

# The Case for Apprenticeships

Return on investment of leveraging Kentucky's young minds through modern apprenticeships



## Abstract

Business adoption of apprenticeships in America is growing, but the majority of American students are continuing to follow the traditional college pipeline. Millions of Americans are burdened with student debt, even into their 60s. European models show that student loan debt can be avoided for most of the population through thoughtful and deliberate use of apprenticeships.

Stigmas that apprenticeships in America are only for students who are not able to go to college have been a barrier to wide adoption, but today's apprenticeships are highly technical, extremely affordable, and conducive to wide adoption in a variety of industries.

This white paper is a result of research from nearly 40 data sources on apprenticeships and the workforce that is likely to participate. Data unequivocally show that wider adoption of apprenticeships in the American business culture could result in vast savings for students, significant benefits for the taxpayers and the economy, and high returns on investment for employers.

## Introduction

When beginning this paper, Family Scholar House knew that apprenticeships were helpful to its participants. However, the data presented in this paper is even more compelling than anticipated.

Family Scholar House believes there will always be a critical need for the traditional college and university pathway, but broadening apprenticeships in partnership with the postsecondary world presents an opportunity for all partners in education to work together. If this can be achieved, Kentucky's and America's education systems will be able to produce highly-qualified, deliberately-trained workers across a wide variety of industries at unprecedented volume. Models in other states and countries show that when businesses, postsecondary partners, and K-12 pipelines work together, shared costs create increased returns on investment for all.

If appropriately harnessed, apprenticeships could be a critical component in reinvigorating the middle class; increasing tax revenue to local, city, and state budgets; increasing the buying power of millions of American citizens; and providing a reliable, steady, and affordable pipeline of workers for employees.

## Defining Apprenticeships

The U.S. Department of Labor (US DOL) defines Registered Apprenticeships as “innovative, work-based learning and post-secondary earn-and-learn models that meet national standards set by US DOL (or federally recognized State Apprenticeship Agencies).”<sup>1</sup> Apprenticeships generally adhere to the following criteria:

- Apprentices are paid while they learn;
- Programs meet federal standards;
- Employers or other partners provide On-the-Job (OTJ) or other technical instruction;
- Apprentices have a mentor that monitors their learning and work product; and
- Apprentices complete the programming with certifications or other industry-recognized credentials and are ready for the workforce.<sup>1</sup>

While the benefits of formal Registered Apprenticeships through the US DOL are significant, unregistered apprenticeships can and do exist, although the availability of government funds relies on participation in registered programs.

Apprenticeships are hardly new. Models very similar to today’s apprenticeships have existed since ancient times. For example, artisans in ancient Babylon were required by law to train the next generation in order to preserve societal institutional knowledge.<sup>2</sup> Craft guilds in the 13th century also followed a similar model to today’s apprenticeships.<sup>2</sup> European countries have institutionalized apprenticeships for hundreds of years.

Wisconsin was the first American state to codify formal apprenticeships into law in 1911.<sup>2</sup> A quarter century later, Congress enacted the National Apprenticeship Act, creating a nationwide system of oversight and authorization. This began America’s formal journey into institutionalized apprenticeships.

Yet, despite proven benefits, many American companies still resist apprenticeships or use them for highly specialized workforce vacancies rather than implementing them on a broad scale.<sup>1</sup> As a result, American apprenticeships have carried stigmas that they are for students that cannot afford or get into the traditional college pathway. However, improving access to apprenticeships could save significant governmental costs and help deter the erosion of America’s middle class.<sup>3</sup>

*“Registered Apprenticeships are this nation’s most successful federally-funded workforce development initiative. Each year, hundreds of thousands of Americans count on Registered Apprenticeships to access paid, on-the-job learning opportunities and career pathways. Investing in Registered Apprenticeships not only benefits workers; it also strengthens our economy and helps employers build pipelines of talented and dedicated workers.”*

*- U.S. House, Education, Labor and Pensions Committee Chairman Bobby Scott.<sup>4</sup>*

## The Apprenticeship Landscape

Americans tend to perceive the apprenticeship model as suited for the lowest-performing students, but European perspectives consider apprenticeship a conducive pathway to providing quality educations that induce lifelong learning and societal productivity.<sup>5</sup> The United States lags Canada, Australia, and many of its European peers, including Germany, Switzerland, and England in creating robust apprenticeship programs.<sup>3</sup> The British government alone facilitated 850,000 apprenticeships in a span of eight years.<sup>3</sup>

American apprenticeships have been rooted primarily in the areas of building trades (electricians, carpenters, plumbers, etc.).<sup>1</sup> By contrast, European employers, most notably those in Germany and Switzerland, use apprenticeship programs broadly, and apprentices are institutionalized within their countries' educational systems.<sup>1</sup> In Switzerland, approximately 70% of students pursue apprenticeships, while only 25 percent choose the traditional college pathway, and data show they are better off.<sup>5</sup> Switzerland ranks number one in the world for after-tax disposable income, and Swiss citizens have 93% more disposable income than their American counterparts.<sup>6</sup> This point is backed up with more data showing that Swiss students going through mixed academic models rather than traditional education pathways earn higher wages than their traditionally-educated counterparts.<sup>5</sup>

