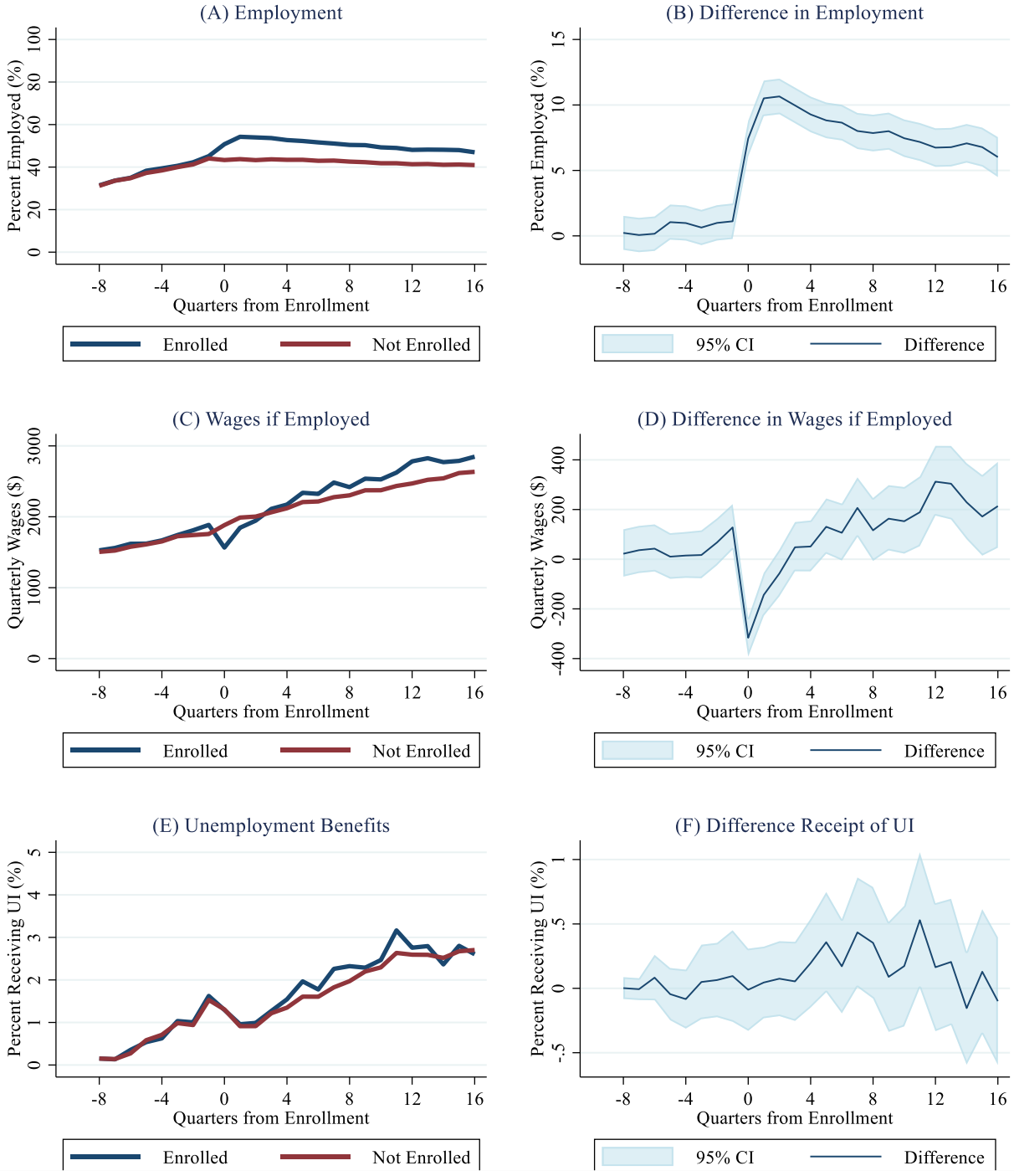
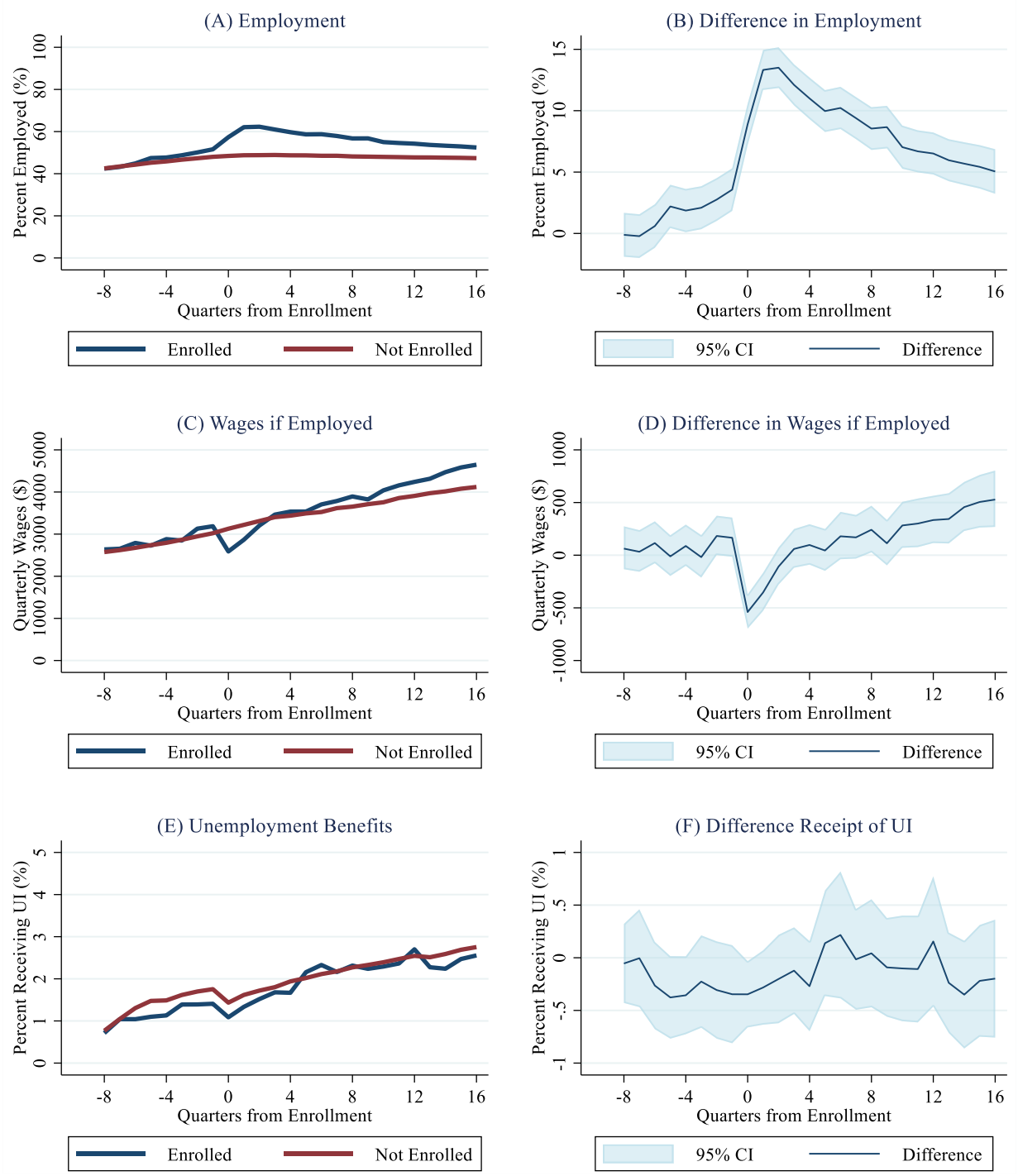


Figure 2-Q
Adult Education Labor Market Outcomes
Males Who Took Adult Basic Education Assessment, Aged 18 to 32



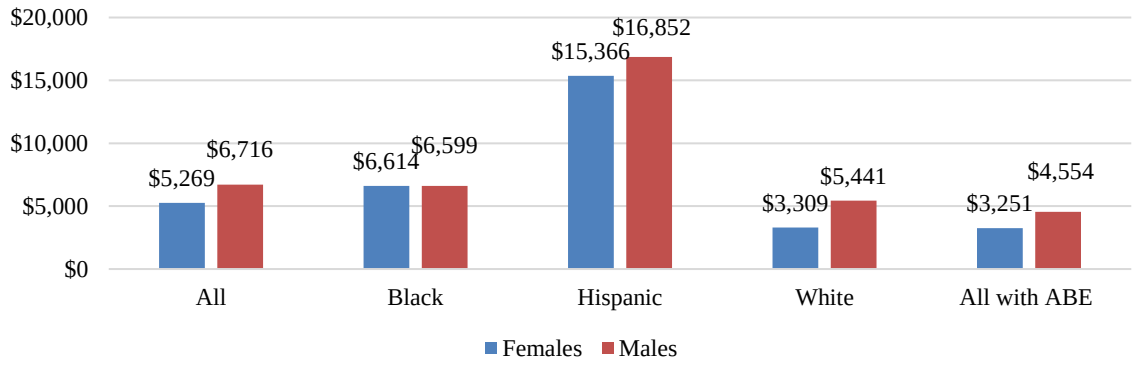
Earnings and Potential Fiscal Impacts

The analysis suggests that participation in adult education has two main effects on wages. First, participating in adult education appears to provide an increase in employment that is significant but that decays over time. Because more people are working, the total wages earned among this population increase. Second, while those who are employed see wages fall initially with enrollment, wages begin to grow after a few quarters, and this higher growth appears to increase steadily during the four years following enrollment.

Figure 2-R shows the present value of these effects for the average participant by gender and race/ethnicity for 16 quarters after enrollment. Estimates are shown for several groups. For each group, the estimate represents the difference in earnings between those enrolled and their matched control group. The net present value was calculated using a 4.4 percent discount rate (U.S. Office of Management and Budget 2023). The present value of the total change in wages from enrollment through four years after enrollment was $6,716 for males and $5,269 for females. The impacts were similar for Black males and all males but somewhat larger for Black females than all females. While the employment gains for Black males essentially disappeared by four years after enrollment, Black males who were employed saw significant increases in wages. Hispanics saw the largest gains, with a present value increase in wages totaling $16,852 for males and $15,366 for females.

During the four years after enrollment, male enrollees with an Adult Basic Education (ABE) score earned $4,554 more than those in their control group. Females with an ABE score earned $3,251 more than those in the control group.

Figure 2-R
Present Value of Wage Changes
Through Four Years After Enrollment in Adult Education



As participants in adult education earn more, they might pay more in state and local taxes than they would otherwise. The amount of additional taxes they would pay depends on their total taxable income, exemptions, and spending patterns. The information needed to calculate the additional taxes is not available. The Institute for Taxation and Economic Policy estimates that Kentucky residents in the lowest income quintile pay approximately 7.1 percent in sales taxes and 1.3 percent in state income and local occupational license taxes. Applying these rates to the additional income earned by adult education participants provides a rough sense of how much

more they would pay in state and local taxes. These estimates are shown in Table 2-4. The present value of the difference in earnings for males four years after enrollment in adult education is $6,716. Assuming an effective tax rate of 8.4 percent, this would result in a present value of additional state and local tax revenues equaling $564.

Table 2-4
Present Value of Change in Earnings and State and Local Tax Revenues Paid Four Years from Enrollment

	Present Value of Additional Income 4 Years After Enrollment	Present Value of Additional State and Local Tax Revenue Paid
Females		
All	$5,269	$443
Black	$6,614	$556
Hispanic	$15,366	$1,291
White	$3,309	$278
Enrollees with ABE Score	$3,251	$273
Males		
All	$6,716	$564
Black	$6,599	$554
Hispanic	$16,852	$1,416
White	$5,441	$457
Enrollees with ABE Score	$4,554	$383

Notes: Assumes an effective state and local tax rate of 8.4% and uses a discount rate of 4.4%.

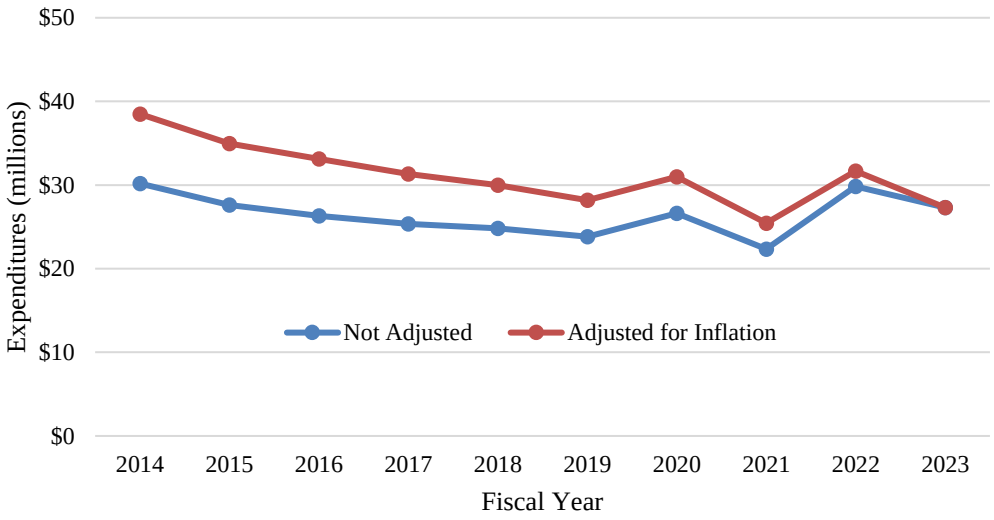
Care should be taken when interpreting the estimates of tax revenues, since they do not necessarily represent a net increase in revenues. The degree to which the additional taxes these individuals paid represent a net increase in total state taxes depends on whether these workers displace other workers. Consider, for example, an individual whose participation in Kentucky adult education programs allows them to work jobs they would have otherwise been unqualified to perform. The results of this analysis suggest that they would likely earn more and might pay more in state and local taxes. However, this worker taking the position might displace another worker who would have taken the job. While the adult education participant earns more and pays more in taxes, the other worker is crowded out of a job. This situation would not represent a net increase in taxes, but instead would only change who is paying the tax.

The degree to which participants' higher earnings contribute to a net increase in state and local taxes depends on the degree to which they displace other workers. When unemployment is high and many workers struggle to find work, this type of displacement would likely be high. However, when unemployment is low and employers struggle to find workers, displacement is likely to be low.

Costs of Adult Education

The Education and Labor Cabinet provided expenditures for the Office of Adult Education from FY 2014 through FY 2022. Most of the office's expenditures were for awards and grants made to various providers of adult education services. Without adjusting for inflation, Kentucky's adult education expenditures decreased from 2014 through 2019 before rising again during the pandemic (Figure 2-S). However, inflation has diminished the purchasing power of these expenditures. After adjusting for inflation, expenditures have declined more steadily. By 2023, inflation-adjusted expenditures were down by 10 percent compared to 2014.

Figure 2-S
Adult Education Expenditures



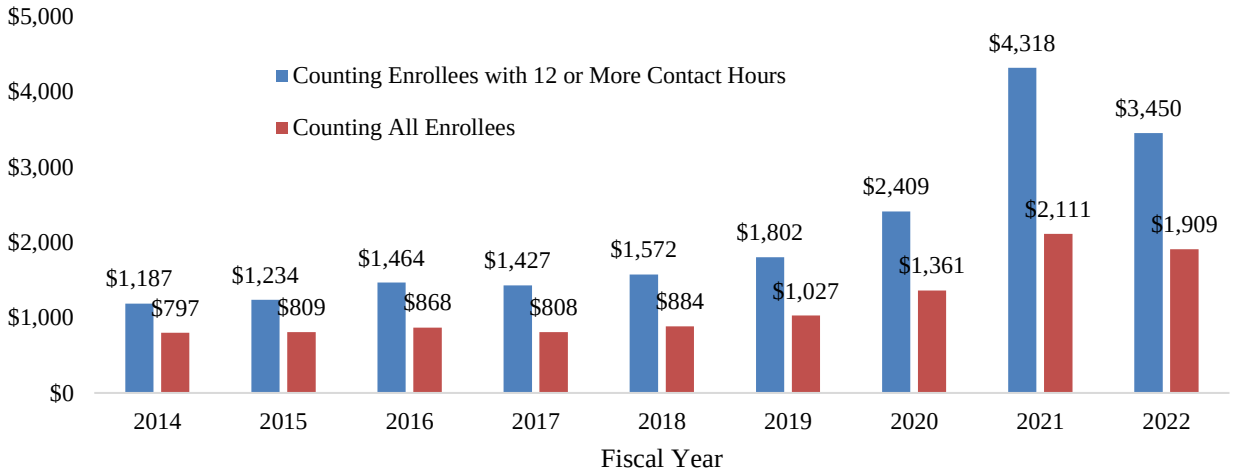
While expenditures—particularly after adjusting for inflation—have decreased, enrollment decreased at a much faster rate. Figure 2-T shows expenditures for adult education per enrollee using both the total number of individuals who enrolled and the number of people enrolled with at least 12 contact hours, which is the U.S. Department of Labor's definition of enrollment. Expenditures in this figure were adjusted for inflation and are stated in 2024 dollars. Even prior to the pandemic, expenditures per enrollee were increasing as enrollment fell much faster than expenditures. From 2014 to 2022, enrollment of individuals with at least 12 instructional hours decreased by 72 percent.[5] Total expenditures adjusted for inflation only fell by 18 percent over this same period. As a result, expenditures per enrollee have increased. Inflation-adjusted expenditures per participant in 2022 were nearly twice the level in 2014. While the pandemic contributed to this by reducing enrollment, this trend existed before 2020.

It is not known whether the level or quality of services has changed during this time. However, ELC officials noted that Kentucky's adult education system has experienced several changes in how adult education is delivered in Kentucky in recent years. Specifically, the number of KCTCS institutions providing adult education services has increased, adult education programs have been shifting to more intensive services such as Integrated Education and Training; and

[5] While data on expenditures are available for FY 2023, enrollment data are only available through FY 2022.

adult education has shifted to on-line learning platforms. These changes may have increased the resources used per person. The changes might also affect the effectiveness of services adult education provides.

Figure 2-T
Adult Education Expenditures per Enrollee



Notes: Expenditures are stated in 2024 dollars and were adjusted for inflation using the U.S. Bureau of Labor Statistics CPI-U.

Figure 2-U shows expenditures per instructional hour. As instructional hours closely follow enrollment, these numbers show essentially the same pattern. From 2014 through 2022, the average adult education participant received 95 instructional hours. For some participants, these hours may be spread over multiple years. Applying the expenditures per instructional hour to the average of 95 hours per person provides an indication of the cost of providing adult education per recipient. Of course, these costs per enrollee have increased as enrollment fell with the pandemic. In 2019, the cost per participant was approximately $2,611. In 2022, the cost was $5,655 per recipient. Costs per participant may decrease if enrollment continues to approach pre-pandemic levels. However, these two figures provide some indication of the cost to provide an individual with adult education. From 2014 through 2022, approximately 65 percent of these expenditures were covered by Kentucky General Funds.

Figure 2-U
Expenditures per Instructional Hour

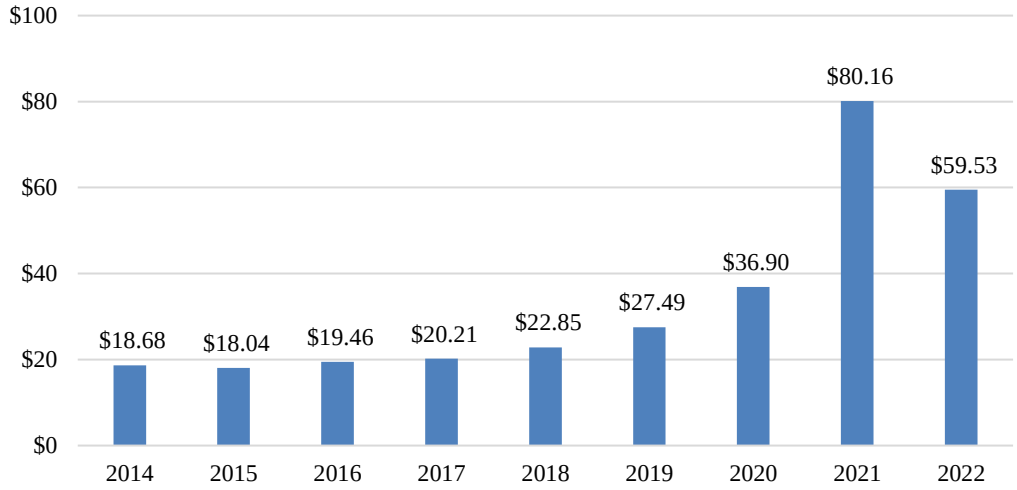


Table 2-5 compares the estimated increase in earnings per adult education participant (see Table 2-4) to the average cost per participant. As discussed above, the increase in earnings only includes the additional earnings observed during the four years after enrollment. It includes both the higher levels of earnings for those who are employed and the additional earnings due to increased employment. The analysis presented above suggests that these additional earnings may go beyond the first four years, particularly for females, but employment gains tend to decline.

Because costs have increased significantly due to the decline in enrollment since the pandemic, the table shows cost estimates from both 2019 and 2022. The 2019 cost estimates more accurately reflect costs per participant prior to the pandemic, before enrollment fell. The 2022 cost estimates reflect higher costs per person that occurred in recent years due to reduced enrollment. Both estimates were adjusted for inflation and are shown in 2024 dollars.

The additional earnings during the four years after enrollment cover a sizable portion of the estimated cost of the program. However, this result changes depending on the comparison made. For example, based on the 2019 costs, the Office of Adult Education would be expected to spend approximately $2,611 to provide instruction to an adult education participant. The average female enrollee with an ABE score experienced an increase in wages of $3,251 during the first four years. This suggests that participants are seeing gains in earnings that exceed the cost to provide adult education prior to the pandemic. Kentucky pays approximately 65 percent, or $1,697, of these costs and could gain approximately $443 in state and local taxes from the first four years of higher earnings. Comparing the 2022 cost of $5,655 to the increased earnings of females with an ABE score of $3,251 suggests that the additional earnings during the first four years covers 57 percent of the cost of adult education for the participant. In this case, Kentucky would pay $3,676 of the costs and potentially receive $348 in state and local tax revenues. This analysis suggests that the participants receive sufficient gains in earnings to cover a portion of the costs of providing adult education. However, at least in the short run, the state is unlikely to experience increases in state and local taxes that would cover the costs.

As noted, those who enroll in adult education might also enroll in other workforce development programs, which might contribute to the additional earnings observed. The figures on costs only reflect the cost of adult education and do not include the costs of these other services.

Table 2-5
Increased Earnings Compared to Costs

	Present Value of Additional Income 4 Years After Enrollment	2019 Costs	2022 Costs
Females			
Low (Enrollees with ABE Score)	$3,251	$2,611	$5,655
High (All Enrollees)	$5,269		
Males			
Low (Enrollees with ABE Score)	$4,554	$2,611	$5,655
High (All Enrollees)	$6,716		

Notes: All estimates are stated in 2024 dollars.