Heather Singmaster describes her experience with Swiss apprenticeship students this way:

“If you meet an apprentice in Switzerland you will immediately see the results of this education: they flawlessly present their work to you in English, which is a third or fourth language for most of them and not an official language of Switzerland. They will tell you how they solve customers' problems or deal with difficult ones. They work in teams to create project plans and build new products.”<sup>5</sup>

Singmaster acknowledges that the European model is predicated on the attitude of employers, who prefer to spend the costs upfront rather than spending money on workers later in their careers who need training.<sup>5</sup>

American policymakers are working to expand apprenticeships, and increasing strides have been made, particularly as it regards federal funding. In other good news, data collection is about to become more robust and readily available. The US DOL Employment and Training Administration now has access to apprenticeship data in 48 states and the U.S. Military Apprenticeship Program (USMAP).<sup>7</sup>

With that data, we now know that rates for new apprenticeships in America have risen 128% since 2016, and these aren't your grandfather's apprenticeships.<sup>8</sup> Opportunities exist in a wide range of industries, including jobs in cybersecurity, energy, information technology, and healthcare.<sup>8</sup> For example, solar installers, who require highly-specified training, are often trained through apprenticeships.<sup>9</sup> In another example, Siemens USA recently launched an Electric Vehicle Charging Registered Apprenticeship Program in North Carolina in partnership with Wake Technical Community College, which provides hands-on training for high school students while they earn credits toward an associate's degree.<sup>10</sup>

Healthcare is a burgeoning area for apprenticeships, where they are valued because they are more agile than traditional training programs.<sup>11</sup> Since employment in healthcare occupations is expected to grow 18% from 2016 to 2026, flexible programming is going to be needed to fulfill workforce needs.<sup>12</sup> The Healthcare Career Advancement Program says the need for medical assistants and home health nurses is greater than ever, with demand exceeding supply by 10%.<sup>12</sup>

Partnering with local high schools has proven to be effective, especially in allowing employers to recruit the strongest candidates.<sup>12</sup> Some major employers with apprenticeship programs were featured in a 2016 U.S.

# Student Loan Debt Over the Years

Federal Student Loan Debt Balance 2008–2022 (in Billions)



Source: Federal Student Loan Portfolio

Department of Commerce Report, nearly all of which have partnered with local high schools. These include CVS Health, Ford Motor Company, Blue Cross Blue Shield, Siemens USA, and more.<sup>1</sup>

The argument for apprenticeships rests on the undeniable benefits for government, businesses, and citizens. Despite record numbers of people graduating with degrees, often with a mountain of debt, U.S. employers still report a skills mismatch that is causing thousands of jobs to go unfilled.<sup>3</sup> And, despite adverse effects on rising apprenticeship numbers due to COVID-19, nearly nine out of ten companies surveyed chose to retain their existing apprentices despite the pandemic.<sup>13</sup> This shows businesses are seeing the benefits but are still daunted by either the cost of implementation or the startup time it would require to realize benefits.

The Kentucky Education and Labor Cabinet reports over 250 modern apprenticeship programs currently in place in Kentucky, employing more than 3,500 apprentices.<sup>14</sup> Since the US DOL started tracking state-level data for apprenticeships in 2007, Kentucky employers have hired more than 16,000 apprentices.<sup>14</sup> In short, Kentucky employers are beginning to take on apprenticeship programs, but these numbers are still reflective of an attitude that apprenticeships are only for trades and not for students wanting educations that will advance their careers.

## ROI for Apprenticeships

The key question in many cases is cost – who pays, how much will it cost, and how soon will investors see returns?

The cost of apprenticeships is often borne primarily by employers, although in other countries, significant government investments have been made.<sup>15</sup> Apprentices also bear some costs, although those costs are often reimbursable or covered by government grants, and in any case, pale in comparison to the cost of attending

a four-year college.<sup>15</sup> The government provides the majority of funding in European models, which means the ROI for businesses in those countries is higher.<sup>15</sup> Industry consortia and other partnerships can help all partners share costs, streamline efforts, and provide consistency.<sup>1</sup> Consortia also mitigate risks associated with employee poaching.<sup>1</sup>

Rates of return vary based on the industry, year, and specific jobs, but experts estimate a return on investment ranging between 10% and 33%.<sup>15</sup> Rates also vary based on who is providing the funds. Rates of return for businesses may exceed rates of return for government. As the primary founders of apprenticeships, businesses usually stand to realize the greatest returns.<sup>15</sup>

## ROI for Employers

Apprentices help a business's bottom line from the time they begin work, because they produce company output at a reduced rate in exchange for being paid to learn.<sup>1</sup> Businesses also benefit from lower costs to recruit, higher employee retention rates, improved employee productivity, and more predictable and reliable workforce supply.<sup>15</sup> Multiple studies have documented increased loyalty, higher productivity, lower turnover among apprentices and mentors, and a customized workforce pipeline.<sup>16</sup> Businesses also benefit from the ability to recruit a more diverse workforce, as apprentices are a proven and valuable tool in diversifying the makeup of a company's workforce.<sup>8</sup>

For many employers, the ability to reduce workers compensation costs through apprentices is compelling.<sup>14</sup> Apprentices have been shown to have lower rates of safety incidents, a fact that experts attribute to the ability of apprentices to be trained with specificity on the equipment to be used and the fact that mentors provide institutional knowledge on safety efforts that can help apprentices better understand the implications.<sup>14,17</sup> In contrast to the traditional schooling model where one teacher or counselor works with dozens of students, the personalized relationship between a mentor and apprentice ensures individualized instruction.<sup>3</sup>

Apprenticeships have been shown to be particularly helpful in the healthcare sector, where highly-specialized technology and specific hospital or healthcare cultures exist.<sup>18</sup> Developing a pipeline that can adapt to emerging advances in healthcare can save healthcare providers time and reduce patient liability.<sup>18</sup> Healthcare groups report an increase in staff productivity, better patient care, and standardized training across the organization.<sup>19</sup>

Hiring apprentices is usually less expensive than hiring already-skilled workers, and apprentices are more likely to take on leadership positions within the company.<sup>1,19</sup> Former U.S. Secretary of Commerce Penny Pritzker explains, "Over the long run, the companies have found that developing talent through apprenticeships results in a more dedicated, flexible, loyal workforce that is poised to rise into leadership positions and make the companies more competitive."<sup>1</sup> Blue Cross Blue Shield of South Carolina reports that more than one in five of their apprenticeship graduates have gone on to serve in leadership roles within the company.<sup>1</sup> Buhler Aeroglide, a thermal processing technology company, reported to the U.S. Department of Commerce that the apprentices they have trained that go into management or engineering roles are more effective because they have already established a baseline knowledge of the factory floor and have built rapport with other employees.<sup>1</sup> In essence, not only do apprentices tend to stay with the company for longer periods of time, but they are also more likely to rise into the ranks of leadership to continue growing the business.

LaunchCode, a nonprofit IT training company, reported productivity rates of apprenticeships were significantly higher than off-the-street employees.<sup>1</sup> The company also reported that the total cost for an apprentice training program was approximately \$1,000 less than for off-the-street hires.<sup>1</sup> Dartmouth-Hitchcock, New Hampshire's only academic medical center, reported that they saved approximately \$12,800



per apprentice due to grant funding and the ability to pay apprentices a lower wage. The group also reported reduced overtime costs, lower physician turnover, and increased primary care appointments booked.<sup>1</sup> CVS Health, which has its largest apprenticeship programs in Michigan, South Carolina, and Georgia, reported that their apprentices were twice as likely to be retained by the company than other hires.<sup>1</sup> Another company, Hypetherm, reported that despite an initial \$2 million investment, the company is saving nearly \$1.6 million per year as a result of reduced training time and increased work quality, which easily allowed them to recoup their initial cost and save millions year over year.<sup>1</sup>

Estimates of productivity across 10 states showed overwhelmingly that workers enrolled in apprenticeships are more productive, and that rises in productivity were positive and substantial in all ten states.<sup>20</sup> Apprenticeships also give businesses the ability to more reliably collect data on skill levels of employees.<sup>3</sup> Finally, retention benefits apply to more than just apprentices; repeated data points show that workers who serve as apprentice mentors tend to have higher rates of employee satisfaction and lower rates of turnover.<sup>21</sup>

## ROI for Students

Unlike traditional education pathways, students earn money while they learn. Thus, the ROI for students is typically very high, especially when you consider that some, though certainly not all, receive healthcare and fringe benefits in addition to wages.<sup>15,16</sup> In addition to being paid while learning, the ability to gain a career without incurring insurmountable student loan debt adds to a student's ROI.<sup>16</sup>

Given that the average cost of college in 2022 was \$35,551 per year (including books, supplies, and daily living expenses), students are taking a hard look at whether the traditional college route fits their lifestyle.<sup>22</sup> For private school students, that average cost is \$54,501 per year.<sup>22</sup> Research indicates that young workers are starting to understand these benefits. A 2018 study by the American Staffing Association Workforce Monitor Poll showed that 68% of employees say learning a trade is better than a college degree for job searching and that 69% of employees say a college degree is less valuable than it used to be.<sup>23</sup>

The average cost of college has skyrocketed; the price tag for college has more than doubled since the year 2000 and is growing at a rate of 6.8% every year.<sup>22</sup> Statistical analysis from EducationData.org reveals that, considering student loan interest and loss of income in college, the true cost of college can exceed \$500,000, which is alarming especially when considering that more than 60% of students do not graduate within four years.<sup>22</sup> All of these dollars could instead be used in the local economy rather than locked in debt repayment.