Adult Education Conclusions

The analysis suggests that those who participate in Kentucky's adult education programs experience some improvement in labor market outcomes. Employment increased quickly after enrollment relative to those who did not enroll, but these gains gradually declined over the four years following enrollment. The effect was present to varying degrees for males and females and for Blacks, Hispanics, and Whites. However, the employment gains declined more quickly for Black males and had completely eroded for this cohort between three and four years after enrollment.

After initially declining upon enrollment, earnings increased slowly but steadily for females who enrolled in adult education. The initial decline could represent a decrease in hours worked as enrollees might have spent more time studying. Similar results were seen across race and ethnicity. Also, the results remained when focusing on only those whose adult basic education skills were assessed, which is more likely to focus on those preparing for the GED rather than those with limited language skills.

The results for males were less consistent. When examining all males who enrolled, earnings appeared to follow similar patterns as observed for females. However, when focusing on only males whose adult basic education skills were assessed, earnings declined temporarily upon enrollment, and it took longer for their wages to exceed the wages of those who did not enroll.

These results differ from those of Heckman, Humpries, and Kautz (2014) and Jepsen, Mueser, and Troske (2017), who found no effects on employment and earnings. One possible reason for the differences is that this analysis is not able to isolate the impact of adult education programs such as studying for and earning a GED and taking ESL courses from other workforce development programs. These programs might provide training on soft skills such as how to write a resume or interview for a job, other adult education services through WIOA, or simply the opportunity to connect with potential employers by visiting a Career Center. The lack of results in other studies that were able to focus exclusively on GED-earning suggests that these

other workforce services might account for a substantial portion of the outcomes observed in this study. Therefore, the results presented in this study should be interpreted as the employment and earnings differences associated with a bundle of services, which includes adult education. While Kentucky's adult education services might contribute to the gains reported, the observed gains might also be due to other workplace development programs.

Generally, the additional earnings that participants receive during the first four years after enrollment cover a portion of the costs to provide adult education. Therefore, the net benefits of adult education may depend on the longer-term effects on employment and wages. Unfortunately, there may be little additional benefits for males beyond these four years. The impact for males on employment appeared to decay quickly, and the impact on earnings was mixed. However, the benefits for females appear to be more resilient. The employment effect for females decays, but at a much slower rate than for males. Also, the earnings impact for females appeared to increase during the four years observed. This suggests that the first four years reflect only a portion of the benefits to females.

While the four-year earnings gains appear to cover a sizable portion of the cost to provide adult education, it is unclear how these gains compare to the total cost of providing adult education and any other services these individuals might receive. The analysis also suggests that state policymakers should not expect that additional taxes due to increased earnings would cover the cost of providing these services, at least in the short term. Any additional taxes could, however, offset a portion of the costs of providing these services.

Finally, over the past several years enrollment in adult education has decreased at a much faster rate than expenditures. Enrollment was declining generally before the pandemic, but enrollment fell even faster when the pandemic occurred. The enrollment decline has contributed to the state spending considerably more per person than in the past. While this might indicate that adult education is operating less efficiently, the reduction in enrollment might allow adult education and its providers to focus more resources on fewer participants. For example, class sizes might have decreased allowing instructors to spend more time per student. KYAE's use of Integrated Education and Training programs also likely requires additional resources but shows promise for improving labor market outcomes. This might improve the quality of training and contribute to better labor market outcomes. Given these changes in cost per participant due to lower enrollment, the Office of Adult Education should evaluate the level of services Kentucky receives from its adult education providers.

While the Education and Labor Cabinet does an excellent job of collecting administrative records across many of these programs, additional data describing the co-enrollment of individuals across the various programs would help to better isolate the individual contributions these programs provide to the labor market gains observed. Also, GED testing data were not available for this analysis. Past research has used these data from other states to more accurately estimate the effects of earning a GED (Jepsen, Mueser, and Troske 2017). These data would substantially improve the state's ability to evaluate the effectiveness of the GED in Kentucky.

Chapter 3 Evaluation of Kentucky's TRAINS Program

The Kentucky Community and Technical College System (KCTCS) developed the TRAINS program to help eligible Kentucky companies develop and fund employee training. The program began in 1999 under the name KY-WINS and was renamed TRAINS in 2014. KCTCS administers TRAINS and its colleges work with companies to develop customized training programs for their employees. Employers often access TRAINS to help train employees on new technology or procedures. The training may consist of formal KCTCS courses that provide employees with credit in the state's postsecondary system and not-for-credit training that often lasts only a few days. KCTCS instructors normally provide both types of training. KCTCS's Workforce Solutions reviews proposed projects. If a company's project is approved, it typically pays 25 percent of the cost of training plus a 10 percent administrative fee to the college. KCTCS reimburses the colleges providing the training for the remaining costs through an appropriation in the executive branch budget.[6] The FY 2024-2026 budget appropriated $4.1 million in each fiscal year to fund TRAINS projects.

KCTCS typically offers for-credit courses as special topics. Some of the most common for-credit courses include:

- Business Administration Services,
- Computer Information Technology,
- Electrical Technology,
- Industrial Maintenance Technology,
- Engineering and Electronics Technology,
- Mining Technology,
- Industrial Safety,
- Management,
- Plumbing, and
- Welding.

Not-for-credit training covers a variety of topics such as personal protective equipment, electrical troubleshooting, time management, Excel spreadsheets, and metal forming.

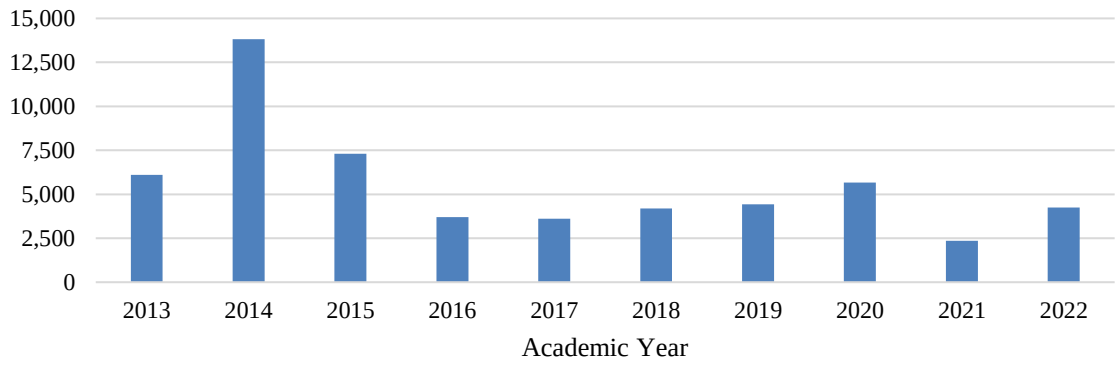
TRAINS Enrollment Trends and Demographics

TRAINS saw its largest enrollment in for-credit courses during the 2014 academic year (Figure 3-A). Enrollment dropped in the following two years but has been fairly stable since. In 2022, total enrollment was 4,254. Figures 3-B through 3-D describe the characteristics of those who enrolled in TRAINS for-credit courses. The figures exclude individuals whose age appeared to be below 18 or over 64 years.[7] Those taking TRAINS for-credit courses are predominantly White and male. In academic year 2022, 85 percent were White, and 83 percent were male. Those aged 25 to 54, often considered prime working ages, accounted for 81 percent of enrollees.

[6] KCTCS typically pays 75 percent of a project costs but can pay for 100 percent of the costs for new economic projects.

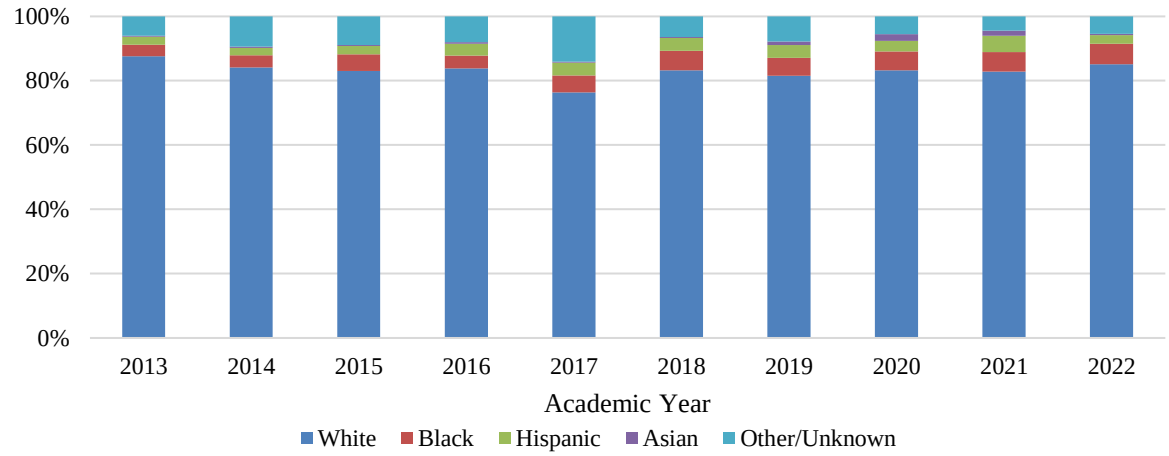
[7] Limiting the focus to those age 18 to 64 excludes 1.5 percent of the observations. In many cases, the ages below 18 and over 64 appeared to be errors.

Figure 3-A
TRAINS For-credit Course Enrollment



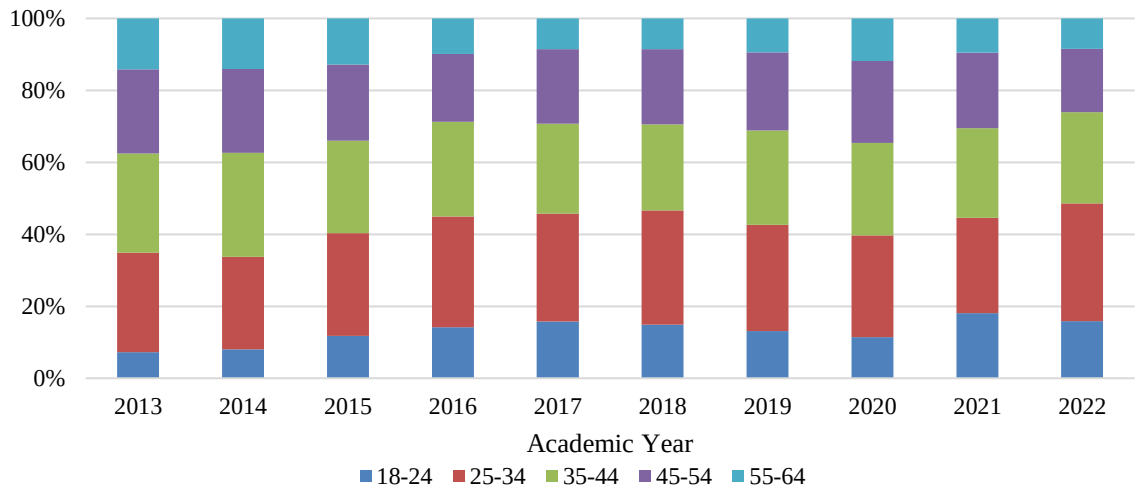
Note: Enrollment measures total course enrollment. Individuals may be counted multiple times if they enrolled in multiple courses.

Figure 3-B
TRAINS For-credit Course Enrollment by Race/Ethnicity



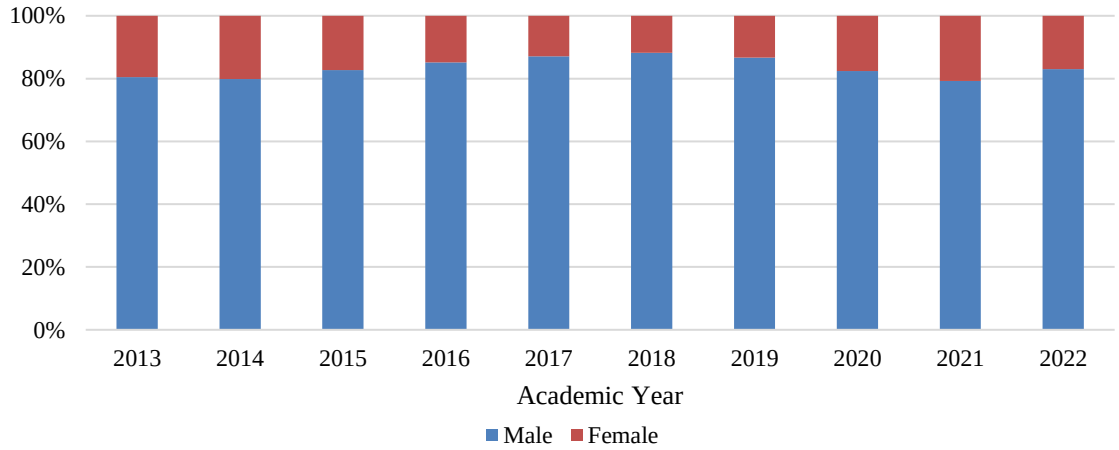
Note: Excluding those younger than 18 and older than 64 years.

Figure 3-C
TRAINS For-credit Enrollment by Age



Note: Excluding those younger than 18 and older than 64 years.

Figure 3-D
TRAINS For-credit Enrollment by Gender



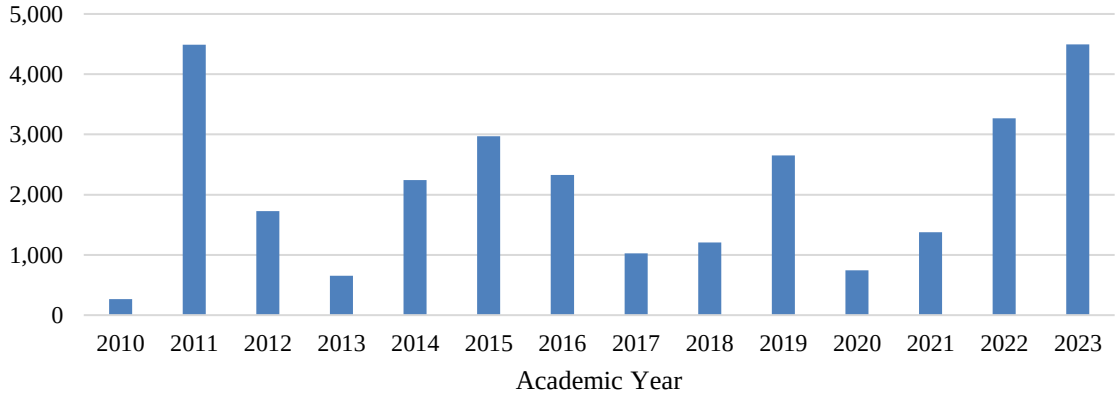
Note: Excluding those younger than 18 and older than 64 years.

As shown in Figure 3-E, total enrollment in TRAINS not-for-credit training fluctuates over time. Note that enrollment in this figure counts the total number of enrollments. A worker could be counted multiple times if they enrolled in multiple TRAINS training sessions. In 2023, TRAINS not-for-credit saw its largest enrollment at 4,493.

Approximately 30 percent of the enrollment records provided by KCTCS did not have identifying information for KYSTATS to link to its longitudinal data system, which provides access to demographic data. It is not known what percentage of the individuals enrolled in TRAINS not-for-credit courses this represents. Figures 3-F through 3-H describe the

demographics of enrollees where data were available. In 2023, Whites accounted for 80 percent of not-for-credit enrollees and males accounted for 60 percent.

Figure 3-E
TRAINS Not-for-credit Course Enrollment



Note: Enrollment counts the number of people enrolled in each not-for-credit course. Individuals may be counted multiple times if they enrolled in multiple courses.

Figure 3-F
TRAINS Not-for-credit Enrollment by Race/Ethnicity

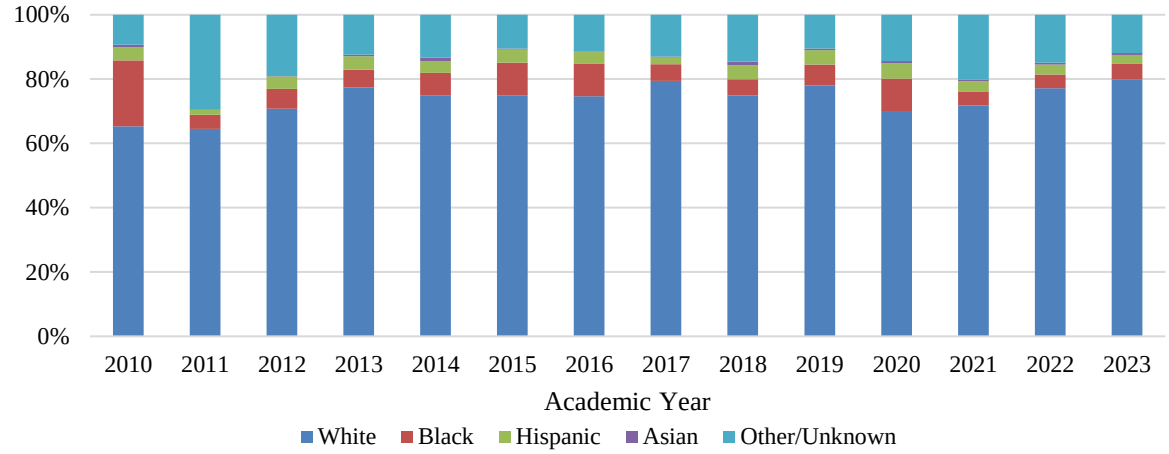


Figure 3-G
TRAINS Not-for-credit Enrollment by Age

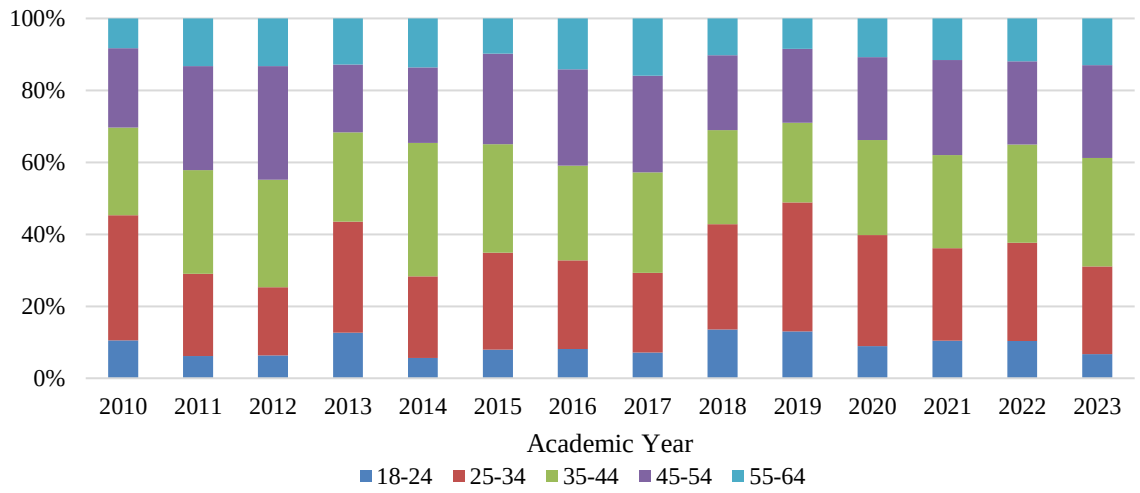
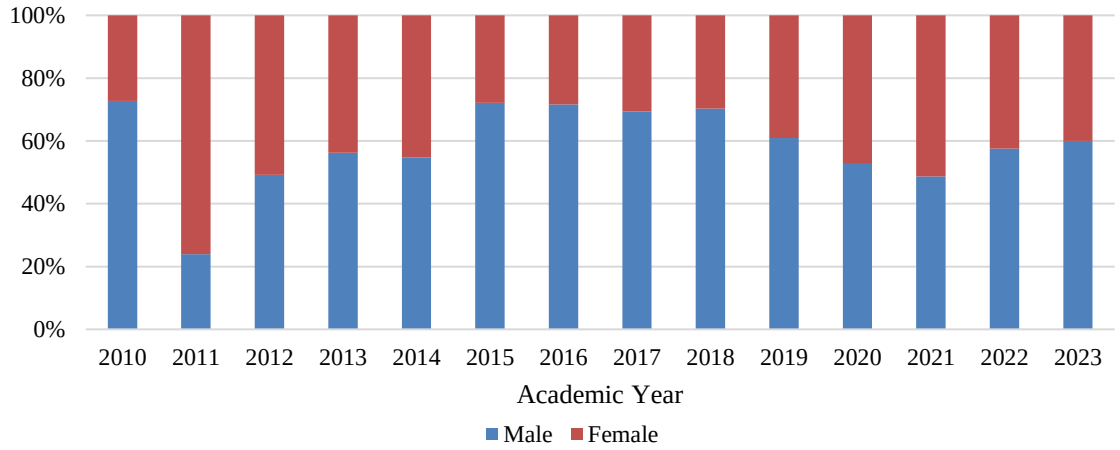


Figure 3-H
TRAINS Not-for-credit Enrollment by Gender



Research on Sectoral Training Programs

Economists have long noted that workers tend to bear the costs of general training, which provides skills that are useful to many employers. Firms are reluctant to invest in general training because their workers, once trained, could take these new skills to other employers and earn a higher wage. This is commonly referred to as the poaching problem. In these situations, firms would lose the opportunity to recoup their investment in training. As a result, workers generally bear the costs of general training, often through lower wages while training, but they can also earn returns from training as their skills develop through higher wages. However, as Black, Skipper, and Smith (2023) point out, market imperfections can sometimes lead to underinvestment in training.

Sectoral training programs have emerged to help address this underinvestment. The programs are generally administered by government agencies, which typically help fund the training. What

sets sectoral training apart from other training models is that employers are heavily involved in the development of their curriculum. Often sectoral training programs focus on connecting lower-skilled workers to industries that are facing a shortage of skilled workers. In addition to training, these programs may provide services such as job-search assistance, career counseling, and resume or interview preparation. TRAINS exhibits many of these characteristics.

Research on the effects of sectoral training programs suggests they have promise for improving labor market outcomes. Gasper, Henderson, and Berman (2017) found that participants in sectoral training provided by New York City saw gains in both employment levels and earnings. Maguire et al. (2010) evaluated labor market outcomes associated with sectoral training programs in Wisconsin, Boston, and New York City. The authors also found that participants were more likely to be employed, earned more, and were more likely to receive employment benefits. Katz et al. (2022) reviewed these and other studies of sectoral training. They found the effects on earnings ranged from -17.7 percent to 37.7 percent. Most research found positive effects on earning at two years.

One possible reason for the success of sectoral training programs is that resources can be targeted to sectors and jobs where there is a shortage of workers with appropriate skills. However, accurately identifying sectors with job shortages might be challenging (Black, Skipper, and Smith 2023).