The rising cost of college is not new, but the increases have been robust. Adjusting for inflation, the cost of college tuition increased more than 355% from 1963 to 2020.<sup>22</sup> The average annual cost of tuition in 1963 was \$243, which has the same buying power as \$2,345.39 in 2022 dollars.<sup>22</sup> None of this accounts for the costs associated with entry to college, such as SAT or ACT prep, college visits, and applications, which can collectively cost thousands.<sup>22</sup>

The average cost of lost income is compelling. 2022 research shows that the median weekly income for a high school graduate is \$42,068 per year.<sup>22</sup> In four years of college (and often more) that represents \$168,272 in lost wages unless students are willing to take part-time, often minimum-wage jobs.<sup>22</sup>

Americans' student loan debt topped \$1.75 trillion in 2022, and federal student loan debt has tripled since 2007.<sup>24</sup> Of that, Americans have more than \$140 billion in private student loan debt, which tends to have higher interest rates.<sup>24</sup> One study shows private student loan interest rates are double to triple those of federal student loans.<sup>24</sup> These numbers do not include other debt assumed as a result of higher education, including credit card debt, home equity loans, or other loans.<sup>24</sup>



Over 40% of adults who attend college assume debt to complete their schooling, and one in five adults who attended college, regardless of completion, still carry student debt.<sup>24</sup> Currently, more than half of students attending college leave with student loan debt, and for many, this is lifelong debt.<sup>25</sup> Borrowers between the ages of 35 and 49 owe more than \$620 billion in student loan debt – this age group has the highest number of borrowers with debt exceeding \$100,000 each.<sup>25</sup> There are currently 2.4 million retirees ages 62 and up carrying a collective of \$98 billion in student loan debt.<sup>25</sup> In Kentucky, the average cost to attend college, including room and board, is \$22,317 annually.<sup>22</sup> Given that most students do not graduate in four years, this could mean more than \$100,000 in student loan debt.

The out-of-pocket cost of college is between two and five times higher for student parents, most of whom are women, students of color, and students from poor families.<sup>26</sup> The average student parent would have to work 52 hours per week to cover child care and tuition costs at a four-year public college or university.<sup>26</sup> In fact, two of three student parents live at or below the Federal Poverty Level.<sup>26</sup> Black and Hispanic students are more likely than their peers to assume student loan debt, are likely to carry higher student debt amounts, and face more barriers to loan repayment.<sup>24</sup> They are also more likely to lack generational wealth, be the first in their family to attend college, and more likely to experience hiring and workplace discrimination.<sup>24</sup> As a result of their financial responsibilities and the longer time it takes women to complete their education, they are responsible for 2/3rds of American student loan debt.<sup>24</sup>

The adage of the "poor college student" rings true even today. Sixty percent of college students have experienced basic need shortages, including risk of homelessness and hunger.<sup>22</sup> Because apprentices can earn money and sometimes receive fringe benefits, they are far less likely than their peers in the traditional education path to succumb to food or housing insecurity.

Apprentices who qualify for Pell grants can receive additional support in the form of funding for any tuition or fees, books, and supplies needed.<sup>27</sup> By contrast, the costs to participate in apprenticeships is minimal for students, as government and businesses typically help fund the program, and costs are nowhere near the cost of paying for college. Further, placement rates for apprenticeship completers are high. Ninety-one percent of those who complete apprenticeships are subsequently employed.<sup>1</sup> A Mathematica Policy Research report comparing 10 states with robust apprenticeship programs showed statistically significant data supporting the claim that Registered Apprentices who complete the program earn substantially higher wages than those who do not complete apprenticeships. Data showing a strong positive relationship between RA participation and earnings was consistent across all states, including Kentucky.<sup>20</sup> According to the U.S. Department of Labor, 93% of apprentices who finish their apprenticeships continue to be employed, and they earn an average salary of \$77,000 annually.<sup>10</sup>

Importantly for students, educational institutions, and employers, this is not an either or proposition. Apprenticeships are an entry point to community college and traditional four-year college experiences, with many of the credentials earned during the apprenticeship leading to transferrable college credit hours that can result in college degree completion. Apprenticeships can serve as a first step in the education necessary for a career, with work-based learning ensuring that an apprentice is on a path that will lead to a livable-wage job and career satisfaction.

## ROI for Society

The social rate of return varies, but data shows a strong positive relationship between apprenticeship completers and increased tax revenue for governments, reduced demand on public benefits and social services, and lower rates of crime.<sup>1</sup> Because federal and state governments provide funding for postsecondary





schools, a shift to a more apprenticeship-driven economic model could save taxpayers billions in college and university subsidies as well.<sup>10</sup> Taxpayer costs are not insignificant when it comes to student loans, as federal student loans comprise 92% of all student debt.<sup>24</sup>

Investments in apprenticeship programs by colleges and universities that receive public dollars makes mathematical sense. The American Association of Community Colleges released guidance on costs for colleges looking to implement an apprenticeship program, either as a partner or as a standalone program. While the group encourages colleges to consider the full costs, including staffing, equipment and facility needs, they also note that federal dollars are widely available.<sup>28</sup> Colleges can also use Federal Work Study dollars to help support training wages for apprentices.<sup>27</sup>

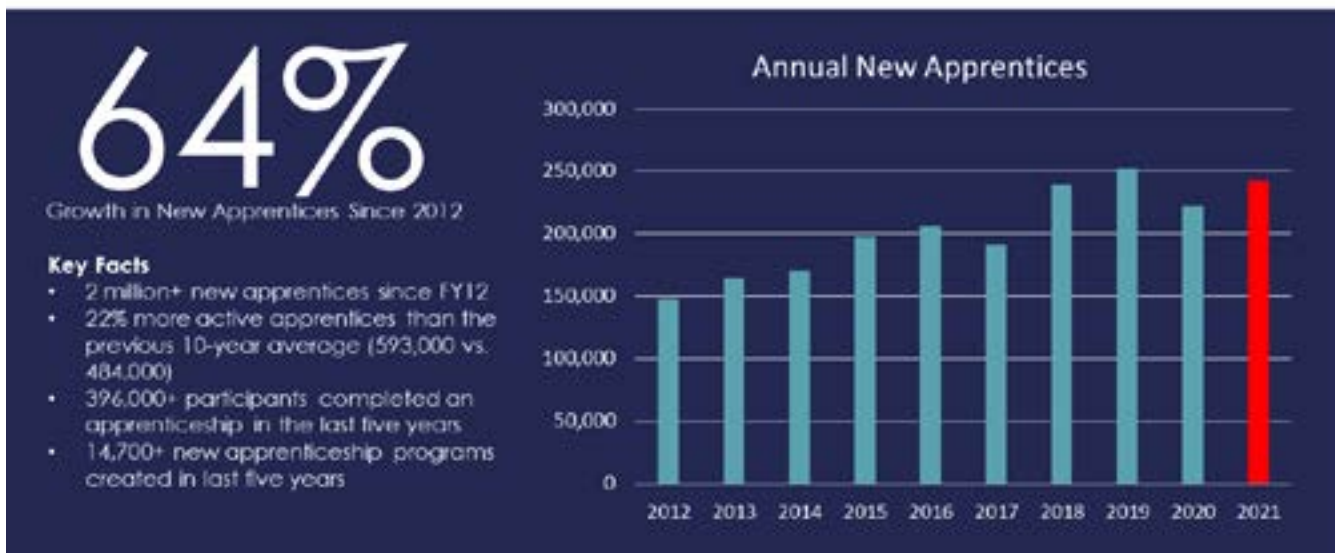
Federal funds for apprenticeships include assistance with training and tuition costs; support for training expenses; coverage for supervision; and extraordinary training costs provision of additional recruiting, placement, and support services; flexibility for upskilling incumbent workers; and other DOL resources, including Workforce Innovation and Opportunity Act (WIOA) and Trade Adjustment Act funding.<sup>27</sup> WIOA funds may also be used for incumbent worker training, customized training for eligible instruction costs, on the job training contracts, and individual training accounts.<sup>27</sup>

## Barriers

Former U.S. Secretary of Commerce Penny Pritzker noted that despite the obvious benefits of apprenticeships, American companies have lagged in implementing them. In a letter introducing the department’s new report, Pritzker acknowledged that “Apprenticeships have gained new prominence as a proven training model for workers; but for businesses, apprenticeships have not necessarily been an easy sell.”<sup>21</sup>

The burden is not entirely on employers; young people are not enrolling in apprenticeships at high rates, instead focusing on college degrees. Research by the James G. Martin Center for Academic Renewal shows that one of the reasons is lack of awareness and social stigma around apprenticeships by students and

## APPRENTICESHIP CONTINUES TO DEMONSTRATE STRONG GROWTH



parents.<sup>29</sup> Their research suggests that while parents may agree in principle with apprenticeships, “they tend to like it when other people’s children become apprentices, rather than their own.”<sup>29</sup>

This stigma is alarming, both in terms of the lost potential return on investment and from a perspective of ushering today’s young people into viable, reliable, low-debt educational pathways. The top 30 occupations for apprenticeships in 2021 contained jobs across the industry spectrum, including jobs in finance and insurance, health care, IT, education, retail services, and technical services provided by electricians, carpenters, and plumbers.<sup>7</sup>

COVID-19 has been a major disrupter for apprenticeship trends. Apprenticeship numbers had been slowly increasing until the pandemic hit, but in 2020, 64% of companies chose not to invest in new apprenticeships.<sup>13</sup> Over half of companies reported cutting training budgets and pausing plans to take on apprenticeships in 2020.<sup>13</sup> In-Comm Training’s Chief Operating Officer Bekki Phillips explains, “The appetite to invest in the future workforce is still there, but companies are under so much financial pressure from the pandemic that they have to make some tough decisions, and it appears that this is already having an impact on the number of apprentices being recruited.”<sup>13</sup>

## Other Considerations

While the traditional college pathway remains important and viable for students in specific careers, apprenticeships may be better suited to helping employers adapt to the future workforce.