The mechanism by which sectoral training programs improve wages is not simply a matter of improving employment. These programs may also help participants access higher-paying jobs in higher-earning industries (Katz et al. 2022; Gasper, Henderson, and Berman 2017; and Black, Skipper, and Smith 2023). In these cases, the program might be selecting individuals with more potential, connecting them to a sector with a shortage of skilled workers, and training individuals for the sector. Kentucky's TRAINS program does not appear to directly select workers and connect them to sectors needing workers. Rather, the employers select the workers through the application and hiring process, but TRAINS does provide resources to help train the workers after they have been hired.

Data

KCTCS provided individual enrollment records for its for-credit training from 2012 TRAINS to 2022, and when possible, for its not-for-credit training through 2023. The data reflects enrollment on August 15, November 1, and March 30 of each academic year. KCTCS noted that some individuals may enroll after these dates and might not be included in the data. They estimate that the data includes 70 percent of those enrolled. Enrollment data consists of social security numbers, dates of training, and the type of training or course provided. KYSTATS matched these data to its longitudinal data system and removed identifying information from the data. By linking these data, KYSTATS was able to provide participants' quarterly employment and wage records from the state's unemployment insurance program and records showing whether the individuals were enrolled in one of Kentucky's public post-secondary education institutions. Finally, the data included demographics on race, birth year, and gender. KYSTATS provided similar data for participants' coworkers.

Methodology

CBER used a quasi-experimental research design, similar to that used to evaluate adult education, to examine how participating in TRAINS for-credit courses affects labor market outcomes. Changes in labor market outcomes of a treatment group consisting of individuals who participated in TRAINS were compared to outcomes of a control group consisting of similar coworkers who did not participate in TRAINS.

To identify coworkers, CBER determined each participant's primary employer during the quarter they started TRAINS using unemployment insurance data. All identified coworkers of TRAINS participants were then included in the control group. Because those in the control group do not participate in TRAINS, they serve as a benchmark by showing how labor market outcomes of the treatment group might have changed if they had not enrolled in TRAINS.

The treatment group for this analysis consists of those who participated in a for-credit TRAINS course. Ideally, the analysis would have also included those who participated in not-for-credit training. While KCTCS does collect rosters on its not-for-credit course, it does not regularly collect detailed information such as social security numbers or demographics that could be used to link enrollees to KYSTATS's database. Therefore, while KCTCS did provide all available enrollment records, these records were sufficient to link to the KYSTATS's database for only a fraction of those enrolled in not-for-credit training. As a result, it is likely that many of the workers who participated in not-for-credit training could not be separated from coworkers who did not participate in TRAINS. Due to these data limitations, this analysis focuses on the for-credit TRAINS courses. Even with this focus, it is still possible that some who took not-for-credit training through TRAINS could be assigned to the control group.

Propensity Score Matching. The analysis used propensity score matching to ensure that those in the control group were similar to those in the treatment group. The propensity scores represent the probability that an individual will be enrolled in TRAINS based on the individual's demographic characteristics and past labor market history. The propensity scores are used to calculate weights for both the treatment and control groups.

Propensity scores were estimated separately for males and females. For each quarter, the data was restricted to the records of those in the treatment group who first enrolled in TRAINS during the quarter and the records for the entire control group. The data was further restricted to those who were employed during the quarter, as employment is a necessary condition for TRAINS. Logistic regression was used to estimate how race/ethnicity, age, and past labor market outcomes affect the probability that an individual would be enrolled in TRAINS during each quarter. The logistic regression included dummy variables indicating whether the individual was Black, Hispanic, or other—with White being the excluded category for race/ethnicity. Dummy variables for each age were also included. Labor market history consisted of employment, wages, and receipt of unemployment benefits for the eight previous quarters. Employment was represented by dummy variables for each of the prior quarters. An individual was considered employed in the quarter if they received any wages during the quarter. Wages were represented using the total wages earned from all jobs during each of the prior quarters. The data does not include the position or occupation of the workers enrolled in TRAINS or their co-workers. Therefore, it is not possible to match directly to workers in the same position. However, including past wages

helps with this as co-workers not enrolled in TRAINS who have very different wages than those who were enrolled will have little weight in the analysis. Receipt of unemployment insurance benefits wage was represented using dummy variables based on whether the individual received any unemployment insurance payments during the quarter.

The logistic regressions for each quarter were used to estimate the probability of enrolling in TRAINS during the quarter for those in the treatment and those in the control group. Weights were calculated for each individual as follows:

$$Treatment\ Group: \quad w_i = \frac{1}{(P)}$$

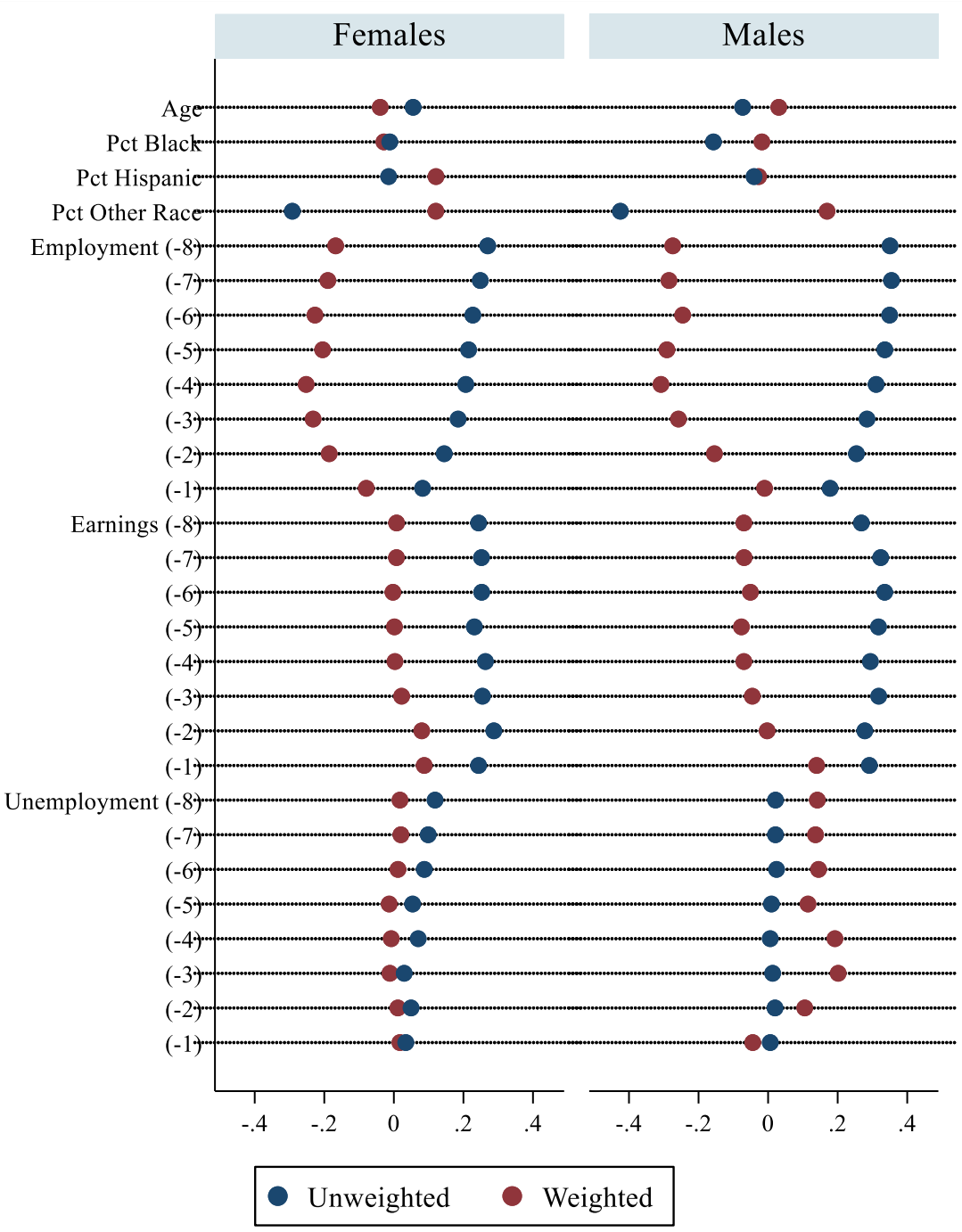
$$Control\ Group: \quad w_i = \frac{1}{(1-P)}$$

where P represents the probability of enrolling in TRAINS during the quarter. This gives greater weight to those who enrolled despite having a low probability of enrolling based on their demographics and labor market history. It also gives more weight to those who had a high probability of enrolling based on their demographics and labor market history but did not (Chesnaye et al. 2022).

Figure 3-I compares the unweighted and weighted standard mean differences between the treatment and control groups for females and males. Ideally, the standard mean differences would be smaller than 10 percent. For age, percent Black, wages earned, and percent of unemployment insurance, the differences were small, suggesting that after applying the weights the treatment and control groups are statistically similar with respect to these variables.

However, the groups still differ in terms of the percentage of Hispanic participants and the percentage employed prior to the quarter of enrollment. After applying the weights, the treatment group is less likely to be employed prior to the quarter of enrollment than the control group. This suggests that, even after applying weights, workers in the treatment group exhibit different employment histories than those in the treatment group. This might be because firms do not hire workers at random, but rather select workers based on the quality of the perceived employer-employee match. Also, the treatment group is likely to include more new hires than the control group. As a result, the comparison of TRAINS labor market outcomes may be affected by all these differences, rather than just the effect of TRAINS programming itself.

Figure 3-I
Standard Mean Differences



Note: Standard mean differences are shown for employment, earnings, and unemployment over the eight quarters prior to enrollment.

After developing the weights for the control and treatment groups, the observations for each quarter were combined. This process uses sampling with replacement to develop the control group as those who did not enroll appear in the analysis for each quarter. However, their weights

will differ across the quarters. For females, the treatment group consists of 3,046 individuals who enrolled, and the control group consists of 571,391 individuals who were coworkers with no record of participating in TRAINS. For males, the treatment group consists of 10,737 individuals, and the control group consists of 475,985 individuals. Note that the control groups are very large, since they represent all non-participating coworkers at these employers from 2012 through 2022. Table 3-1 shows the number of people represented in the analysis for each group evaluated.

Table 3-1
Sample Sizes

	Treatment	Control
Females		
All	3,046	571,391
Black	308	34,141
Hispanic	92	6,558
White	2,114	335,105
Males		
All	10,737	475,985
Black	572	48,572
Hispanic	320	15,037
White	8,578	372,836

Note: Sample size represents the number of unduplicated individuals represented in the analysis.

Measuring Differences in Labor Market Outcomes. The impacts that enrollment in TRAINS had on labor market outcomes were estimated by calculating the weighted means for the measures in each of the eight quarters prior to the enrollment, the quarter of enrollment, and each of the 16 quarters after enrollment.[8] Differences between the treatment and control groups were evaluated for statistical significance using t-tests at the 95 percent confidence level.

Results

The results are first presented for females and males regardless of race or ethnicity. Because the effects of TRAINS might differ across racial and ethnic groups, the analysis was also repeated for Blacks and Hispanics. Estimates are also included for White females and males. However, since most TRAINS participants were White, the results are similar to the results for all females and males.

Females. As Figure 3-J shows, female TRAINS participants were less likely to be employed than their coworkers during the quarters prior to enrollment (Panel A). Employment rates converge to 100 percent for both the treatment and control groups as the analysis was restricted to those who were employed during the quarter of enrollment. This pattern suggests that many of the workers who enrolled in TRAINS did so shortly after being hired. Following enrollment,

[8] For wages, the analysis compared the natural logarithm of wages. The results of the comparison were converted back to wages for in the figures and tables.

however, female TRAINS participants were significantly more likely to be employed than coworkers who did not participate. This employment effect was statistically significant and stable. At 16 quarters after enrollment, employment among female TRAINS participants was 15.6 percentage points higher than female non-participants (Panel B). This improvement in employment for TRAINS participants could be due to TRAINS. However, a worker must be employed to participate in TRAINS, and it appears that many of those who participated found employment just before enrolling. Therefore, their new employment might also contribute to their higher employment rates after enrolling in TRAINS.

The results suggest that TRAINS did not improve wages for female participants (Panels C & D). Participants and non-participants experienced similar changes in wages both prior to and after enrollment. The difference measured at each quarter, beginning with enrollment through 16 quarters after enrollment, was compared to the difference occurring at four quarters prior to enrollment. For example, four quarters prior to employment, employed female participants who eventually enrolled in TRAINS earned $2,365 more than those who did not participate. That is, even before enrolling, TRAINS participants earned roughly 27 percent more than non-participants. At 16 quarters after enrollment, female TRAINS participants earned only $2,077 more than non-participants. The wage difference measured at these two points was not statistically different from one another. In only three of the 17 quarters at and following enrollment was the wage difference statistically different than at four quarters prior to enrollment. In short, TRAINS participants had a wage advantage prior to enrollment, but this wage advantage did not improve after TRAINS.

Panels E and F show the difference in receipt of unemployment insurance benefits. As with adult education in Chapter 2, the analysis suggests that participating in TRAINS had no effect on utilization of unemployment insurance. The results were similar for all demographic groups discussed below.

Males. Figure 3-K shows the results for all males aged 25 to 54. Before enrolling, the males who eventually enrolled in TRAINS were less likely to be employed than those who were not enrolled in TRAINS. Following enrollment, male enrollees were actually more likely than non-enrollees to be employed, with enrollees having as much as a 10-percentage point advantage over non-enrollees (Panels A & B). By 14 quarters after enrollment, employment rates between enrollees and non-enrollees were not statistically different. This suggests that the employment advantage for male enrollees following TRAINS is temporary. As with females, there appeared to be no improvement in wages for males who enrolled in TRAINS (Panels C & D).

Black Females & Males. Black females who enrolled in TRAINS experienced improved employment rates compared to their coworkers who did not enroll (Figure 3-L). By 16 quarters, their employment rates were 20 percentage points higher than the people they worked with when they enrolled. The wage difference between enrollees and non-enrollees generally did not change.

Prior to enrolling, Black males who enrolled in TRAINS were less likely to be employed than the people they worked with at enrollment (Figure 3-M). After employment, Black male enrollees experienced similar employment levels as Black males who did not enroll. This

improvement could also be due to their being employed when they enrolled in TRAINS rather than simply the effects of TRAINS. Employed Black males who participated in TRAINS generally earned more than those who did not participate, even before they enrolled. This wage difference was not statistically different in the quarters after enrollment than before enrollment.

Hispanic Females & Males. Hispanic females who enrolled in TRAINS saw improved employment relative to non-enrollees (Figure 3-N). Post-enrollment employment levels among Hispanic females who enrolled were quite high, 36-percentage points higher than those not in TRAINS. There was, however, no indication that wages improved. It should be noted that there were only 92 Hispanic females in TRAINS in this analysis.

Hispanic males who took TRAINS also saw higher levels of employment than those who did not enroll, but again, these effects might be due to many of these individuals being newly employed when they started TRAINS rather than the effects of TRAINS (Figure 3-O). There was no evidence that wages improved for Hispanic males. They wage advantage of male Hispanic enrollees did briefly increase, but these gains quickly disappeared.

Figure 3-J
TRAINS For-Credit Courses Labor Market Outcomes
Females, Aged 25 to 54

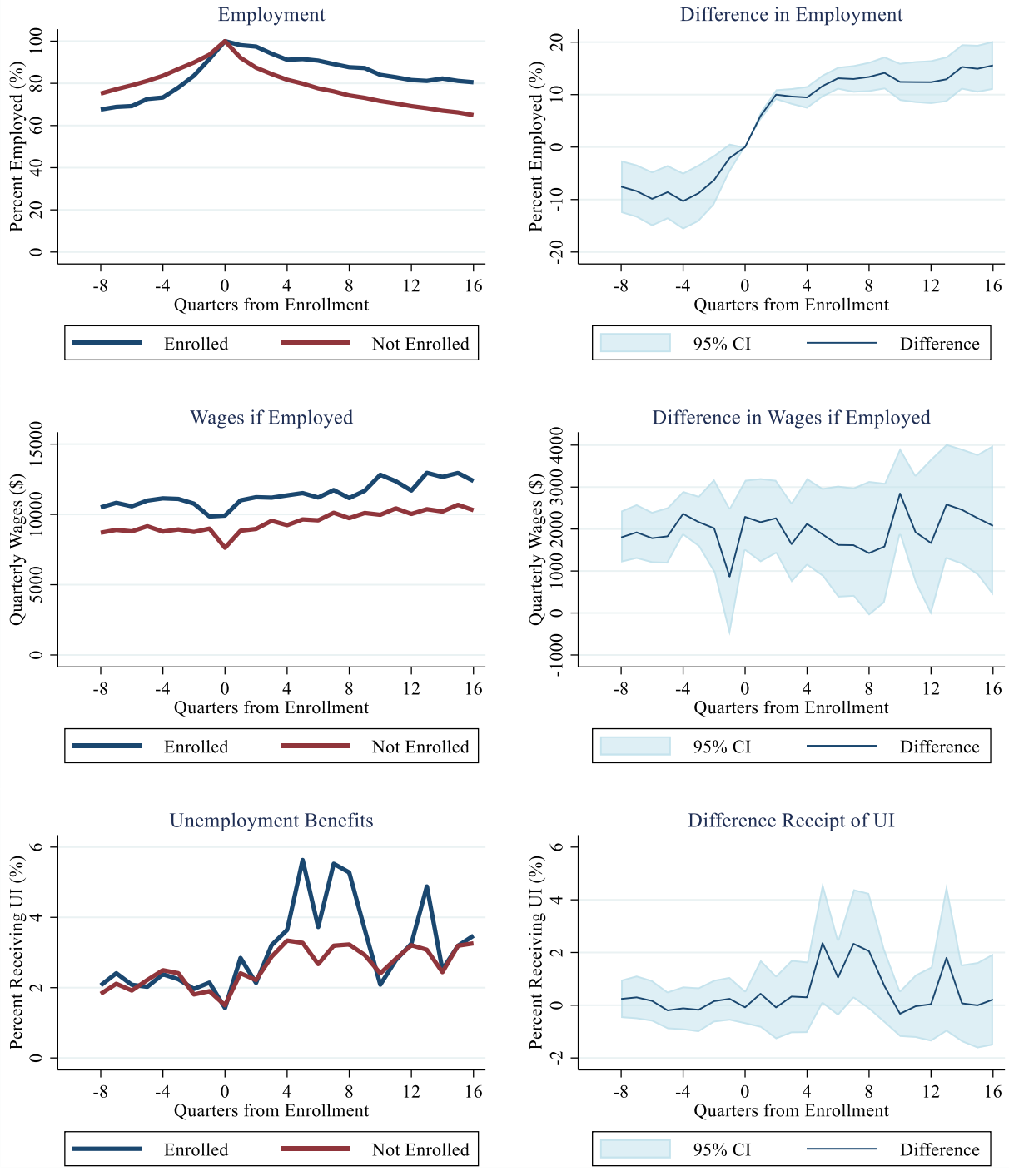


Figure 3-K
TRAINS For-Credit Courses Labor Market Outcomes
Males, Aged 25 to 54

Figure 3-L
TRAINS For-Credit Courses Labor Market Outcomes
Black Females, Aged 25 to 54

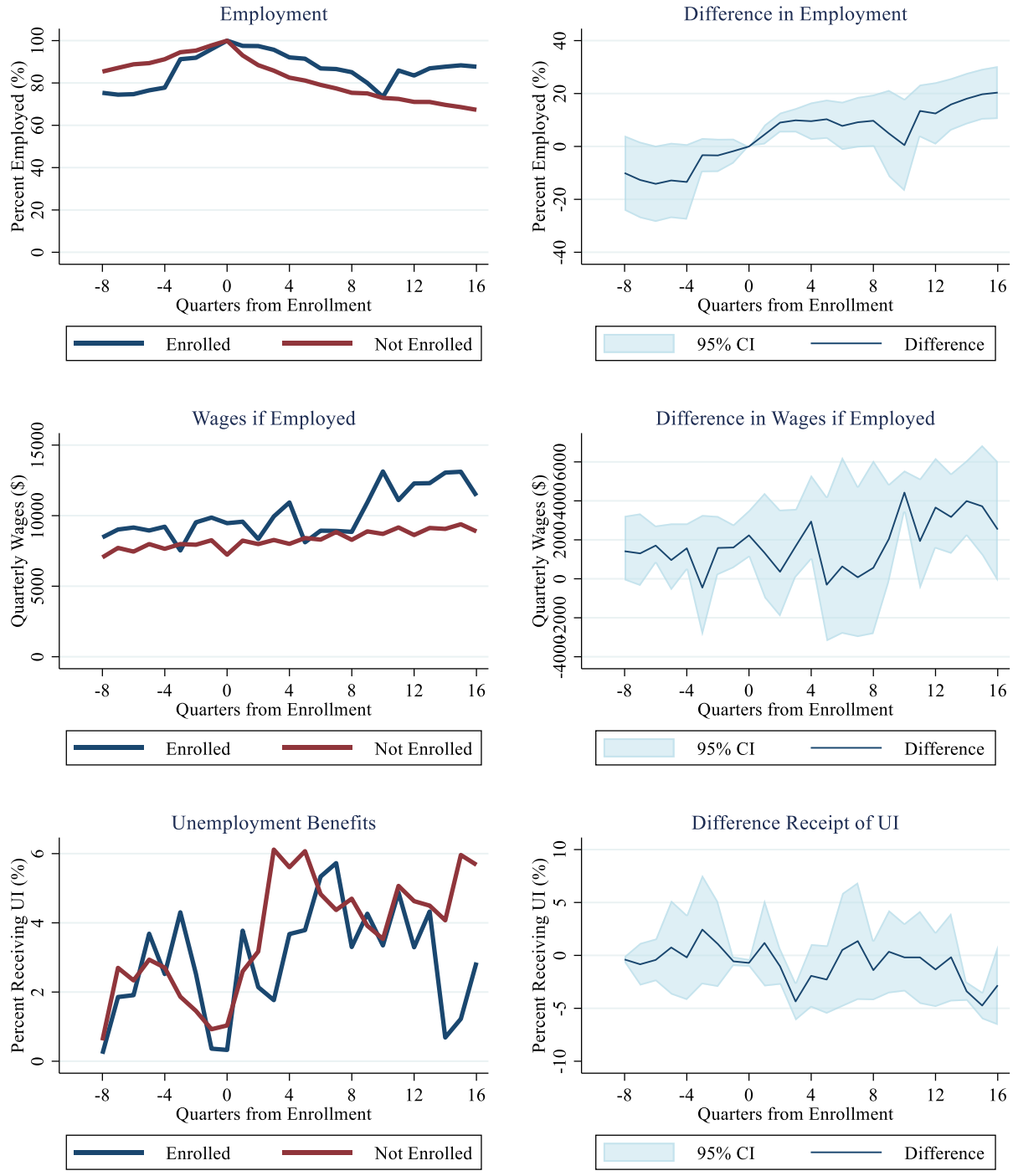


Figure 3-M
TRAINS For-Credit Courses Labor Market Outcomes
Black Males, Aged 25 to 54