The future workforce has vastly different expectations for the workplace, and apprenticeships could help companies remain nimble as they usher in the next generation of workers. Millennials, who are the largest segment of the global workforce, are the most racially and ethnically diverse adult generation in American history.<sup>30,31</sup> Estimates show Millennials will comprise 75% of the global workforce by 2025.<sup>31</sup>

Millennials bring unique perspectives to the workforce – they were between the ages of five and 20 when the terrorist attacks occurred on September 11, 2001. Thus, they have lived through the wars in Iraq and Afghanistan, and some of them served in the wars overseas during this time. Millennials were also alive (and half were able to vote) for the historic 2008 election, when America elected its first Black president. Finally, many Millennials were victims of the Great Recession, graduating college as jobs became scarce. As a result, many Millennials experience what Pew Research calls the “slow start.” That is, thousands of this generation were forced to pursue post-graduate studies (and take on more debt) or work in low-wage service jobs to get by.<sup>29</sup> Millennials also work more hours than their younger peers. Three in four Millennials work more than 40 hours per week, and of that group, nearly one in four work more than 50 hours per week.<sup>31</sup> Pew Research notes that these factors combined have made Millennials more politically involved.<sup>30</sup>

Millennials have often been criticized for “job hopping,” because they change jobs more often than previous generations.<sup>31</sup> Some of this may be due to a generally pessimistic attitude that pervades the data collected on Millennials. In a 2021 Deloitte study, less than half of Millennials surveyed said they believe corporations behave ethically or that business leaders are committed to improving the world, two important drivers of where Millennials choose to work.<sup>31</sup> Further, the majority of surveyed Millennials said they don’t believe their management teams are diverse enough.<sup>31</sup> However, when Millennials believe they work in a high-trust culture, they are more than 22 times more likely to want to work for a company for a long time, and satisfied Millennials are 59 times more likely to endorse working for their company to family and friends.<sup>31</sup> The lesson is, culture matters, and apprenticeships provide a unique opportunity to inculcate company culture and values.

By contrast, Generation Z members likely have little to no memory of any of these events.<sup>30</sup> Generation Z as dubbed by Pew Research Center includes persons born in 1997 onward, and Pew asserts that this generation will be even more diverse than the Millennials.<sup>30</sup>

Gen Z has been part of an “always on” culture, as they grew up with iPhones, social media, and on-demand streaming. As a result, data shows they have little to no hesitation in broadcasting their thoughts, frustrations, and complaints the world.<sup>32</sup> The effects of this remain to be seen, but will surely impact the mental, physical, and emotional health of the future workforce.<sup>32</sup>

A recent Gallup Poll shows that Gen Z is demanding fewer hours and more flexibility.<sup>33</sup> Gen Z is not interested in the traditional 40-hour work week. 2021 data shows that Gen Z’ers are participating in the “gig economy” at higher rates than other generations, because they want to be able to work on projects that they believe in and have flexible schedules.<sup>32</sup>

## Minority, Veteran, and Women Participation

One of the documented benefits of apprenticeships is the ability for employers to achieve more diverse workforces, a factor that will be critical considering the information presented on Millennials and Gen Z workers.

US DOL 2021 data shows that more than 85% of active registered apprenticeships are held by men.<sup>7</sup> More than 75% are held by individuals under the age of 35.<sup>7</sup> Less than 6% of apprenticeships are held by veterans, although nearly 10,000 military veterans were not in the workforce according to September 2021 US DOL data.<sup>7,34,35</sup> More than three-fourths of all US Registered Apprentices are White.<sup>36</sup> The opportunity to bring women, minorities, and veterans into the workforce through apprenticeships is ripe.

A variety of federal funds can assist. Resources are also available for individuals living in poverty, of which women, minorities, and military veterans are disproportionately represented.<sup>38</sup> The US DOL announced a \$3.4 million investment this year (2022) in the Women in Apprenticeship & Non-Traditional Occupations Technical Assistance (WANTO) Grant Program.<sup>39</sup>

Businesses may find that hiring veterans in apprenticeship programs is good for both the veteran and the company’s bottom line. Employers who hire veterans into apprenticeships will benefit from the apprentices’ ability to use their GI Bill® benefits for tuition and fees.<sup>27</sup> Veterans can also use GI Bill® benefits to help pay for books and supplies in addition to a monthly housing stipend.<sup>27</sup> Post-9/11 recipients of the GI Bill® will receive 100% of their applicable Monthly Housing Allowance (MHA) for the first six months, and a portion reduced by 20% every six months thereafter.<sup>27</sup> Finally, employers participating in the Special Employer Incentive may receive reimbursement for 50% of the veteran’s salary for six months.<sup>27</sup>

Further, it’s easier for companies to become certified for apprenticeships for veterans than ever before. The Valor Act allows employers to certify through the Department of Veteran Affairs one time instead of with various state agencies.<sup>27</sup>