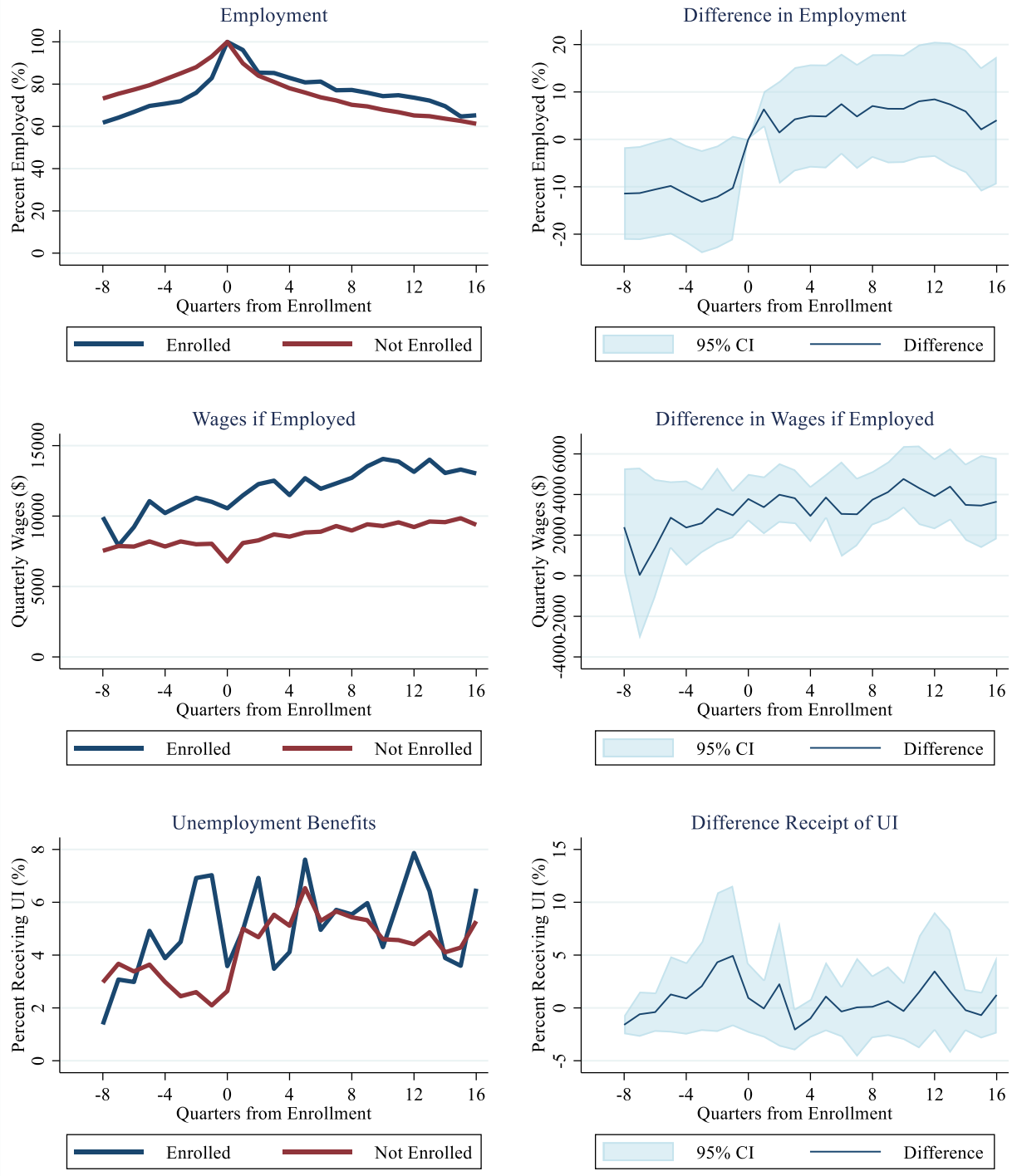


Figure 3-N
TRAINS For-Credit Courses Labor Market Outcomes
Hispanic Females, Aged 25 to 54

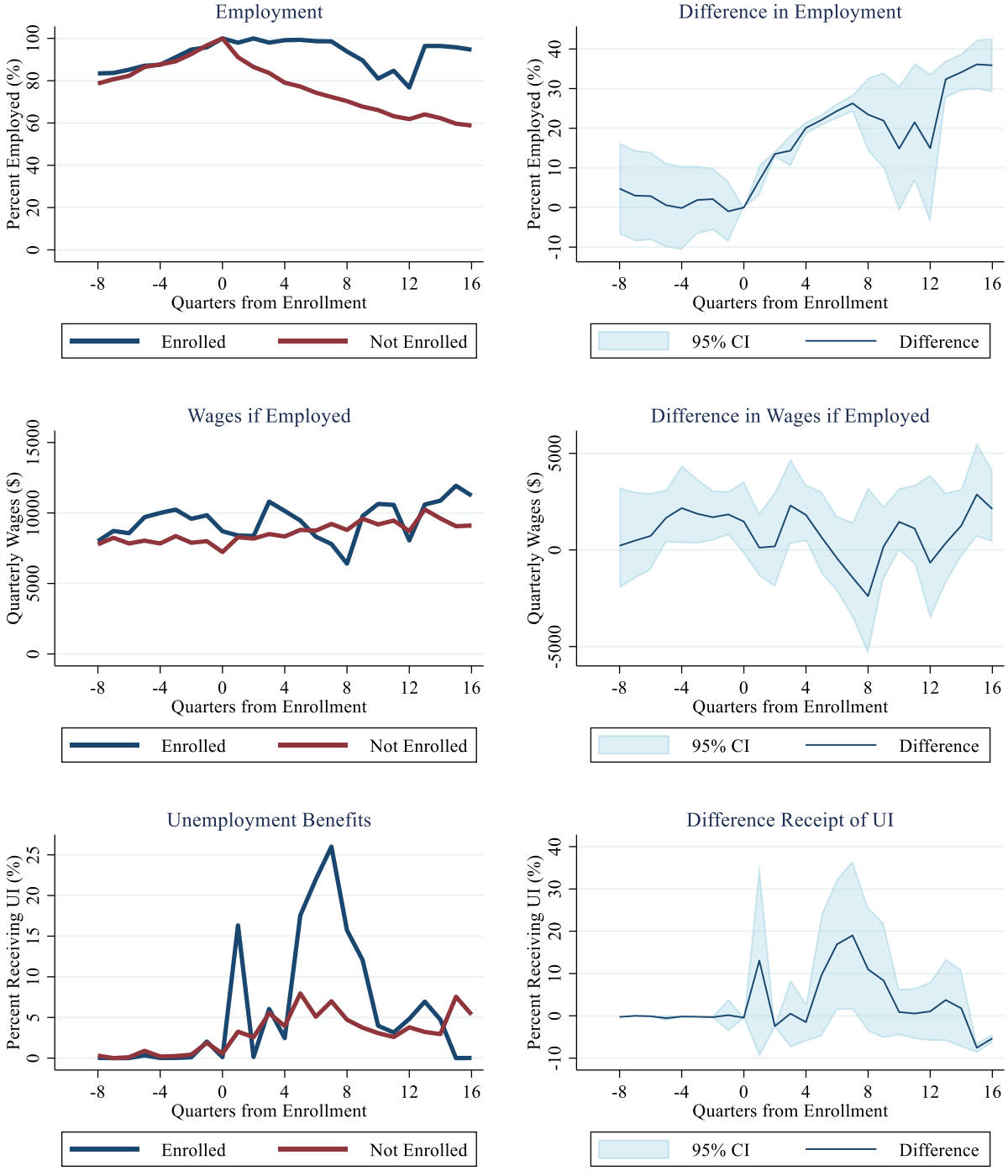


Figure 3-O
TRAINS For-Credit Courses Labor Market Outcomes
Hispanic Males, Aged 25 to 54

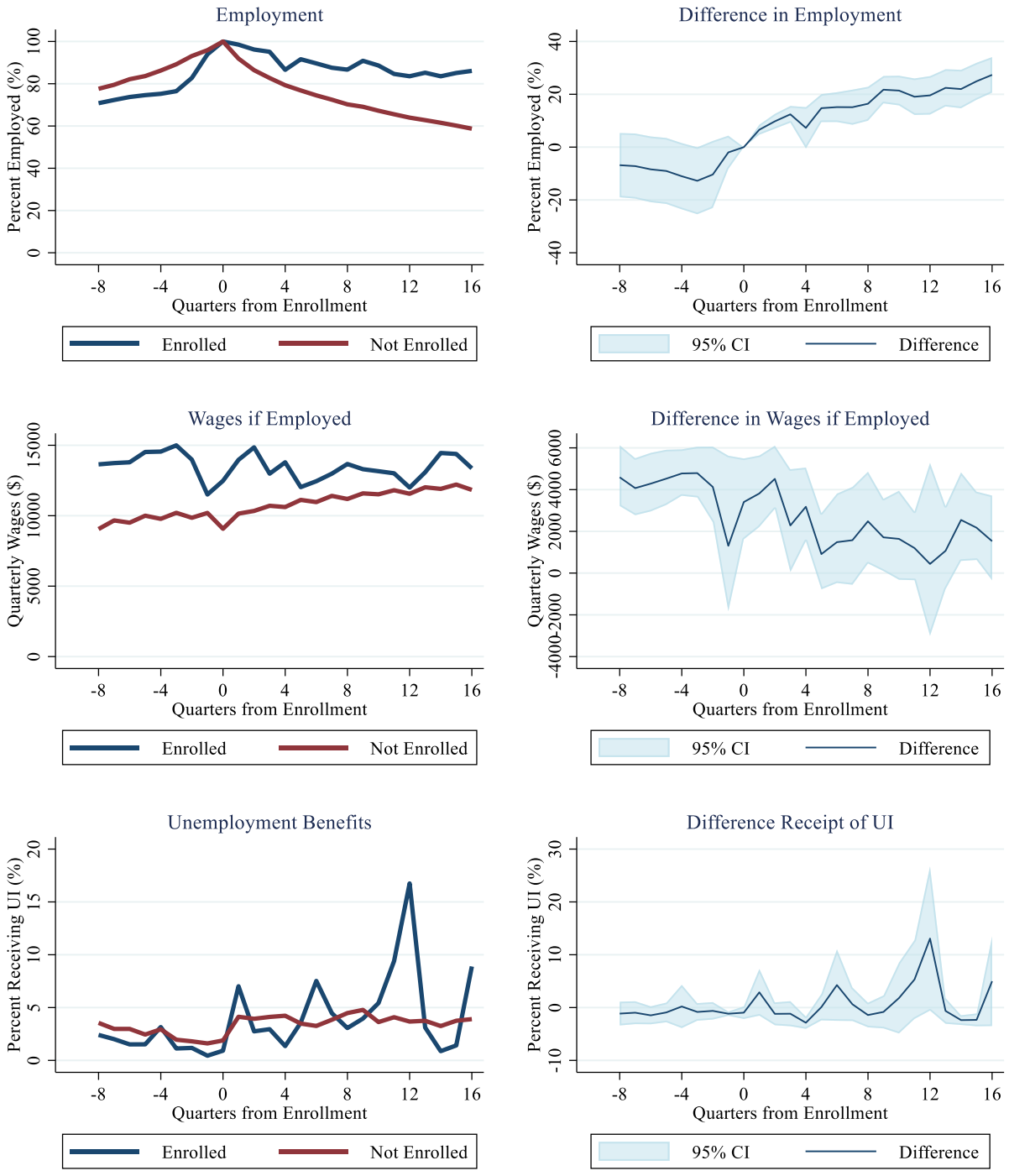


Figure 3-P
TRAINS For-Credit Courses Labor Market Outcomes
White Females, Aged 25 to 54

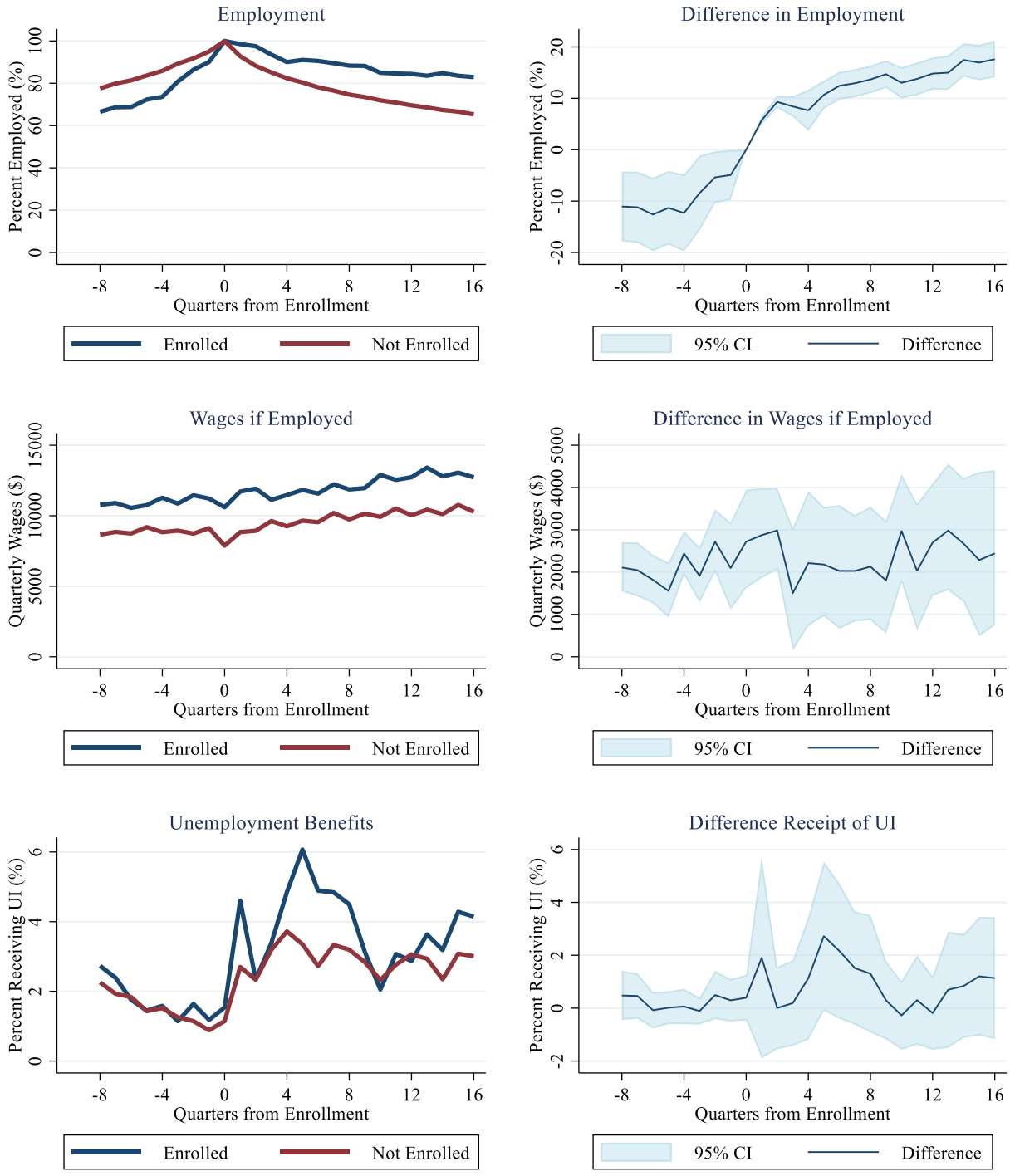
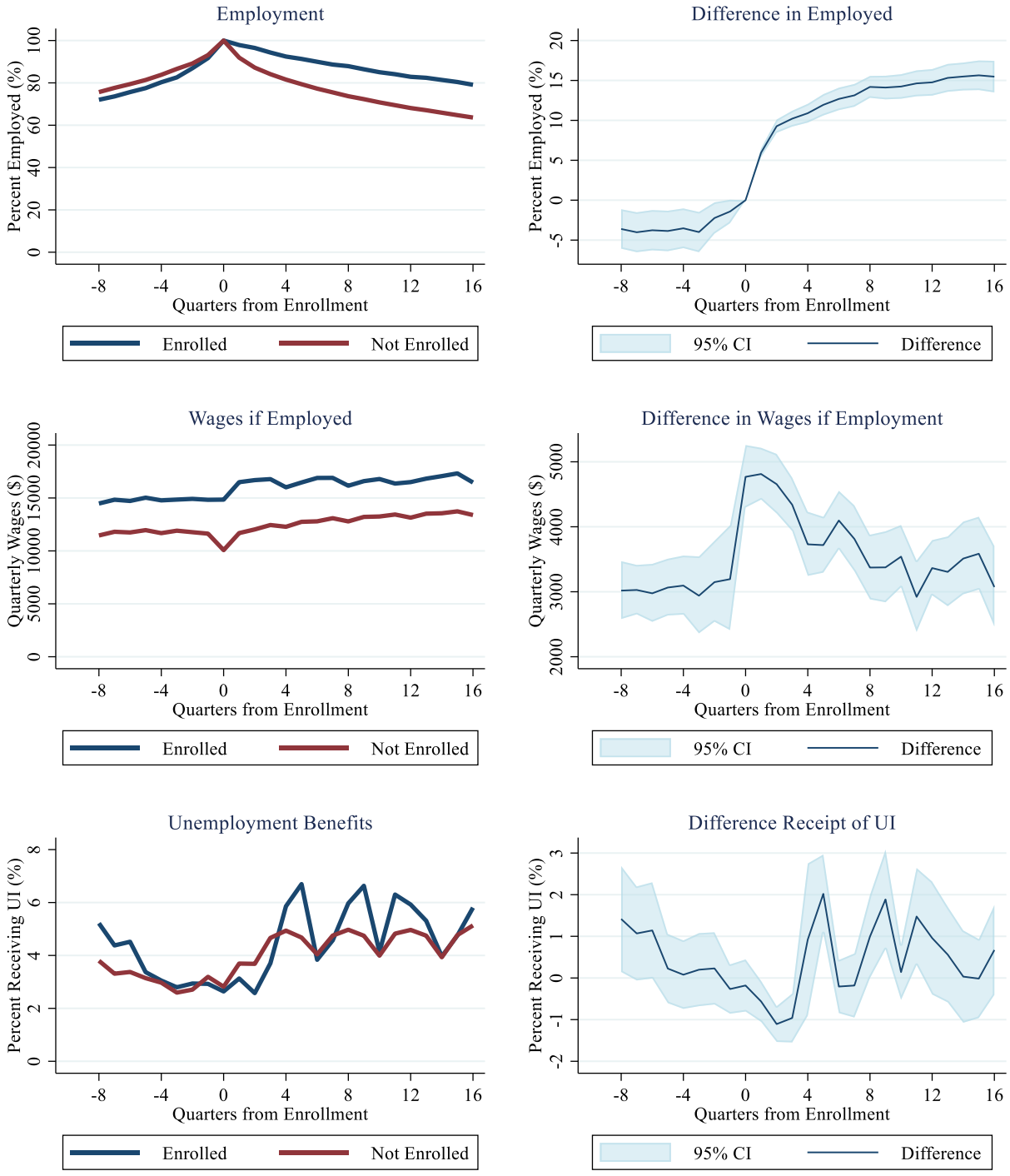


Figure 3-Q
TRAINS For-Credit Courses Labor Market Outcomes
White Males, Aged 25 to 54



Earnings and Potential Fiscal Impacts

This analysis suggests that participating in TRAINS for-credit courses has little effect on wages. However, those enrolled in TRAINS do appear to have higher employment rates after enrollment than those not enrolled. These higher employment rates contribute to TRAINS enrollees earning more. Consider 100 male workers who were enrolled in TRAINS for-credit courses. The results indicate that 91.2 percent were employed four quarters after enrollment compared to 85.1 percent of their male coworkers who did not enroll. That is, there were about six additional people employed and earning wages. Males who enrolled and were employed after four quarters earned $15,747 on average during this quarter. Applying these wages to the six additional workers suggests they would have earned $96,057 in additional wages for this quarter. This translates to $961 in additional income per participant being earned during this quarter.[9] This calculation might overstate the true impact on earning as it assumes those whose employment was affected by participating in TRAINS would earn the same as the average TRAINS participant. Instead, assuming they earn the lower 25th quartile of $10,900 for the quarter, these six workers would earn a total of nearly $66,500 more during the quarter. This equates to $665 per participant.

Table 3-2 shows the present value of the additional income that is associated with the higher rates of employment over each of the 16 quarters after enrollment. Estimates were calculated using both the average wage of participants and the lower 25th percentile. The table shows estimates for several groups. For each group, the estimate represents the difference in earnings between those enrolled and their coworkers who did not enroll. The net present value was calculated using a 4.4 percent discount rate (U.S. Office of Management and Budget).

Using the 25th percentile, the present value of the total change in wages from enrollment through four years after enrollment was approximately $17,302 per participant for females and $11,144 per participant for males. The impacts were lower for Black males than all males and lower for Black females than all females. Hispanics saw the largest gains due to the significant increase in their employment rates. The present value increase in wages totaled $24,742 per participant for Hispanic males and $18,153 per participant for Hispanic females.

As employment rates improve after participating in TRAINS for-credit courses, participants might also pay more in state and local taxes than they would otherwise. Applying the effective state and local tax rate of 8.4 percent from the Institute for Taxation and Economic Policy to the additional income earned by TRAINS for-credit participants provides a rough sense of how much more they would pay in state and local taxes.[10] These estimates are also shown in Table 3-2. The present value of the difference in earnings for males four years after enrollment in TRAINS for-credit courses was $11,144 per participant. Assuming an effective tax rate of 8.4 percent, this would suggest a present value of the additional state and local taxes these individuals would pay during the four years after enrollment of $936 per participant.

[9] Note that this calculation only reflects the difference in employment rates between participants and non-participants during the quarters following enrollment. It does not reflect how this difference changed from before enrollment to after enrollment.

[10] The Institute for Taxation and Economic Policy estimates Kentucky residents in the lowest income quintile pay approximately 7.1 percent in sales taxes and 1.3 percent in state income and local occupational license taxes.

As discussed in Chapter 2, the degree to which participants' higher earnings contribute to a net increase in state and local taxes depends on whether they displace other workers. If the unemployment rate is high and many workers are struggling to find work, this type of displacement might occur often. However, when unemployment is low and employers struggle to find workers, displacement is likely to be low.