State agencies administering the federal Supplemental Nutrition Assistance Program (SNAP) receive specific Employment and Training (E&T) funds as part of their state allocations, which can be used to help provide apprenticeships for SNAP recipients. The USDA also reimburses 50% of E&T dollars spent by states that exceed their original allocations.<sup>27</sup> Because state agencies have so much flexibility in designing state-level SNAP and E&T dollars, they can provide funding for both apprenticeship and pre-apprenticeship programming, the capabilities of which are expressly set forth in the 2018 Farm Bill.<sup>27</sup> As an example in action, the state of Washington uses SNAP and E&T training dollars to support apprenticeships through its Apprenticeship & Nontraditional Employment for Women Program.<sup>27</sup>

Federal Highway Administration grants funds are available for apprenticeships for certain surface transportation projects as well.<sup>27</sup> Federal Highway Workforce Funds are also available for apprenticeship



programs at the discretion of the Secretary of Transportation. These funds are used by state level transportation directors under the Fast Act.<sup>27</sup>

One of the greatest barriers to apprenticeship completion among women is access to childcare, and even then, the cost of childcare or flexibility required to adapt when children are sick is not always conducive to apprenticeship programs.<sup>20</sup> Single mothers, who are more likely to live in poverty than married women, are especially vulnerable. One study cites a single mother who was fired and lost her apprenticeship due to excessive absenteeism related to childcare – her three children were sick with strep throat, so they could not be sent to school or childcare centers.<sup>20</sup> Further, benefits to apprentices outlined in this paper apply primarily to those who complete the program, but women are less likely than men to complete apprenticeships.<sup>20</sup>

Ultimately, programs that entice these special populations could find additional pockets of federal funding available for implementation and increasing workforce participation among women, in particular, could produce sizeable dividends for the American economy.

## Case Studies

Kentucky is well-recognized nationwide for its efforts to cultivate apprenticeships through the TRACK youth apprenticeship program, which works to enroll high school students in apprenticeships. Often, students participating in this program graduate high school with an industry-recognized credential and a job awaiting them in their chosen profession.<sup>5</sup> The TRACK program has been recognized as a top youth apprenticeship program by the US DOL.<sup>37</sup> According to information from KY STATS, the average increase in wages more than justifies the investment. For example, data on apprenticeship completers in the utilities industry showed Kentucky apprentices started at an average wage of \$78,185 in year one, and those wages grew over 30%



over the next 10 years to over \$100,000.<sup>40</sup> Thus, on average, those apprentices receive an increase of \$2,500 to wages year over year for ten straight years.<sup>40</sup>

Despite this, Kentucky lags other states in active apprenticeships. 2021 Data from the US DOL shows Kentucky had 4,074 active apprenticeships, which pales in comparison to neighboring states like Ohio (19,848), Indiana (18,552), and Illinois (16,194). California had the highest number of active apprenticeships at 79,494.<sup>7</sup>

New Jersey's Youth Transitions to Work (YTTW) program provides another model for study. The program goal was to create new career pathways for CNA and PTA for diverse, underserved youth and to increase equity in the workforce. The program also focused on addressing critical workforce shortages in partnership with five private allied health providers, the RWJ/Barnabas Health Livingston Hospital, District 1199J, various unions, and the New Jersey Department of Labor.<sup>12</sup> Students graduated the program with a New Jersey CNA or PTA license, a high school diploma, and no debt. Plus, they will have earned \$12 per hour for the duration of their training. Upon completion, apprentices made upwards of \$15 per hour. As a result, the number of apprentices more than doubled in one year, the program boasted 100% job placement, employers saved \$1,100 per placement in recruiting and training costs, and the local workforce was far more diverse. Fifty-two percent of the cohort participants represented the Latinx population and 28% of participants were Black.<sup>12</sup>

CVS Health partnered with local high schools' science departments in Michigan, where high school students were recruited by the high school and selected for the program through an application and interview process.<sup>12</sup> Approved participants received 20 hours of on-the-job training as part of a six-week CTE course. The result was that, while in high school, students were paid while they learned about medications, insurance, pharmacy, etc. When they finished (and turned 18), they were able to receive licensure as pharmacy technicians. Many were offered jobs and ushered into the Registered Apprenticeship Program, where their service credit counted.