Table 3-2
Present Value of Change in Earnings and State and Local Tax Revenues Paid Over Four Years from Enrollment

	Present Value of Additional Income Over 4 Years After Enrollment (Per Participant)	Present Value of Additional State and Local Tax Revenue Paid (Per Participant)
Assuming Average Wage of Participants		
Females		
All	$20,871	$1,753
Black	$16,973	$1,426
Hispanic	$31,479	$2,644
White	$22,386	$1,880
Males		
All	$14,967	$1,257
Black	$10,371	$871
Hispanic	$32,519	$2,732
White	$30,879	$2,594
Assuming Lower 25th Percentile Wage of Participants		
Females	$17,302	$1,453
All	$15,680	$1,317
Black	$25,151	$2,113
Hispanic	$18,153	$1,525
White	$17,302	$1,453
Males		
All	$11,144	$936
Black	$8,386	$704
Hispanic	$24,742	$2,078
White	$24,261	$2,038

Notes: Assumes an effective state and local tax rate of 8.4% and uses a discount rate of 4.4%.

Comparing the Benefits to the Costs of TRAINS

KCTCS provided the total annual expenditures for TRAINS for fiscal years 2019 through 2023 (Table 3-3). In FY 2023, the state provided $4.52 million to support TRAINS, which accounted

for 63 percent of the program's expenditures for the year. The companies receiving TRAINS services funded $2.67 million of these expenditures.

Table 3-3
TRAINS Expenditures ($ millions)

Fiscal Year	State's Expenditures	Companies' Expenditures	Total Expenditures	State Share
2019	2.82	2.06	4.88	58%
2020	2.87	2.05	4.92	58%
2021	1.99	2.49	4.48	44%
2022	3.23	2.63	5.86	55%
2023	4.52	2.67	7.19	63%

Notes: Expenditures are stated in 2023 dollars and were adjusted for inflation using the U.S. Bureau of Labor Statistics CPI-U.

KCTCS was not able to provide figures showing the for-credit expenditures and the not-for-credit expenditures. As a result, comparisons of the additional earnings from participating in TRAINS for-credit courses to the costs are limited. As noted, assuming the 25th percentile, the additional earnings for female TRAINS for-credit participants are equivalent to $17,302 more per participant during the four years after enrolling, while males earn approximately $11,144 more per participant. With roughly 18 percent of the 2022 enrollees being female and 82 percent being male, the average earnings gain would be $12,253 per participant.

In 2022, there were 3,058 individuals enrolled in TRAINS for-credit courses. Consider the impact of a ten percent expansion of TRAINS for-credit enrollees, or 306 additional enrollees. The results suggest that employment for this group would be higher and that they would earn approximately $3.7 million more. Note that these additional earnings would occur over four years. This suggests a potentially strong benefit for these workers that results from the state's investment in TRAINS. Again, the impact on total earnings in the state and on state and local taxes would depend on the degree to which these workers displaced other workers. Therefore, the $3.7 million figure should not be considered a net impact.

TRAINS Conclusions

KCTCS designed TRAINS to help Kentucky companies develop and fund employee training. Companies typically must provide 25 percent of the cost of training plus a 10 percent administrative fee, while KCTCS pays the remaining training costs through as appropriation in the executive branch budget. KCTCS administers TRAINS and works with companies to develop customized training programs for their employees. The training may consist of formal KCTCS courses that provide employees with college credit and not-for-credit training that typically lasts only a few days. Due to data limitations, this report focused on how participating in TRAINS for-credit courses affects workers' labor market outcomes. This was done by identifying workers who enrolled in TRAINS for-credit courses and their coworkers who were not enrolled in TRAINS. Employment rates and wages for these two groups were compared before and after those who participated in TRAINS enrolled. The results suggest that TRAINS

for-credit courses help to improve employment rates but do not improve the average wages of workers who are employed.

Workers who participated in TRAINS for-credit courses saw higher employment rates after enrollment than their coworkers who did not participate in TRAINS. Female TRAINS participants experienced consistently higher employment rates following enrollment than their female coworkers. The employment gains were statistically significant and improved consistently over time. By 16 quarters from initial enrollment, 80 percent of female participants were employed, compared to 65 percent of female non-participants.

Male participants also saw improved employment rates following enrollment compared to their male non-participating coworkers. Prior to enrollment, male participants had significantly lower levels of employment. Over the three years following enrollment, they experienced higher levels of employment than the control group. However, these differences essentially disappeared over the following year. By 16 quarters after enrollment, the employment rates for male participants and non-participants were not statistically different. While some of these gains declined during the fourth year following enrollment, enrollment among male enrollees improved relative to employment levels prior to enrollment.

While the employment gains for those enrolled in TRAINS for-credit course might be due in part to TRAINS, they might also reflect the fact that many of the TRAINS participants were newly employed. The analysis described above was designed to develop treatment and control groups that were statistically similar prior to the enrollment. However, the matching process did not yield treatment and control groups with similar employment rates prior to enrollment. Those enrolling in TRAINS had lower employment rates than their coworkers in the control group. As a result, the gains in employment for participants might reflect the fact that employers selected them for employment. Therefore, the employment gains likely reflect both the impact of TRAINS and the impact of these workers obtaining employment.

While participation in TRAINS for-credit courses was associated with improvements in employment, there was no evidence that TRAINS for-credit courses improved workers' wages. Generally, wages for those who enrolled grew at the same pace as those who did not enroll. This does not necessarily indicate that TRAINS for-credit courses do not help increase wages. Companies might provide other forms of training to the workers who were not enrolled in TRAINS. If so, these different training programs might be substitutes. No data was available on other training that companies might provide. If the companies using TRAINS do provide other forms of training for their workers, the lack of an impact on wages could indicate that TRAINS for-credit courses simply do not improve wages better than the other forms of training provided.

Additional research examining the labor market effects of TRAINS is warranted. A limitation of this study is that the control and treatment groups had different employment levels prior to TRAINS participants enrolling. Specifically, those who enrolled in TRAINS had lower levels of employment prior to enrolling. As a result, the labor market difference reported likely reflect both the effects of TRAINS and these workers being hired. Additional research could help to better isolate the effects of TRAINS programming alone. Also, because TRAINS is customized

to each company's needs, it provides a wide range of training. Examining whether the labor market outcomes differ across employers or sectors also merits further research.

Appendix A: Kentucky's Workforce Development System

Workforce development in Kentucky occurs across a complex system of federal, state, and local agencies, private businesses, educational institutions, and many other entities that work to develop the skills of Kentucky's workers and connect these workers to employers. This network has developed numerous programs focusing on various populations such as adults, people with disabilities, dislocated workers, youth workers, and the general workforce. Funding for these efforts comes from various sources, including the federal and state governments.

During this study, CBER reviewed many of the components of Kentucky workforce system including agencies, partners and programs actively working to improve Kentucky's workforce. This appendix summarizes many of these components. This appendix provides information on the types of services provided, the populations served, and where possible the expenditures by funding source. In several sections, data is provided on participation and expenditures. These figures can be affected by changing economic conditions. For example, participation in some programs might decline as the economy improves. In addition, the pandemic and recovery had a significant impact on several programs including how many people participated and what agencies spent to shift their programs to on-line delivery.

This appendix does not attempt to describe all components of Kentucky workforce development system. There are still other programs across various Cabinets and agencies that play a significant role in workforce development, such as the Kentucky Transitional Assistance Program (K-TAP) Education and Training program. In addition, there are numerous agencies and programs that might have a peripheral role in supporting workforce development.

Workforce Innovation and Opportunity Act (WIOA)

WIOA is a federal law signed into law on July 22, 2014, and aims to improve workforce development and employment services in the United States.

A key component of WIOA is the establishment of state and local workforce development boards (WDBs). WDBs allocate the funds to support workforce development initiatives managed by private, public, and nonprofit partners.

Kentucky Workforce Innovation Board
On October 7, 2020, Governor Beshear issued executive order 2020-857, establishing the Kentucky Workforce Innovation Board (KWIB) as Kentucky's state-level workforce development board for WIOA. The KWIB advises the governor on workforce training and development issues at the state level and is responsible for:

- creating a state-wide vision for workforce development,
- developing and implementing the state's strategic workforce development plan,
- developing statewide policies, programs, and recommendations,
- developing statewide workforce activities and
- updating and developing the state performance measures.

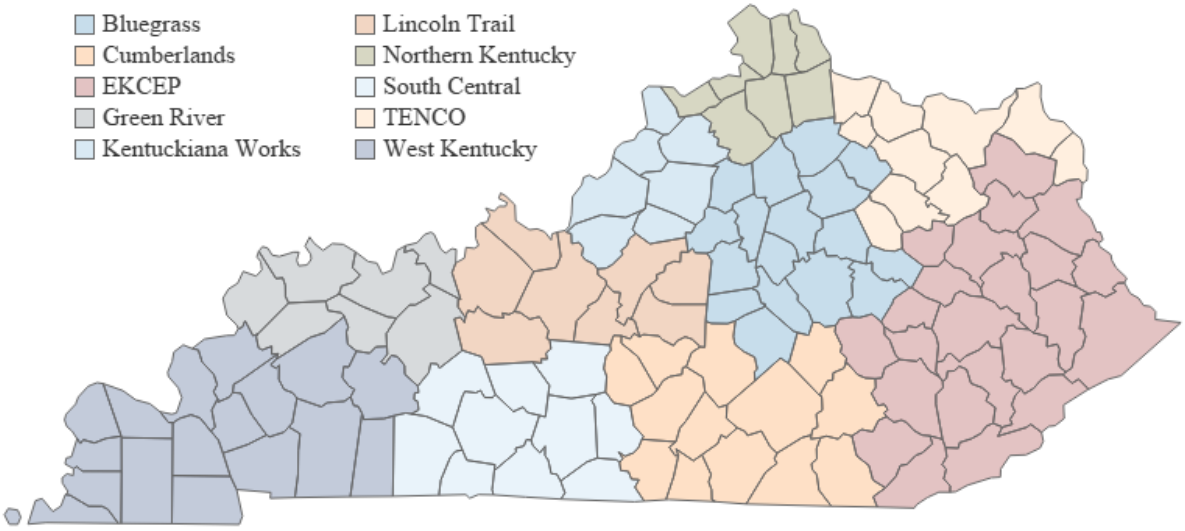
The KWIB works closely with the Education and Labor Cabinet's Department of Workforce Development to implement the state's workforce initiatives. It also assists with administering the Statewide Reserve Fund by recommending funding for workforce programs or pilot programs.

Per the executive order, most voting members of the KWIB must be business representatives. These representatives can be owners, executive officers, or members nominated by a state business or trade organization. Additionally, at least 20 percent of the board must be representatives from labor organizations, registered apprenticeship programs, or community-based organizations that offer work-relevant training. The board must also include certain elected officials, such as the Governor and a member of each State Legislature.

Local Workforce Development Boards (LWDB)
Local Workforce Development Boards (LWDBs) are responsible for overseeing the implementation of workforce development initiatives in their local area. WIOA created a decentralized structure that gave LWDBs significant discretion in how to best respond to the workforce conditions and employers' needs in their local area.

LWDBs can partner with service and program providers to address their area's labor force needs, and partner programs can differ by local area. LWDBs oversee a set of workforce programs and services funded through WIOA Title I. The LWDBs are responsible for overseeing the Kentucky Career Centers in their local areas, coordinating cost-sharing agreements with partner programs and providers. They are also responsible for partnering with programs and providers, tracking program outcomes, and coordinating with other workforce programs both inside and outside their local area.

Figure A-A
Local Workforce Development Areas



WIOA Funds

WIOA consists of six core programs, organized under four formal titles, that focus on providing employment services and training programs for different population groups. Table A-1 lists the core initiatives authorized under each title of WIOA.

Table A-1
Six Core Programs/Initiatives Authorized by WIOA

WIOA Funds	Program	Purpose	Description	Administered
Title I	Adult Program	Training	Provides workforce development resources to **individuals 18 years or older** and helps **meet the workforce needs of employers** by upskilling the local workforce and connecting them with potential employees.	U.S. Department of Labor
Title I	Dislocated Worker Program	Training	Helps dislocated **workers retrain** after their previous workplace closes. Often, workers are "dislocated" due to changes in the labor and skills demanded in an area.	U.S. Department of Labor
Title I	WIOA Youth Program	Youth Services	Provides **tutoring, on-the-job skills training, financial literacy**, and **pre-apprenticeship programs**. The program targets "out-of-school" youth, individuals between 16 and 24 who are not in school.	U.S. Department of Labor
Title II	Adult Education and Family Literacy	Education	Help adults obtain **secondary and post-secondary credentials**, learn to read, learn **English as a Second Language** (ESL), and civic government.	U.S. Department of Education
Title I	Wagner-Peyser Employment Service	Office Centers	A nationwide system of offices known as **One-Stop Centers** assists in implementing training programs and providing access to labor exchange services. These centers are also referred to as **Kentucky Career Centers** in the Commonwealth.	U.S. Department of Labor
Title IV	Vocational Rehabilitation	Assistance and Training	Vocational rehabilitation funds can be used to help **individuals with disabilities** overcome substantial barriers to employment by **providing education, training, and equipment.**	U.S. Department of Education

WIOA Title I: Adult, Dislocated Worker, and Youth Programs
Title I funds may be colloquially referred to as "Adult, Dislocated Worker, and Youth" funds. However, these three categories are all distinct workforce development programs authorized under Title I. This is the largest fund category and accounted for 53 percent of all WIOA funds in FY 2022 and on a national level, LWDBs received approximately 60 percent of Title I funds.

(Collins, 2022)[11]. In FY22, Kentucky LWDBS received 82.4 percent of WIOA Title I funds, which is approximately 47.3 percent of all Kentucky WIOA funds. Figure A-E, at the end of this section, illustrates how Title I funds are distributed from the federal government to the states.

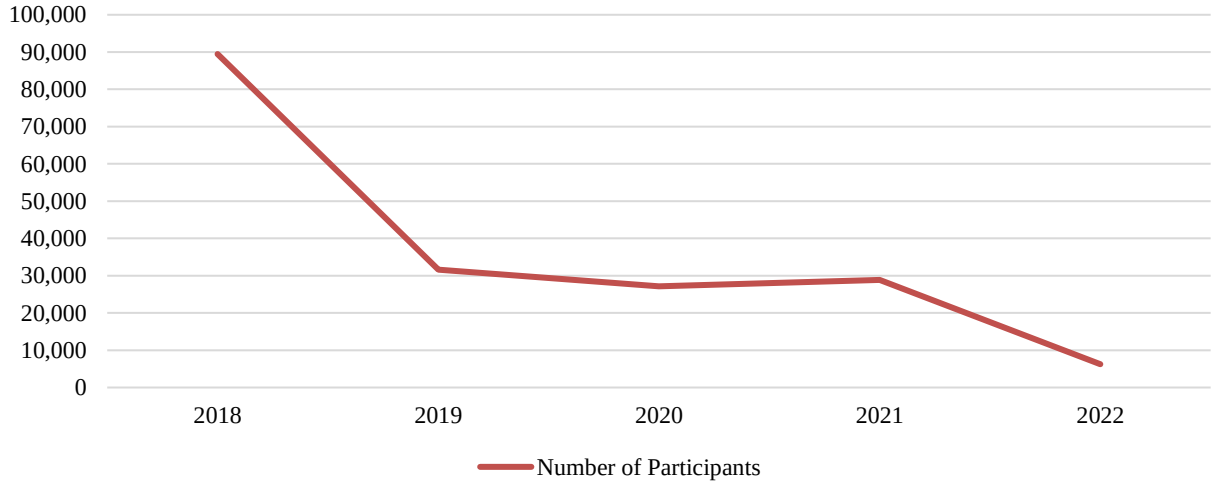
The Adult and Dislocated Worker programs are designed to upskill the workforce, meet employers' workforce needs, and help individuals learn marketable skills in an ever-changing labor market. Individuals 18 or older can participate in these programs.

The individuals' classification as "adults" or "dislocated" workers does not affect the type of services they are eligible to receive under WIOA Title I. In fact, with the approval of the governor or their designated administrator, these funds can be transferred between the adult and dislocated programs in their entirety.

Title I also set aside funds for youth programs that specifically serve individuals 14-24 years old. There are two "youth" classifications: in-school and out-of-school. Out-of-school youth must be between 16 and 24 years of age. In-school youth must be low-income and between 14 and 21 years old to be eligible for WIOA youth programs.

At least 75 percent of youth funding must be spent on programs and services for out-of-school youth, and 20 percent of the local area's funding must be spent to provide work experience for both in and out-of-school youth. There tend to be more eligibility criteria to participate in youth programs than in adult or dislocated worker programs, but an individual over 18 and under 24 years old can participate in youth, adult, and/or dislocated worker programs.

Figure A-B
Number of Participants Served under WIOA I in Kentucky



WIOA by the Numbers, US Department of Labor, 2022. Note: Substantial methodology changes were made beginning in PY 2018, related to what qualified as a program participant. This affected the number of reportable individuals.

[11] [11] Federal guidance states that 15 percent of WIOA I funds are allocated to a fund often referred to as the Governor's Statewide Reserve fund. Up to 5 percent of the total WIOA I funds can be used for administrative expenses, which the Statewide Reserve fund pays. The explanation above outlines Kentucky's process which fulfills this federal requirement.

The KWIB reported that in Program Year (PY) 2022, they served approximately 3,400 adults, 410 dislocated workers, and 2,500 youth using Title I funds. Figures A-B show the number of participants served under WIOA I provisions over time, as recorded by the US Department of Labor.

Statewide Reserve Fund (SWR)
The Education and Labor Cabinet oversees the WIOA Statewide Reserve Fund through the KWIB and the Department of Workforce Development. This Reserve Fund can be used to implement statewide workforce development initiatives and fund innovative programs to meet the state's workforce goals. In Kentucky, ten percent of WIOA Title I Youth, Adult, and Dislocated Worker funds are allocated to the Statewide Reserve Fund, and five percent of these funds are set aside to cover administrative expenses.[12]

Eligible groups, such as Nonprofits, State agencies, and LWDBS, can apply for grants from this fund. The Statewide Reserve Fund review team reviews these applications monthly. Then, the governor allocates these funds based on the recommendations of the KWIB and the Department for Workforce Development.

These funds can support statewide workforce programs and initiatives and supplement local initiatives that aim to improve regional outcomes through workforce development. In FY22, these funds were used to support programs such as:

- Louisville Gas & Electric Company and Jefferson Community & Technical College Line Technician Program
- TEK Center
- Kentucky Chamber of Commerce Talent Pipeline Management Program
- South Central Career Edge Program
- Learning Grove Northern Kentucky High School to College Program
- Northern Kentucky Workforce Innovation Board: Work for Success Program
- Bluegrass Local Workforce Development Area Strategic Plan Realignment.
- The Enzweiler Building Institute
- The Northern Kentucky Workforce Innovation Board (Grow NKY)

WIOA Title II: Adult Education and Literacy
WIOA Title II funds can be used to help individuals obtain secondary or postsecondary credentials and take part in educational or training programs. Specifically, WIOA II funds programs that help individuals obtain their GEDs or postsecondary credentials, improve the literacy of adults, and provide integrated English Literacy and Civics Education for English learners and immigrants. Additionally, these funds can be used to provide educational services to institutionalized individuals. Up to 20 percent of these funds can be used for educational programs for incarcerated individuals.

[12] Federal guidance states that 15 percent of WIOA I funds are allocated to a fund often referred to as the Governor's Statewide Reserve fund. Up to 5 percent of the total WIOA I funds can be used for administrative expenses, which the Statewide Reserve fund pays. The explanation above outlines Kentucky's process which fulfills this federal requirement.

Figure A-F, located at the end of this section, shows how Title II funds are distributed. The US Department of Education reports that an estimated $10 million was awarded to Kentucky under WIOA Title II. The KWIB reported that Title II funds allowed them to serve approximately 11,700 participants under the provisions of Title II, equating to a cost of $834 per participant.

WIOA Title III: Wagner Peyser

The funds allocated under Title III are often called Wagner Peyer funds. WIOA Title III modified the Employment Service, a system of public employment offices established in 1933, to integrate the Employment Service offices into the national system of One-Stop Centers, branded as American Job Centers.

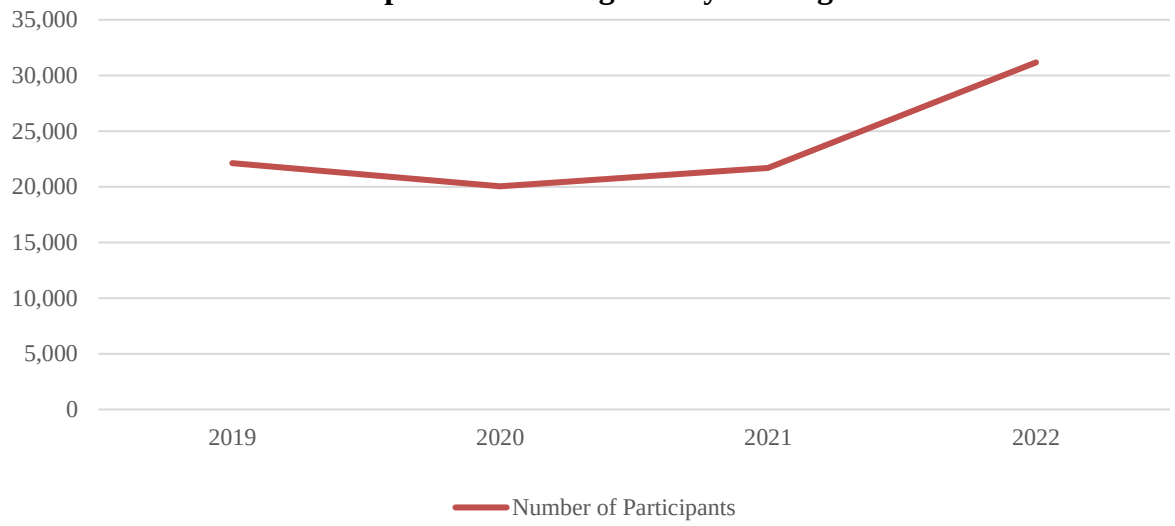
Title III requires Employment Service offices to collocate with the One-Stop Centers, known as Kentucky Career Centers in the Commonwealth. Wagner-Peyser services are often responsible for delivering or facilitating many career services offered by the workforce development framework established in WIOA.

The Wagner Peyser Act, as amended, outlines the types of services that can be funded under Wagner-Peyser which include:

- job search and placement assistance
- recruitment services for employers
- hosting job fairs
- referrals to potential jobs or other workforce development programs and
- the provision of labor market information

Figure A-C shows the number of Wagner-Peyser participants by year, and Figure A-G, found at the end of this section, shows how Wagner-Peyser funds are distributed from the federal government to the states.

Figure A-C
Participants in the Wagner-Peyser Program

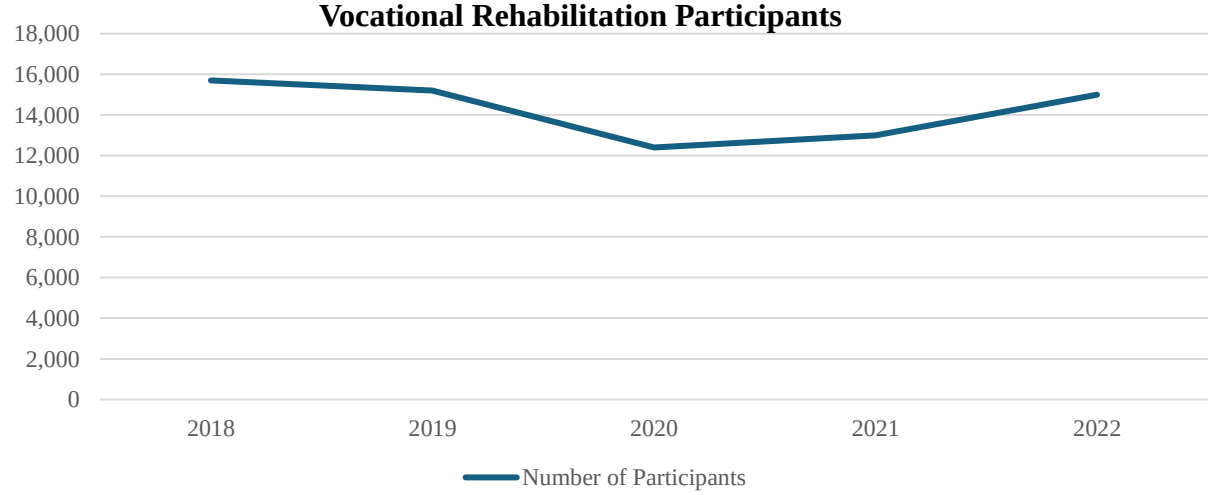


WIOA by the Numbers, U.S. Department of Labor, 2022. Note: Substantial methodology changes were made beginning in PY 2018, related to what qualified as a program participant. This affected the number of reportable individuals.

WIOA Title IV: Vocational Rehabilitation

WIOA Title IV funds are to be spent on vocational rehabilitation programs that support individuals with disabilities in the labor market. WIOA IV amends the 1973 Rehabilitation Act to align the vocational rehabilitation programs with the state workforce development programs.

Figure A-D
Vocational Rehabilitation Participants



U.S Department of Education, Rehabilitation Services Administration, National Summaries and State Reports for the VR Program, 2022.

WIOA IV also emphasizes helping individuals achieve "competitive integrated employment," which is defined as full or part-time employment that:

- pays more than the minimum wage,
- necessitates interactions with individuals who do not have disabilities and
- provides the same advancement opportunities to individuals with disabilities as those without.

According to the Rehabilitation Services Administration, Kentucky used approximately $21 million in WIOA Title IV funds to serve nearly 15,000 individuals in PY 2022. Figure A-D shows the number of vocational rehabilitation participants in Kentucky over time.

Required WIOA Partner Programs

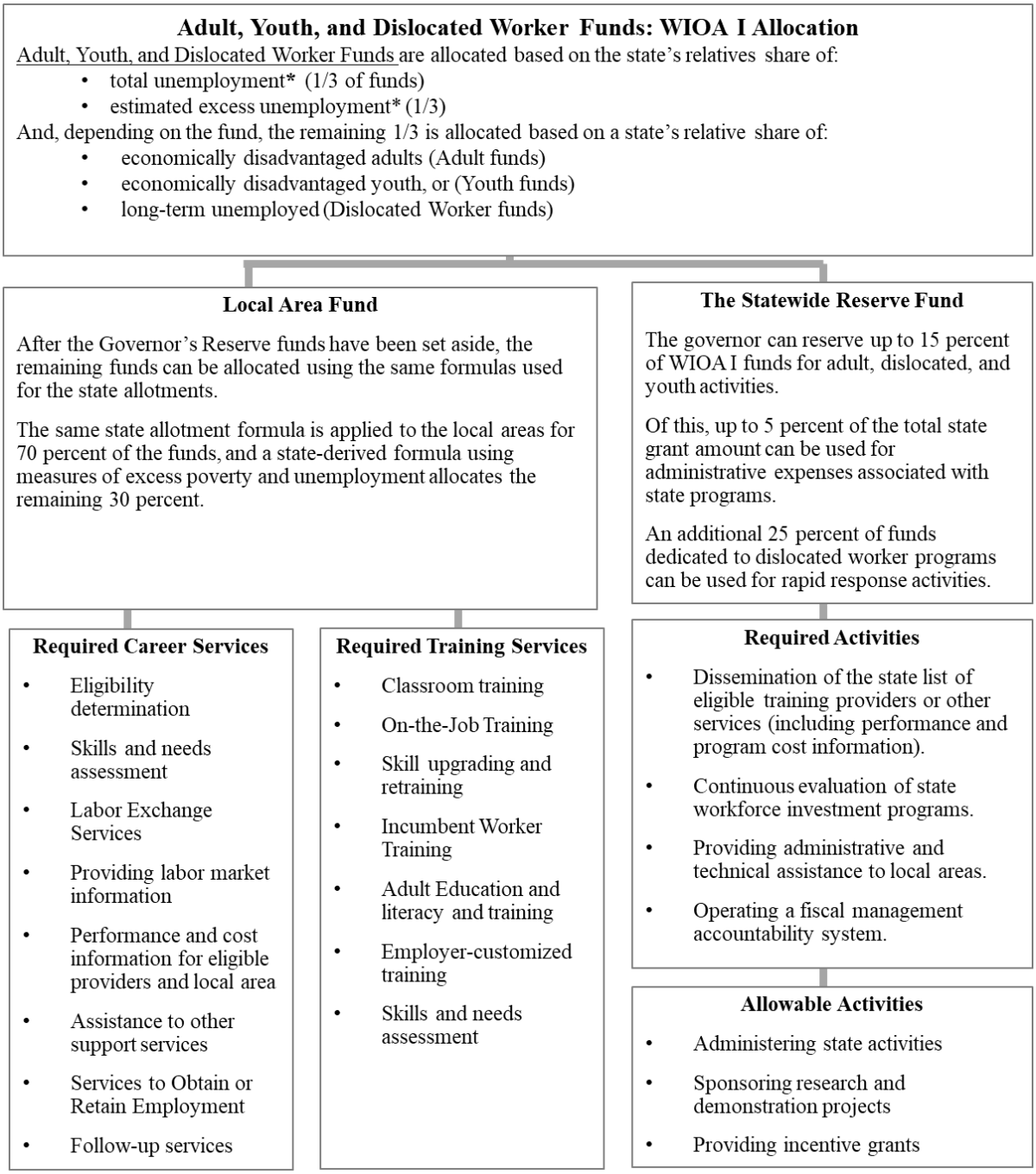
In addition to the six core programs, WIOA mandates that Kentucky Career Centers and WIOA entities work closely with certain partner programs to provide workforce services. Table A-2 provides a brief description of these required partners and services.[13]

[13]Two programs are not included in Table A-2 due to their limited applicability in Kentucky: the Temporary Assistance for Needy Families (TANF) and the Trade Adjustment Assistance programs. The governor can waive the requirement to partner with the TANF program, which is currently not required in Kentucky. Additionally, the Trade Adjustment Assistance program is being phased out, and no new petitions have been accepted since July 2022.

Table A-2
Required WIOA Partner Programs

Program	Purpose	Description	Funding Source
Indian and Native American Program	Training	Focused on developing **occupational and academic skills** to support employment and economic and social development.	WIOA Title I
JobCorps	Technical Training	A **residential training program** for individuals aged 16-24. Provides food and board as well as transitional support services. Training programs can go up to three years. Graduates tend to enter the workforce, college, or the military. Currently, 26 colleges can receive **Job Corps grants** for **technical training** and **counseling services**.	WIOA Title I
National Farmworker Jobs Program	Training and Housing	Offers career training **grants to migrant and seasonal farm workers**. Additionally, it works to provide safe and sanitary housing for farmworkers.	WIOA Title I
Reentry Employment Opportunities Program (REO)	Research and Implementation	A research program working **to identify successful reentry programs**, assist in their administration, and measure the effectiveness of programs not currently implemented in the public workforce development system (such as faith or community-based services).	Second Chance Act of 2007, Section 212
YouthBuild	Community Building	A program for youth (16-24) who are outside of school or employed to build housing and **improve the infrastructure of their communities**.	WIOA Title I
Senior Community Service Employment Program	Community Engagement	A program that provides **paid community service** opportunities to low-income seniors. Seniors work 20 hours a week at nonprofit or public institutions such as hospitals, schools, or daycares.	Older Americans Act
Community Services Block Grant	Low-Income Services	A Health and Human Services **block gran**t can be spent to provide resources such as legal services, assistance paying utilities, affordable housing, educational opportunities, and economic initiatives benefiting low-income individuals.	The Community Opportunities, Accountability, and Training and Educational Services Act of 1998
Jobs for Veterans State Grant	Veteran Services	A formula grant that pays for personnel that provides **career and training**-related services to **eligible veterans and other eligible populations** and helps employers fill their workforce needs with job-seeking veterans.	38 USC 4102A
Unemployment Insurance	Benefits	Kentucky Career Centers provide services that help individuals file for **unemployment insurance benefits**.	Social Security Act of 1935 and Federal Unemployment Tax Act 1939
Post-Secondary Career and Technical Education	Technical Education	Funds designated to be used for **post-secondary and technical education initiatives.**	Carl D. Perkins Vocational and Applied Technology Education Act of 2006

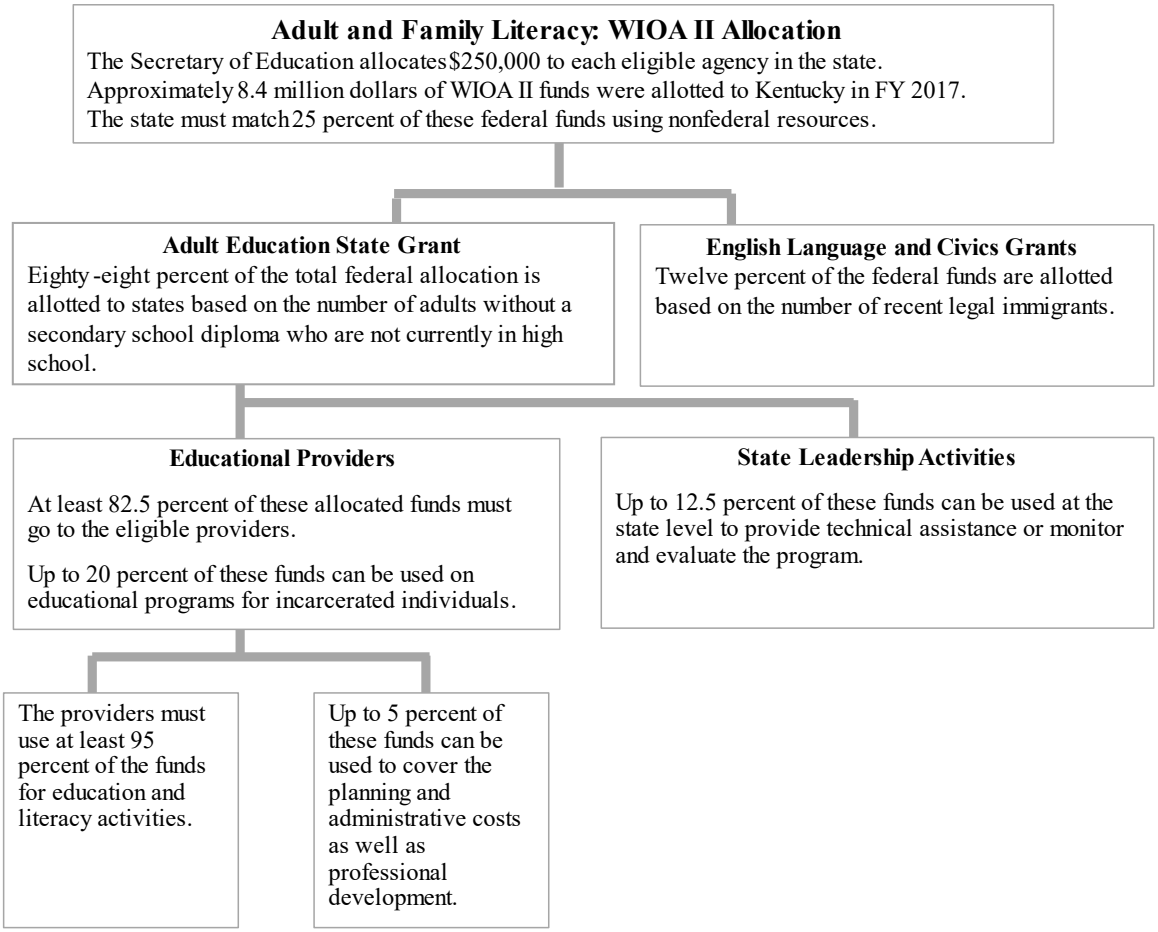
Figure A-E
Description of How the Federal Government Distributes WIOA I Funds to States



Twenty percent of the dislocated worker funds are allocated into a National Reserve Account for National Dislocated Worker Grants (NDWG) or other services for dislocated workers. The rest is allocated via the formula outlined above.

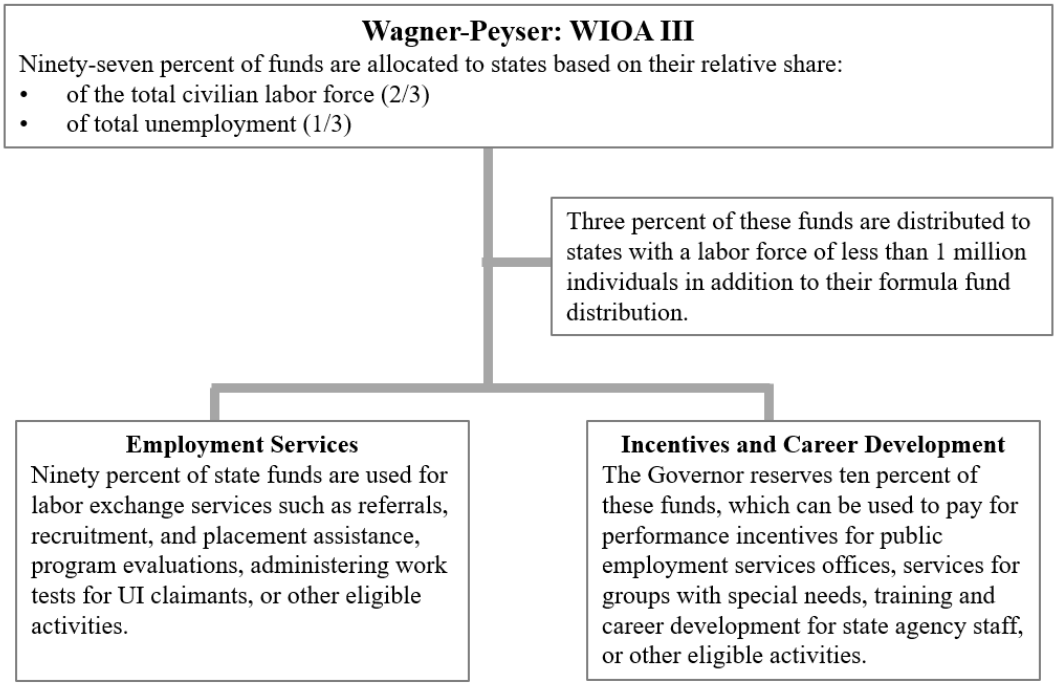
*Adult and Youth funds use the relative share of total and excess unemployment in "areas of substantial unemployment." Areas of substantial unemployment are defined as contiguous areas with an average unemployment rate of 6.5 percent or higher for the last 12 months and more than 10,000 people.

Figure A-F
Description of How the Federal Government Distributes WIOA II Funds to States



Eligible providers include public or private nonprofit agencies, libraries, public housing authorities, community colleges, and other nonprofit institutions that provide adult education and literacy activities.

Figure A-G
Description of How the Federal Government Distributes WIOA III Funds to States



Kentucky Career Centers

Kentucky Career Centers are located throughout the Commonwealth. They serve as gateways for individuals seeking workforce development resources and help meet employers' workforce needs. These offices are part of a national network of offices established under WIOA Title I, known nationally as American Job Centers or One-Stop Centers. These centers play a pivotal role in the provision of workforce development services and are overseen by the LWDBs.

The Kentucky Career Centers are essentially workforce resource hubs where individuals can access workforce development resources, and employers can meet their workforce needs. At Career Centers, individuals may receive one-on-one employment counseling, use resume software, obtain referrals to services and benefits, and access an array of other career development supports. Employers can receive interview and applicant screening assistance, training resources, and help identifying other workforce development incentives.

The Career Centers partner with representatives from both public and private organizations to provide workforce development resources and help job seekers connect with employers. The Education and Labor Cabinet sees these centers as a one-stop solution for workforce development and job connection, offering a comprehensive suite of services tailored to the unique needs of stakeholders.

At Kentucky Career Centers, individuals can access workforce development resources provided by government offices such as the Offices of Adult Education, Employer and Apprenticeship Services, or Vocational Rehabilitation. They can also connect with partner workforce development program providers, which can include community and technical colleges, community action commissions, employers with registered apprenticeship programs, and charitable entities.

The Career Centers can provide their services in three ways: self-service, facilitated self-help, and staff-assisted service (Collins, 2022).

- Self-Service: These services can be accessed outside the Kentucky Career Centers without staff assistance, typically via the Internet.
- Facilitated Self-Help: Kentucky Career Centers offer resources such as fax machines, resume-writing software, photocopiers, and computers. Staff are available to help individuals use these resources.
- Staff-Assisted Service: These services include one-on-one career counseling with Career Center staff, intensive job search assistance, and referrals to other workforce resources that may help the individuals being counseled. Employers can also access resources like employment screening services and referrals for their job openings.

The Career Centers are sponsored by the state, the local workforce development boards, and their program partners. All partners contribute to the operating costs associated with maintaining the career centers based on their usage of the center. This contribution is based on factors such as on-

site space utilization, identification of shared costs, proportionate share, cost allocation, or resource sharing. There are four different types of Kentucky Career Centers.

Comprehensive Kentucky Career Centers provide the career services of all required WIOA program partners. Partner program representation can be fulfilled by having a staff member at the career center, a staff member cross-trained for multiple partner programs, or a staff member who can be contacted electronically. Each Local Workforce Development Area (LWDA) must have at least one comprehensive center.

Services offered to individuals vary by location but can include:

- Resource rooms with phones, free internet, and resume-writing tools
- Job training and skills testing services
- Job search assistance and practice interviews
- Career counseling and employment plan development
- Labor market and employer information
- Employment workshops
- Supportive services (e.g., SNAP and Medicaid) as well as other community resources
- Hiring events and business service information
- Vocational rehabilitation services
- Unemployment insurance information

Kentucky Career Centers also offer services for employers to help them address their workforce needs. The types of employer services offered can include:

- Recruitment and referral services
- Interview and screening services
- Assistance identifying and applying for employer resources such as:
    - Grant-in-Aid
    - tax incentives, such as the Workforce Opportunity Tax Credit (WOTC)
    - state bonding programs
    - training services and grants

Kentucky Career Centers can partner with mental health programs, transportation programs, community-based organizations, or foundations, as well as workforce programs associated with benefit programs, such as the Kentucky Transitional Assistance Program (K-TAP)[14]. However, WIOA stipulates that the Comprehensive Kentucky Career Centers must provide programs and services such as:

- Adult literacy and education programs
- Career and technical education programs
- Vocational rehabilitation programs
- Reentry Programs
- Migrant and Seasonal Farmworker Programs

[14] One-Stop operators are required to partner with the Temporary Assistance for Needy Families (TANF) program, known as K-TAP in Kentucky, unless the state's governor waives this requirement. Currently, Kentucky does not require Kentucky Career Centers to partner with K-TAP.

- Veteran Services
- Unemployment compensation programs

Kentucky Career Center Affiliates offer job and training services to workers, employers, job seekers, as well as youth and young adults. At least one partner program or career service is offered at a Career Center Affiliate, and individuals may also be referred to other workforce services.

Kentucky Career Center Access Points provide basic information for workers, job seekers and employers, youth, and young adults. There, individuals can receive guidance and counseling for employment, as well as referrals to other resources and partner services.

Career Center Partner Locations provide specific services, which can vary by location. Often, these partners refer individuals to other workforce development resources. Examples of partner locations and the types of services they offer include:

- The Office of Adult Education:
    - GED Diploma Instruction
    - English as a Second Language
    - Family Literacy Programs

- The Office of Vocational Rehabilitation
    - Disability and employment information
    - Vocational rehabilitation services
    - Assessments and eligibility determinations
    - Employment counseling

Additional location-specific services can include:

- Senior Community Services
- Youth Programs
- Housing and Weatherization Resources
- Head Start

Career Development Office Overview

The Career Development Office provides an entryway to the Kentucky Career Centers' services and workforce development programs. The office's staff connects individuals to workforce development resources and other assistance programs. Career Development staff members are present in all Comprehensive Kentucky Career Centers across the state. The office is associated with WIOA Title III, or Wagner-Peyser funds, which created a national network of employment service offices.

The office's career counselors meet with individuals to create Individualized Employment Plans (IEPs). To develop this plan, counselors meet with individuals to discuss their career goals, evaluate their skills, and outline the steps necessary for an individual to achieve their career goals. These counselors also connect individuals with other workforce development resources. For example, individuals with a disability may be referred to the Vocational Rehabilitation Office to determine if they qualify for Vocational Rehabilitation's assistance and resources. Finally, CDO staff help individuals looking for work connect with employers, and they follow up on case outcomes.

The Career Development Office also administers the Reemployment Services and Eligibility Assessment (RESEA) program, an Unemployment Insurance (UI) program. The program is designed to improve employment outcomes and reduce the time individuals are unemployed. This program identifies the individuals receiving unemployment benefits who are most likely to drop out of the labor force, exhaust unemployment insurance benefits, or experience long-term unemployment. This is determined by demographic factors such as the individual's work history or level of education. Once these "at-risk" individuals are identified, they must attend an orientation virtually or in person at one of the comprehensive Kentucky Career Centers.

The RESEA orientation provides an overview of the various workforce development resources available. Participants work directly with a career counselor to identify suitable job openings and develop their employment plans. The counselor follows up with the individual to ensure they are fulfilling the workforce requirements and continues to contact them for up to 90 days after being successfully employed.

The office is also responsible for aspects of the Foreign Labor Certification Program, including facilitating applications for H-2A approvals. The H-2A temporary agricultural program allows agricultural employers who anticipate a shortage of domestic workers to bring migrant foreign agricultural workers to the U.S. to perform agricultural labor or services of a temporary or seasonal nature. The office also collects data on prevailing agricultural wages and ensures that the housing offered to the H2A workers meets standards set forth by U.S. DOLOSHA standards.

The Career Development Office also administers the Jobs for Veterans State Grant (JVSG) program, a federally funded formula grant. This grant covers the cost of hiring dedicated staff to provide individualized career and training-related services to eligible veterans, eligible individuals with significant barriers to employment, and other authorized populations.

Funding

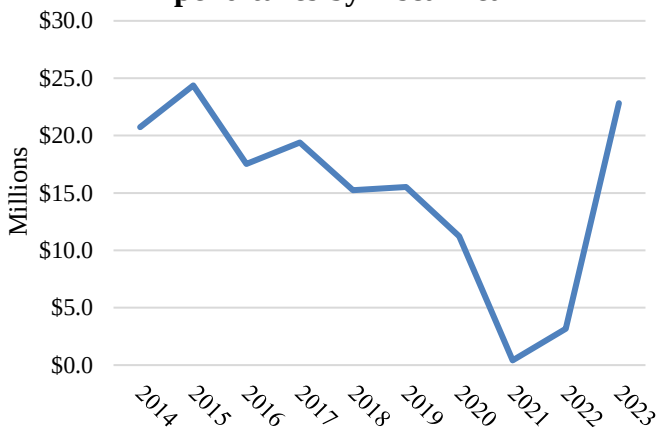
This office spent approximately $23 million in FY23; Figure A-H shows the Career Development Office's expenditures over time.

Expenditures have been trending downward since 2017 due to the closing of a significant number of Kentucky Career Centers.

Expenditures declined significantly in 2020 and 2021 due to significant changes in the office's operations during the COVID-19 pandemic. Career Development staff were detailed to the Office of Unemployment Insurance to help process the historically high number of unemployment insurance claims. Because of this, a sizable percentage of the Career Development Office's personnel expenditures were paid for with UI funds, significantly lowering the office's expenditures. As Career Development staff returned to their regular duties, the office's expenditures increased.

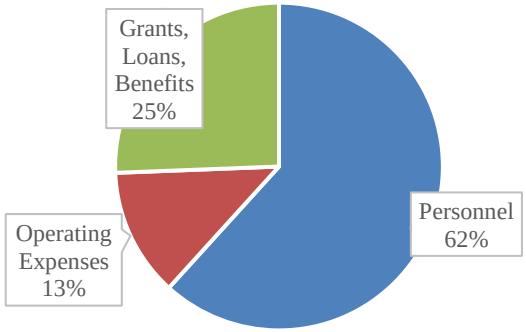
The Office's FY23 expenditure includes Personnel ($14.1 million), Grants, Loans, and Benefits ($5.8 million), and Operating Expenses ($2.8 million). Figure A-I shows expenditures by class.

Figure A-H
Career Development Office
Expenditures by Fiscal Year



Source: Data provided by the Kentucky Education and Labor Cabinet, 2024.

Figure A-I
Career Development Office FY23
Expenditures by Category

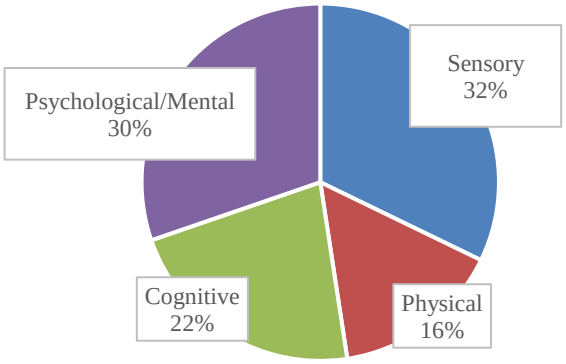


Source: Data provided by the Kentucky Education and Labor Cabinet, 2024.

Office of Vocational Rehabilitation Overview

The Office of Vocational Rehabilitation provides vocational rehabilitation services to help individuals with physical or mental disabilities obtain suitable employment or appropriate training, such as on-the-job training and vocational and classroom instruction. To receive the office's services, an individual must have a verified disability considered "a substantial barrier to employment."[15]

Figure A-J
Qualifying Disability of Program Participants in FFY 2023



Source: Kentucky Office of Vocational Rehabilitation Annual Report, 2023.

Individuals with disabilities or barriers to employment are referred to the office and may apply for services. Vocational rehabilitation counselors then meet with individuals and determine their eligibility using the results of assessment tests, their social security disability status, or other relevant health records. Individuals with the most severe disabilities are prioritized. Figure A-J shows the qualifying disabilities by disability type for PY22.

If the individual is eligible to receive services, vocational rehabilitation counselors work with applicants to create an Individualized Plan for Employment (IPE), an agreement with the agency designed to help individuals set realistic career goals and determine the resources needed to obtain Competitive Integrated Employment. The U.S. Office of Disability Employment Policy defines Competitive Integrated Employment as full or part-time work that:

- pays the same wages and benefits as an employee without disabilities with similar duties and work history,
- offers similar advancement opportunities compared to those offered to employees without disabilities and
- allows the employee to interact with individuals and employees without disabilities.

Once the services that can help an individual obtain employment are identified, the required services are provided either by the office's staff, which includes technicians and specialists, or through contracted services from providers such as psychologists, psychiatrists, or rehabilitative technologists.

The office also provides services for youth through Pre-Employment Transition Services. The agency is federally required to expend 15 percent of its awarded federal funds on pre-employment transition services for eligible or potentially eligible students.

[15] The full eligibility requirement is that an individual must have a physical or mental impairment, and the impairment must result in a substantial barrier to employment. An individual must be also able to benefit from vocational rehabilitation (VR) services in terms of an employment outcome and must require VR services to prepare for, enter, engage in, or advance in competitive integrated employment

The Vocational Rehabilitation Office ensures that disabled individuals can access the resources necessary to achieve their employment goals. A few examples of the resources OVR can provide include:

- Assistive technologies and services
    - Hearing aids, wheelchairs, prosthetic limbs, mobility canes, or cognitive aids
    - Communication devices, assistive computer software, and property modifications
    - Training, maintenance, technical assistance
- Supported employment services
- Medical treatments that consistently and significantly improve vocational functioning

In addition to offering these services, the office also runs two residential facilities that offer rehabilitation services and training and credentialing programs. The Charles W. McDowell Center for the Blind in Louisville teaches blind or low-vision individuals the skills necessary to participate in the labor force and/or live independently. A larger residential facility, the Carl D. Perkins Vocational Training Center in Johnson County, has a broad array of services to help individuals needing more intensive support. It connects individuals to job training programs and courses offered on-site or via local community college partners.

The office also offers services to employers, such as disability education and etiquette training, and it provides workplace support to help recruit and retain employees with significant disabilities. Additionally, employers may be eligible for incentives such as the Work Opportunity Tax Credit (WOTC**)** or programs that cover a portion of an employee's salary for a period of time.

From July 2022 – to May 2023, the office served approximately 42,000 people. Of these, approximately 4,000 individuals exited in successful employment and earned, on average, 21 dollars an hour and worked 34 hours a week. As of May 2024, referrals to the Vocational Rehabilitation Program were up 11 percent, eligible individuals were up 7 percent, and successful placements were up nearly 30 percent compared to last year (Kentucky Office of Vocational Rehabilitation, 2024).

The Vocational Rehabilitation Office has four primary divisions, each addressing different employment barriers.

- The Division of Field Services
- Carl D Perkins Vocational Training Center
- The Division of Blind Services
- The Kentucky Business Enterprise Program

The Division of Field Services

This division provides direct vocational rehabilitation services to eligible individuals. Career counselors determine an individual's eligibility, develop an employment plan with the individual, and identify the steps necessary to help the individual meet their employment goal. Vocational Rehabilitation staff may provide the services or purchase them from approved vendors. Examples of purchased services include physical, occupational, and speech therapy, nursing and physician services, adjustment services, psychological and psychiatric services, and rehabilitation counseling. Vocational rehabilitation staff also refer individuals to other social services or additional state resources for which they may be eligible.

Carl D Perkins Vocational Training Center

The Carl D. Perkins Vocational Training Center is a rehabilitation facility in Johnson County that helps individuals who need more hands-on support to participate in job training programs. The Center can offer in-house medical services, mental health counseling, academic assistance, and outpatient medical rehabilitation services such as speech and physical therapy. Since January 2023, 135 individuals have graduated from their programs, earning 101 credentials in programs offered by the center, which include automotive lubrication and detailing, cosmetology, and industrial truck operations. In addition to offering its own training programs, the center has partnered with Big Sandy Community and Technical College so eligible residents can attend college classes.

Division of Blind Services

This division provides services, equipment, and training to help individuals with visual disabilities. It oversees several specific programs, such as Deaf/Blind, Bioptic Driving, and the Independent Living & Older Individuals Who Are Blind Program. It is also responsible for the Charles W. McDowell Center for the Blind, a residential facility in Louisville.

The McDowell Center offers programs to help visually impaired individuals obtain employment and increase their overall independence. Vocational rehabilitation instructors and staff provide training in assistive technologies, braille, orientation, and mobility skills. The center also provides career exploration and work experience opportunities. Individuals may participate in classes in person or virtually and do not have to live onsite.

Kentucky Business Enterprise

This program certifies and trains legally blind individuals to operate food service programs like snack bars, dining facilities, and vending machines in government buildings. These individuals are self-employed, work full-time, own the business, and retain the net profits from their operations.

Reported Outcomes

The Office reported that in Federal Fiscal Year (FFY) 2023, 4,700 Kentuckians exited the office's vocational rehabilitation programs with Competitive Integrated Employment. These individuals reported that their weekly income increased nearly 33 percent, from an average of $575 to $768, after participating in the program. Table A-3 reports the number of individuals who exited Vocational Rehabilitation services with successful employment by occupational

group. The hourly wage reported is the average, not necessarily the wages of individuals served by the office.

Table A-3
FFY 2023: Competitive Integrated Employment Outcomes by Occupation

Occupational Group	# Cases	Median Hourly Wage of the Occupation Group
Management	423	$20.00
Office & Administrative Support	613	$15.67
Transportation & Material Moving	506	$16.25
Healthcare Practitioners and Technical	394	$29.61
Educational Instruction & Library	299	$20.90
Production	295	$18.00
Sales & Related	264	$13.00
Community & Social Service Occupations	231	$17.50
Food Prep & Serving Related	228	$11.00
Installation, Maintenance, & Repair	206	$20.55
Building & Grounds Cleaning & Maintenance	202	$12.08
Construction & Extraction	173	$20.60
Personal Care & Service	166	$13.00
Healthcare Support	152	$15.91
Business & Financial Operations	143	$24.04
Protective Service	72	$17.00
Architecture & Engineering	66	$35.00
Arts, Design, Entertainment, Sports, & Media	63	$15.41
Life, Physical, & Social Science	51	$26.00
Computer & Mathematical	48	$30.00
Legal	35	$22.75
Farming, Fishing, & Forestry	28	$14.48
Other	2	$20.50
Military Specific	1	$60.00

Data Source: Kentucky Office of Vocational Rehabilitation Annual Report, 2023.

Funding

The Kentucky Office of Vocational Rehabilitation expended approximately $95 million in FY 2023. Figure A-K shows the Office's expenditures over time. The state must pay 22 percent of the total cost of vocational rehabilitation services. This means that the federal government provides the remaining 78 cents for every dollar spent on the program. This practice is often referred to as a "matching requirement." Figure A-L shows FY23 expenditures by fund source.

Nearly 50 percent of this office's expenditures are Grants, Loans, and Benefits ($41.3 million). Personnel expenditures account for 42% of expenditures and 9% of operating expenses. Figure A-M shows spending by expenditure category.

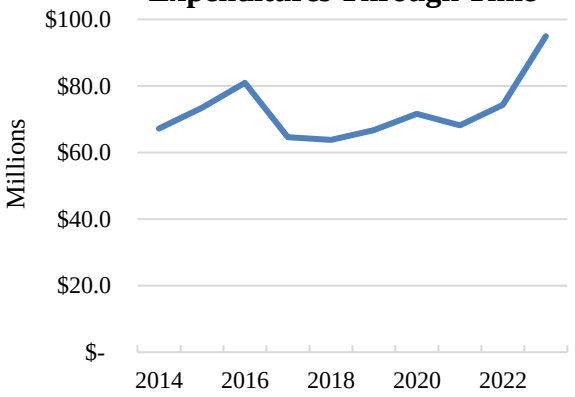
During Federal Fiscal Year (FFY) 2023, the Office of Vocational Rehabilitation reported that approximately $33.5 million was spent on noncontracted consumer services. Table A-4 shows the amount spent on consumer services by type of service provided. The three largest expense categories are 1) Training, 2) Rehabilitation Technologies, and 3) Disability Assessments.

Table A-4:
Type of Service and Amount Expended for Consumer Services in FFY 2023

Pre-ETS	$251,000
Assessment	$3,360,000
Diagnosis and Treatment	$3,110,000
Training	$16,000,000
Job Placement	$574,000
Rehabilitation Technology	$8,770,000
Maintenance	$370,000
Transportation	$116,000
Self-Employment	$29,420
Assistive Services	$145,084
Other Services	$755,780
Total	**$33,530,000**

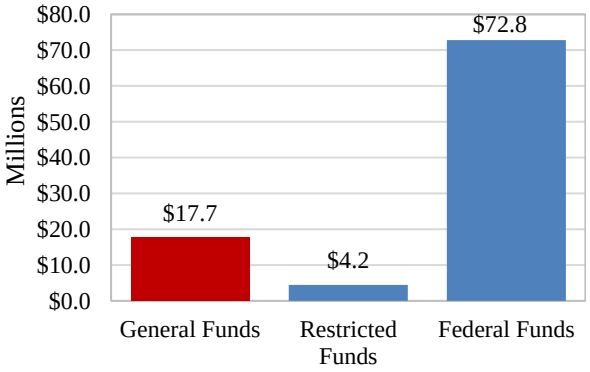
These figures do not include the cost of contracted services.
Data Source: Kentucky Office of Vocational Rehabilitation Annual Report, 2023.

Figure A-K
Office of Vocational Rehabilitation Expenditures Through Time



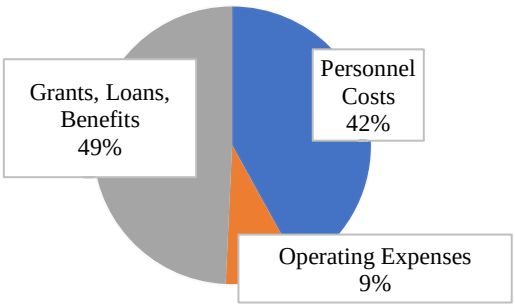
Source: Data provided by the Kentucky Education and Labor Cabinet, 2024.

Figure A-L
Office of Vocational Rehabilitation FY23 Expenditures by Fund Source



Source: Data provided by the Kentucky Education and Labor Cabinet, 2024.

Figure A-M
Office of Vocational Rehabilitation FY23 Estimated Expenditures by Class



Source: Data provided by the Kentucky Education and Labor Cabinet, 2024.

Office of Adult Education Overview

The Kentucky Office of Adult Education (KYAE) administers state and federal funding for adult basic education and literacy programs. It offers GED preparation courses, practice tests, family literacy courses, English as a Second Language (ESL) classes, and workforce certification programs. KYAE also provides family literacy programs and activities that help adults learn the skills to support their child's educational development. Additionally, KYAE partners with the Department of Corrections to offer educational programs to incarcerated and recently released individuals. To support its work, KYAE utilizes the WIOA Title II funds designated for Adult and Family Literacy initiatives.

KYAE provides these services by awarding grants to adult education providers across the Commonwealth. In 2024, 26 providers offered adult education services. These providers consist primarily of community and technical colleges and local educational agencies such as:

- The Bluegrass Community and Technical College
- Jefferson County Public Schools
- The Southcentral Kentucky Community and Technical College

The office primarily serves individuals over 18 who have not completed a secondary school diploma, are English Language Learners, or are considered "basic-skills-deficient." According to KYSTATS, nearly 30,000 individuals enrolled in a Kentucky Adult Education Program for at least 12 credit hours between 2019 and 2021. Of these participants, 22,000 had less than a high school diploma.

Initiatives

The Office of Adult Education is responsible for various educational initiatives, such as Putting Kentuckians First and the Behavioral Health Conditional Dismissal Program.

Putting Kentuckians First Initiative

This initiative provides educational instruction and workforce preparation training to formerly incarcerated individuals which has been implemented in 45 counties across Kentucky. Up to 20 percent of WIOA Title II funds can be used for corrections-focused education programs.

The Putting Kentuckians First Initiative offers pre-release training services to incarcerated individuals, provides immediate job placement upon release, and provides or connects individuals to post-release "wrap-around" services. These wrap-around services can help meet needs related to things such as housing, employment, substance abuse, and mental health.

Behavioral Health Conditional Dismissal Pilot Program

The Behavioral Health Conditional Dismissal Pilot Program allows individuals who exhibit behavioral health disorders and who committed certain Class D felonies, such as drug offenses, to attend treatment and educational or workforce training programs instead of being incarcerated.

The Cabinet for Health and Family Services administers the program in collaboration with other state agencies, including the Office of Adult Education. Staff at the Office of Adult Education

assess the defendants' education and training needs and help them enroll in educational programs or other workforce training programs.

Partnering with Local Colleges

Kentucky Community and Technical College System (KCTCS)

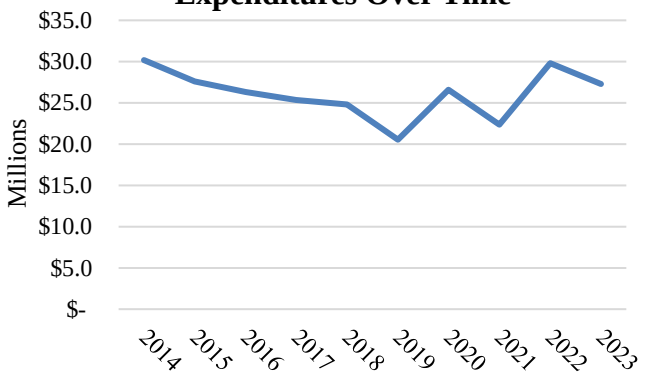
The Office of Adult Education works closely with the Kentucky Community and Technical College System (KCTCS). KCTCS colleges represent 15 of the 26 adult education providers throughout the state, and many of the Adult Education Centers are located on community college campuses (KCTCS, n.d.). This close partnership between KCTCS and the Office of Adult Education is designed to encourage individuals to pursue post-secondary educational opportunities offered at these campuses.

Funding

The Office of Adult Education spent approximately $27.3 million in FY23. Figure A-N shows the office's expenditures over time. In FY23, most of the funds expended were from the General Fund ($18.0 million), followed by Federal Funds ($11.8 million). Figure A-O shows how the office's funding source has changed over time. The office expended some restricted funds in FY23, but in such a small amount that it is not visible in the figure.

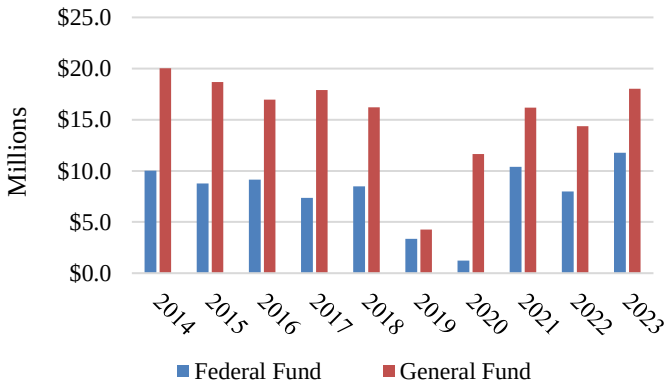
Figure A-P shows FY23 expenditures by category. The largest expenditure category is "Grants, Loans, and Benefits" ($21.5 million), followed by "Personnel" ($4.5 million) and "Operating" expenses ($1.3 million). Only $75,000 was spent on capital.

Figure A-N
Office of Adult Education
Expenditures Over Time



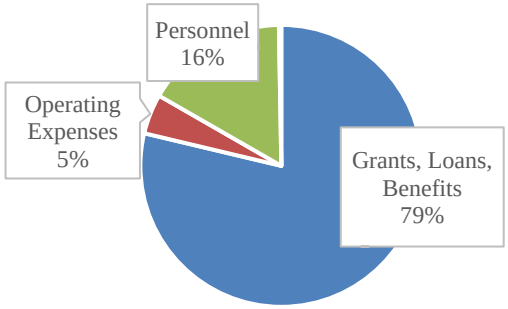
Source: Data provided by the Kentucky Education and Labor Cabinet, 2024.

Figure A-O
Office of Adult Education
Expenditures by Fund Source Over Time



Source: Data provided by the Kentucky Education and Labor Cabinet, 2024.

Figure A-P
Office of Adult Education FY23
Expenditure by Category



Source: Data provided by the Kentucky Education and Labor Cabinet, 2024.

The Office of Employer and Apprenticeship Services Overview

The Office of Employer and Apprenticeship Services oversees the Commonwealth's Registered Apprentice programs and helps employers create paid apprenticeship opportunities that teach marketable skills and provide work experience to individuals throughout Kentucky. The office is also responsible for certifying that an individual employee is eligible to claim the Workforce Opportunity Tax Credit (WOTC), a non-refundable tax credit that allows employers to claim a credit worth up to 40 percent of an eligible employee's wages.

The office has staff members throughout the state who connect with employers interested in creating their own apprenticeship program. They help these employers create programs that fulfill the requirements of an official registered apprenticeship program established by the U.S. Department of Labor.

In a registered apprenticeship program, there must be a written agreement between the apprentice and the sponsor (employer). This agreement will specify:

- the number of training and instructional hours needed,
- the skills and core competencies that the apprentice will learn, and
- the wages the apprentice will receive during the program.

While these programs must meet the minimum registration requirements set by the U.S. Department of Labor, employers can tailor the training to address their workforce needs.

Table A-5
Number of Active Apprentices by Local Workforce Development Area

Location	Number of Active Apprentices
Bluegrass	1,558
Cumberlands	51
EKCEP	51
Green River	190
Kentuckiana Works	3,026
Lincoln Trail	146
Northern Kentucky	256
Out-of-State Sponsor	76
South Central	112
TENCO	165
West Kentucky	383
Grand Total	**6,014**

Note: Numbers reflect enrollment as of May 1, 2024.
Source: Office of Employer and Apprenticeship Services, Kentucky Registered Apprenticeship Report 2024.

Once the employer develops a program that fulfills all requirements, the plan is submitted to the U.S. Department of Labor for approval. If approved, the apprenticeship program is officially registered with the Commonwealth of Kentucky and the U.S. Department of Labor's Office of Apprenticeship.

A registered apprenticeship program is automatically considered an eligible training provider under WIOA and can qualify for WIOA funds. For example, Workforce Development Boards can use WIOA funds to reimburse apprenticeship sponsors for a portion of the wages paid to their apprentices (Collins, 2021). Table A-5 reports the number of active apprentices by Local Workforce Development Area as of May 1, 2024.

Table A-6 shows the ten largest occupational categories apprentices were training for in the Federal Fiscal Year (FFY) 2023 as reported by the U.S. Department of Apprenticeship.

Table A-6
Top 10 Apprenticeship Occupational Pathways in Kentucky in FFY 2023

Occupation	Number of Active Apprentices	Percent of Total Active Apprentices
Electricians	1,508	22.3%
Carpenter	670	10.2%
Millwright	611	9.2%
Structural Iron and Steel Workers	381	5.8%
Power-Line Distribution Erector	352	5.3%
Nurse Assistant Certified (CB)	308	4.7%
Plumber	299	4.5%
Construction Pipe Fitter	209	3.2%
Heating and Air Installer/ Servicer	185	2.8%
Welder-Fitter	161	2.4%

Source: "Interactive Apprenticeship Data Dashboard," U.S. Office of Apprenticeship, 2024.

Many of the most widespread occupational pathways could be working in different industries. For example, someone pursuing an electrician career path may be training with an employer that works in the utility, construction, or manufacturing sectors. The U.S. Office of Apprenticeship reported that in Kentucky nearly 65 percent of apprentices, nearly 4,300 apprentices, worked and trained in the Construction Sector during FFY 2023. The other labor market sectors with the most significant number of apprentices are Utilities (445), Healthcare and Social Assistance (384), followed by Manufacturing (342), and the "Other Services" sector (304).

Additionally, the office worked with the CHFS's Division of Childcare and the Governor's Office of Early Childhood to create an "Early Childhood Apprenticeship Portfolio" to help individuals build careers in childcare and help alleviate the industry's childcare labor shortage. They reported that there are approximately 130 active childcare apprentices and 36 registered apprenticeship providers (Governor's Office of Early Childhood, n.d.). The childcare apprenticeship programs offer three different occupational pathways:

- Childcare Development Specialist
- Early Childhood Educator
- Early Childhood Administrator Director

Outcomes

According to the U.S. Department of Labor, approximately 6,600 apprentices worked in Kentucky in FFY 2023. Approximately 3,500 apprentices were new to their program, and 1,042 were program completers. The median wage of new apprentices in Kentucky was $18 an hour, and program completers were making a reported median wage of approximately $29 an hour (U.S. Office of Apprenticeship, 2024).

According to the Kentucky Center for Statistics, the average 2021 program graduate earned approximately $70,000 in their first year after completion. Wages for former apprentices grew relatively slowly over time, slightly slower than the economy-wide average wage growth over the same period. Over five years, the average wage of a 2017 program completer increased approximately 14 percent from approximately $63,000 to $72,000, compared to a 23 percent growth in the average hourly earnings of all employees during the same period.

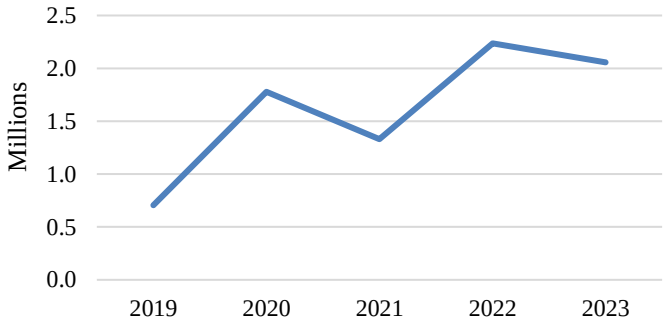
Funding

The Office of Employer and Apprenticeship Services spent approximately $2 million in FY 2023, most of which was federal money. Figure A-R shows how total expenditures changed over time.

Approximately $600,000 of the Office's funding was General Fund dollars in FY23. Figure A-S shows the Office's expenditures by funding sources over time.

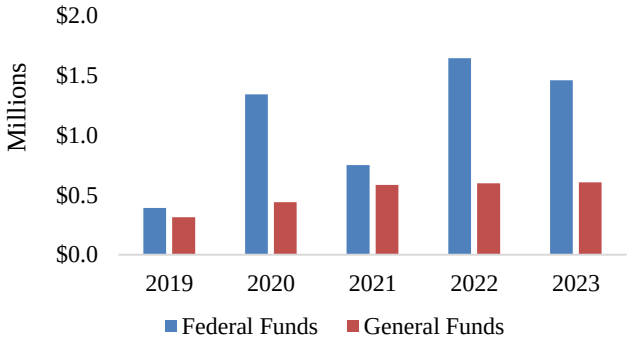
Figure A-S shows the FY23 expenditures by category. Personnel costs were the largest expenditure for the office ($1.3 million), followed by Operating Expenses ($500,000) and Grant, Loan, or Benefit payments ($270,000).

Figure A-Q
Office of Employer and Apprenticeship Services Expenditures Through Time



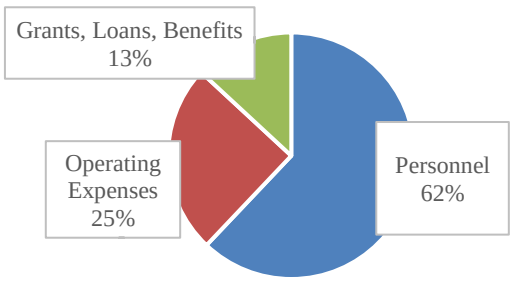
Source: Data provided by the Kentucky Education and Labor Cabinet, 2024.

Figure A-R
Office of Employer and Apprenticeship Services Expenditures by Fund Source Through Time



Source: Data provided by the Kentucky Education and Labor Cabinet, 2024.

Figure A-S
Office of Employer and Apprenticeship Services FY23: Expenditures by Category



Source: Data provided by the Kentucky Education and Labor Cabinet, 2024.

Postsecondary Education Supporting Workforce Development Overview

Kentucky's postsecondary institutions help meet the state's workforce development needs. The Kentucky Community and Technical College System (KCTCS) collaborates with employers to develop and provide workforce training initiatives that meet the employer's workforce needs. The Kentucky Higher Education Assistance Authority (KHEAA) administers scholarships to support workforce development in high-need industries.

Kentucky Community and Technical College System (KCTCS)
KCTCS provides numerous programs to help their students learn marketable workforce skills and help employers meet their workforce needs. Two of its employer partnerships include the KY FAME program and the TRAINS program.

Kentucky Federation for Advanced Manufacturing Education Program (KY FAME)
KY FAME was a "work and learn" pilot program created by Toyota and the Bluegrass Community and Technical College in 2010 to meet the labor demand of high-tech manufacturers. This pilot program is being implemented nationwide, and The Manufacturing Institute now oversees FAME initiative programming, which has grown to include 400 partner companies across more than a dozen states.

The FAME program creates an environment for students to simultaneously work and train in high-demand, high-tech sectors. Employers partner with a community college to create a program that allows students to work and learn high-demand skills. The technical skill instruction for the FAME program is based upon the college's existing degree programs, which are modified to create a program that meets an employer's needs. FAME students attend classes two days a week and earn at least 60 credit hours during five semesters. After five semesters, students graduate with an associate degree in industrial maintenance or advanced manufacturing technology.

While attending college, FAME students work 24 hours a week throughout the program, about three days a week, ultimately obtaining about 1,800 hours of paid work experience. KY FAME works with Toyota, Xerox, Buffalo Trace, 3M, and other manufacturers to provide this work experience and tailored technical instruction (KY FAME, n.d.).

KCTCS TRAINS
The TRAINS program provides training incentives worth 75 to 100 percent of the cost associated with providing an employer's workforce development training to their employees through KCTCS. All for-profit companies in Kentucky are eligible to receive TRAINS funding. Established by KCTCS in 1999, the TRAINS program is a partnership between KCTCS and companies that need in-depth training programs to upskill their employees.

Employers work with KCTCS staff to develop effective training programs that meet their workforce needs. KCTCS then helps train the company's employees. These employee training courses can be formal credentialed classes or not-for-credit training that lasts a few days. On average, the company pays 25 percent of the training costs, and the state pays the remainder.

Kentucky Higher Education Assistance Authority (KHEAA)

The Kentucky Higher Education Assistance Authority administers scholarships and grants that can be used at postsecondary institutions throughout the Commonwealth. While they offer scholarships supporting specific occupational paths such as Optometry, Osteopathic Medicine, and Teaching, they also offer the Work Ready Scholarship to help meet Kentucky's workforce needs.

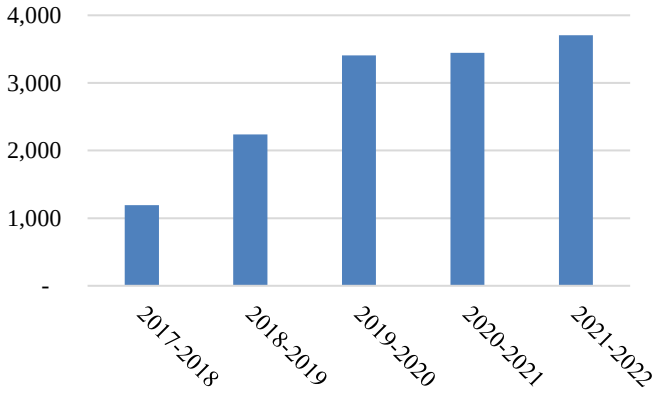
Work Ready Kentucky Scholarships

KHEA administers the Work Ready Kentucky Scholarship program, which is available to any Kentuckian without a postsecondary diploma. These scholarships pay the tuition of an individual studying for an associate degree or industry-recognized certificate in high-demand sectors (Advanced Manufacturing, Business/Information Technology, Construction, Healthcare, Transportation, and Logistics) [16]. Figure A-U shows the number of scholarship recipients by year.

These scholarships cover up to 60 hours of occupational training at a Kentucky college and provide a yearly stipend of up to $400 for mandatory school fees. The awarded amount cannot exceed the in-state tuition and fees for enrollment in KCTCS. However, it can be used at any approved postsecondary institution in Kentucky. Figure A-V shows the estimated scholarship expenditures by year.

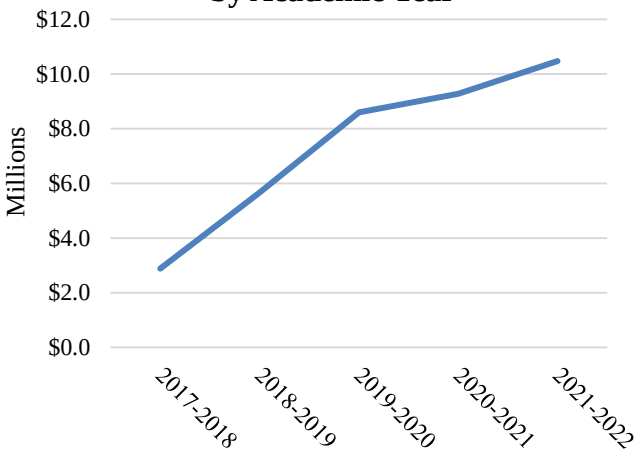
There is also a Work Ready Dual Credit Scholarship program that allows Kentucky high schoolers to earn Career and Technical Education credits while still in high school.

Figure A-T
Number of Post-Secondary Work Ready Scholarship Recipients by Academic Year



Source: Kentucky Work Ready Scholarship Annual Report 2021-2022, KHEAA, n.d.

Figure A-U
Total Funds Expended on Post-Secondary Work Ready Scholarships by Academic Year



Source: Kentucky Work Ready Scholarship Annual Report 2021-2022, KHEAA, n.d.

[16]The Work Ready scholarship pays the remaining tuition balance after applying all KEES funds, financial aid, and other scholarships or waivers.

Kentucky Cabinet for Economic Development Overview

The Cabinet for Economic Development is responsible for multiple workforce development initiatives. It is governed by the Kentucky Economic Development Partnership (KEDP) Board, which has 13 members, one of whom is the governor.

The CED's mission can be divided broadly into four primary functions.

- Business Development**:** Works as the marketing and sales force responsible for a database of construction-ready sites, outreach associated with targeted programs, and supporting Innovation and Commercialization Centers.
- The Bluegrass Skills Corporation**:** Approves workforce development projects to receive incentives such as grants and tax credits.
- The Economic Development and Finance Authority: Responsible for approving most of the cabinet's financial incentives, such as tax credits, loans, and bonds.
- Financial Services**:** Responsible for administering the loans, grants, and tax incentives and staffing the Economic Development Finance Authority.

The cabinet often works directly with private businesses, offering tax incentives and grant funding. It also helps businesses apply for grants and meet the requirements of state and federal workforce programs. While the cabinet is responsible for numerous economic initiatives, the Bluegrass State Skill Corporation focuses explicitly on supporting workforce development.

Bluegrass State Skills Corporation

The Bluegrass State Skill Corporation (BSSC) provides financial incentives to encourage employers to train and upskill their workforce. The BSSC uses "Grant-in-Aid" and tax credits to offset training costs such as the trainee's wages, instructional materials, or the cost of the courses. To be eligible for Bluegrass State Skill incentives, the programs must:

- Train a Kentucky resident who is a full-time employee
- Provide job-specific training and instruction
- Not be publicly funded
-

Grants-in-Aid (GIA): This grant reimburses businesses for their occupational and skills-upgrading training costs. It is administered through a competitive proposal process. In FY23, approximately $8.5 million in grants were approved, enough to train an estimated 29,000 Kentucky residents.

Skills Training Investment Credit (STIC): This corporate income tax credit is worth the lesser of $2,000 per trainee, $75,0000, or 50 percent of approved program costs. In FY23, approximately $1.9 million in credits were approved, estimated to support the training of nearly 6,000 Kentuckians.

Metropolitan College Tax Credit (MCTC): A tax credit designed to encourage employers to provide educational opportunities to their employees. The United Parcel Service (UPS) uses this credit to provide tuition-free postsecondary education to Kentucky residents by partnering with

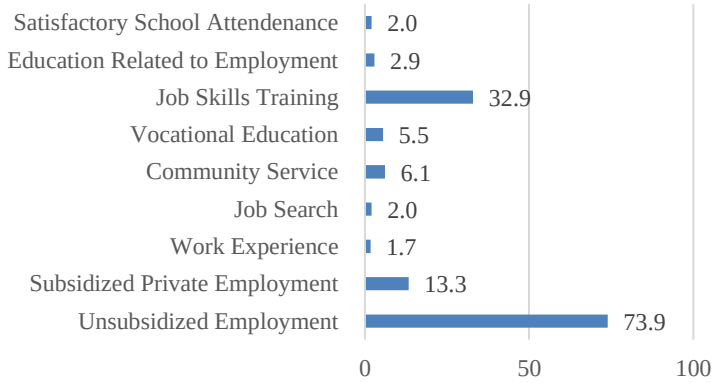
the University of Louisville and the Jefferson Community and Technical College. In FY23, this tax credit was worth $4 million and supported nearly 2,000 students.

Some benefit programs, such as Temporary Assistance for Needy Families (TANF), known as K-TAP in Kentucky, and the Supplemental Nutrition Assistance Program (SNAP), have work requirements for able-bodied adults without dependent children (ABAWD). These work requirements can often be met by participating in workforce development programs.

Kentucky Transitional Assistance Program (K-TAP)

To fulfill the K-TAP work requirement, an individual must spend at least 20 hours a week on employment-related activities. Completing workforce development programs such as on-the-job training, vocational educational training, and job search assistance can count towards fulfilling the workforce requirements. Most hours spent on job skills training courses, education related to employment, or secondary school or GED program attendance also count towards the work requirement. Figure A-V shows the activities that work-eligible individuals in Kentucky who met the "All-Families Work Requirement" participated in during FFY22, as reported by the U.S. Office of Family Assistance.

Figure A-V
Percent of Work-Eligible Individuals Who Met the "All Families" Work Requirement by Activity



Categories accounting for less than 1 percent of all activities are not included in the figure for simplicity. This includes: "Providing Childcare" (0%), "Subsidized Public Employment "(0%), On-the-Job Training (0%), and "Other" (0.6%).
Source: U.S. Office of Family Assistance, Work Participation, Rates and Engagement in Work Activities FY22, U.S. Department of Health and Human Services. 2023.

The U.S. Office of Family Assistance reported that in FY 2022, Kentucky Spent $12.9 million on "Work, Education, and Training Activities," approximately 1.2 percent of federal TANF and state MOE (Maintenance of Effort) spending and transfers. These funds were used to subsidize employment ($5 million) and "Additional Work Activities" ($8 million). As reported, no funds were spent on "Education and Training."

- Subsidized Employment: Payments to third parties or employers to subsidize a portion of the participant's wages to compensate for training costs or to subsidize targeted youth employment.
- Additional Work Activities: This includes costs related to providing work experience or community service activities. This can include employment counseling, job search assistance, information and referral, and outreach to businesses and non-profit groups.
- Education and Training: Employment-related education and training can include job skills or vocational training, career and technical education, and secondary or postsecondary education.

Additionally, K-TAP funds can be used for childcare expenditures for families needing childcare for respite or to participate in work activities such as education, vocational training, community services, or employment searches. Approximately $19.7 million was spent on "Child Care (Assistance and Non-Assistance)" in FY22, and $19.3 million was spent in FY21.[17]

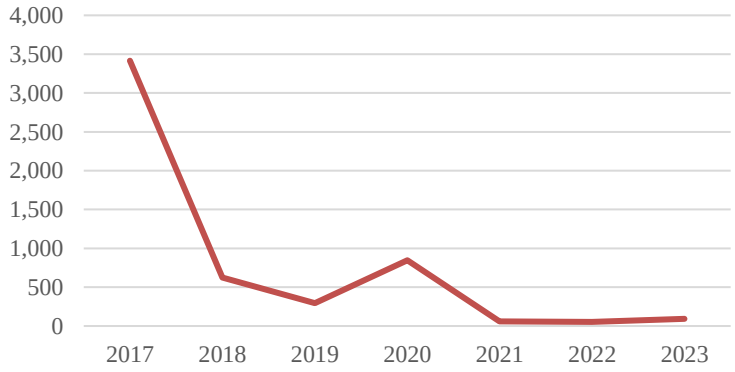
K-TAP funds can also be used for "Transitional Services for Employed" for individuals who cease to receive assistance because of employment. These funds can be used for supportive services or childcare. Expenditures in both FY22 and FY21 combined totaled approximately $35,000.

Supplemental Nutrition Assistance Program Education and Training (SNAP E&T)
SNAP E&T provides employment, training, and supportive services to SNAP recipients who are not receiving K-TAP payments and are available to work. An ABAWD may receive SNAP benefits for only three months over three years unless they are employed or participating in a job training or workforce program at least 80 hours a month.

Enrollment in a SNAP E&T program is voluntary, as an ABAWD can also fulfill work requirements with employment. If an individual indicates they would like to participate in the SNAP E&T program, their case manager will refer them to their partner program providers. Some programs receive 100 percent federal reimbursement for the program costs, and some providers qualify for 50 percent reimbursement. Third parties such as community colleges, Kentucky Career Centers, and community-based organizations often provide these workforce development services. SNAP E&T funds can provide employment and training activities and offset costs associated with training, such as transportation, daycare, or school supplies.

The Government Accountability Office (GAO) reported that, nationally, only 0.5 percent of SNAP recipients participated in SNAP E&T in 2016. Figure A-W shows the number of SNAP E&T participants in Kentucky yearly as reported by KY DCBS. In FY22, 91 individuals participated in the SNAP E&T program.

Figure A-W
Number of Kentucky SNAP E&T Participants by Year



Source: Data provided by the Kentucky Department of Community Based Services, 2024.

Individuals who have enrolled in a recognized educational institution, post-secondary institution, or training programs at least half the time are exempt from SNAP work requirements. Therefore, some SNAP participants may be enrolled in one of the other state workforce development programs and not considered part of the SNAP E&T program.

Other Workforce Development Funding Initiatives

While WIOA is a significant source of workforce development funding, there are other sources of federal funding designated for workforce development initiatives such as Perkins V, The Older Americans Act Title V, H-1B Training Grants, and Retaining Employment and Talent After Injury/Illness Network Grant (RETAIN). However, this is not an exhaustive list of all federal workforce development funds available.

Perkins V
These funds can be used to fund career and technical education programs for individuals in public schools or attending KCTCS. They can also link secondary and post-secondary institutions to help develop employable skills, particularly in high-priority sectors such as Advanced Manufacturing, Healthcare, Social Assistance, Business and IT services, Construction and Trades, Transportation, Distribution, and Logistics.

Perkins V funds were used to develop the Work-Ready Dual Credit Scholarships and Dual Credit Scholarships. These scholarships allow high schoolers to obtain college or technical educational credits while still in high school. These funds can also be used to support the Tech Ready Apprentices for Careers in Kentucky (TRACK) Program, which provides high school students with work experience that helps them transition into registered apprenticeships after high school.

Older Americans Act Title V
The Department of Labor administers the Senior Community Service Employment Program. This program pays hourly wages for part-time community service activities for unemployed and low-income individuals over 55. Eligible activities include volunteer work at daycares, senior centers, and hospitals. Nationally, approximately $405 million is allocated to this program, and there is a 10 percent nonfederal fund matching requirement.

H-1B Skills Training Grants
H-1B visas are designed to allow high-skilled workers to work in the U.S. Employers pay a fee when they apply for these visas, and these fees are used to fund H-1B Skills Training Grants, awarded by the U.S. Department of Labor to U.S. citizens wishing to learn high-demand skills. Current eligible applications for these grants include nursing career pathways, training for jobs related to infrastructure investments, and apprenticeship programs. Additionally, a Rural Healthcare Grant Program was initiated through these funds, in an effort to create employment and training programs to help curtail rural healthcare workforce shortages.

Retaining Employment and Talent After Injury/Illness Network Grant
The Retaining Employment and Talent After Injury/Illness Network (RETAIN) pilot program uses early intervention approaches to help individuals who were recently injured or disabled stay in the workforce. In 2021, Kentucky was one of five states awarded Phase II RETAIN funding by the U.S. Department of Labor to build upon their Phase I progress.

Work Opportunity Tax Credit (WOTC)

The Work Opportunity Tax Credit (WOTC) is a federal tax credit designed to encourage employers to hire individuals from groups with significant employment barriers, known as a WOTC Targeted Group.
When an employer hires an employee from a Targeted Group, they are eligible to claim a non-refundable WOTC tax credit. Though the maximum allowable credit varies by Targeted Group, the maximum credits are worth up to 40 percent of an eligible employee's wages or up to $9,600.
Targeted Group. The Kentucky Career Center Office of Employer and Apprenticeship Services certifies that an individual is part of one of the eligible groups. If a certified individual is hired and works at least 400 hours, the employer can claim the WOTC.
Examples of WOTC Targeted Groups include:

- Qualified K-TAP (TANF) recipients
- SNAP recipients
- Qualified veterans
- Qualified individuals with prior felony convictions
- Individuals living in designated empowerment zones or rural renewal counties
- Individuals with disabilities referred by vocational rehabilitation agencies
- Qualified youth hired during the summer months
- Individuals receiving Supplemental Security Income (SSI)
- Individuals receiving long-term TANF assistance
- Qualified individuals who have been unemployed for an extended period

The U.S. Department of Labor and the IRS jointly administer the WOTC program. DOL provides grant funding and policy guidance to the Kentucky Career Center Office of Employer and Apprenticeship Services, which certifies that an individual is eligible. The WOTC is authorized until December 31, 2025

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