Colorado's CareerWise program had a goal of addressing thousands of vacancies in healthcare by creating a Certified Nursing Assistant (CNA) to Licensed Practical Nurse (LPN) pipeline. Partners included Sava Senior Care, the Denver Public Schools, and Emily Griffith Technical College.<sup>12</sup> Students were interviewed by Sava Senior Care, who paid for all course work and exam costs. Students began in their junior or senior year of high school. Those who began junior year of high school graduated with two years of experience and were then ushered into the final two years of the apprenticeship. At that point, wage gains increased from \$10 per hour to \$23.18 per hour, and participants held an LPN certification, CNA license, and a high school diploma. The program aims to have one in 10 high school students in apprenticeship programs by 2027.<sup>12</sup>

## Honorable Mentions

IBM has promised to invest \$250 million across the globe in Registered Apprenticeships and other training by 2025.<sup>25</sup> The company has expanded its current apprenticeship programs to include more than 30 roles in cybersecurity, software development, data science, and design.<sup>25</sup>

Yellow Corporation has signed on to create 20 Registered Apprenticeship Driving Academies in two years by partnering with Teamsters. The company has committed to hiring 1,000 truck driver apprenticeships in 2022 as part of the Biden Administration's Trucking Challenge.<sup>25</sup>

Focus: HOPE, a nonprofit organization in Detroit, has promised to expand current programming to provide 300 Registered Apprenticeships in cybersecurity and advanced manufacturing.<sup>10</sup>

## In Practice: Family Scholar House Case Studies

As the only organization of its kind in the Kentucky region, Family Scholar House (FSH) has realized the success of a comprehensive program with a full continuum of support for those enrolled in post-secondary education, including 2-year and 4-year students and apprentices. FSH's model promotes household stability through the attainment of credentials and degrees leading to career growth and advancement to enable participants to break the cycle of poverty and establish a successful path for themselves and future generations to come.

Meet Tonya, whose name has been changed for the purposes of safety. Tonya is an apprentice at an Employer Partner with Family Scholar House, and a single mother to an energetic young girl. Tonya found Family Scholar House while fleeing domestic violence.

At a FSH orientation, Tonya was able to explore the benefits of enrolling in an apprenticeship program and how she could earn credentials while working to provide for her daughter. Tonya shared that she knew that at this point in her life she needed to have on-the-job training and hands-on experience to be successful. After attending orientation, she knew a Nurse Aide Apprenticeship would be the first step in her post-secondary pathway and her goal of a career in healthcare.

Tonya was struggling with figuring out how she would balance all the moving parts and was doing everything she could to protect herself and her daughter. Tonya's FSH family advocate worked with her to create a safety plan. From comfortable nursing shoes and study materials to multiple sets of scrubs, Tonya's FSH success coach ensured she had all the supplies necessary to be successful at her apprenticeship. Throughout their time at Family Scholar House both Tonya and her daughter have been able to heal and grow. With Tonya and her daughter attending age-appropriate programs and workshops, they were able to be a part of the FSH community and a cohort of families that have experienced similar situations.

At the time of this writing, Tonya is just weeks away from earning her apprenticeship journeyman status. Since starting her program, she has completed four different certifications, and after transferring her apprenticeship hours for college credit, is currently also enrolled part-time in her bachelor's degree program. Tonya said that if she had not started her education in an apprenticeship program, she and her daughter would not have the life that they have today.

Family Scholar House recognizes that in most cases, it is not the coursework or employment that derail someone's post-secondary plan. It's life. Circumstances such as unstable housing, unreliable childcare, undependable transportation, having a flat tire, taking care of a sick loved one, not having food or diapers for children, and countless other hardships pile up and can derail career goals.

FSH offers support to apprentices by giving them access to resources they can utilize on their path to success. The following support services are available to apprentices Monday through Saturday, 8 a.m. to 8 p.m. Eastern Time, via FSH's Trager Response Center:

### Success Coaching

- Advising and support with coursework progress and completion
- Assistance with applying for financial aid, including the FAFSA, and scholarships for those transferring credits to community college
- Connection to tutors and mentors, as applicable

### Career Coaching

- Pre-apprenticeship program professionalism



- Soft-skills development
- FSH Academy life-skills on-demand video library

#### Advocacy Support

- Assistance in navigating obstacles and identifying solutions
- Connection to resources: food pantries, childcare, transportation, etc.

#### Health & Wellness Coaching

- Individualized meal planning and wellness goal-setting
- Mindfulness and stress-reduction practices
- Parenting support
- Time management and work-life balance

#### Benefits Assessment

- 10-minute survey completed with staff to ensure apprentice's/employee's family is receiving all of the benefits for which they are eligible
- Information and support to apply for any benefits they are not currently receiving

FSH is intentional about providing opportunities that accelerate post-secondary completion and career entry and provide comprehensive and holistic support for apprentices. In using its tiered model of support, FSH assists apprentices in navigating government benefits programs and community resources.

#### **Tier 1 - Employer Partner Resources**

Family Scholar House connects apprentices with resources available at their employer. From using a food pantry, mentoring, mental health services, and applying for any available emergency funds. FSH support staff work closely with employer partners to ensure resources are accessible and reliable for students. FSH support staff are available virtually through FSH Trager Response Center, 8 a.m. to 8 p.m., Monday through Saturday.

#### **Tier 2 - Community Resources**

If a needed resource is not available through the employer, FSH support staff connects the apprentice to community resources that are free and readily available. FSH support staff work with the apprentice, beyond supplying a phone number. Staff ensure the resource meets the apprentice's needs, assist in completing any paperwork or referral that may be required, and if the resource does not work, continue to find a solution for the apprentice.

#### **Tier 3 - Emergency Financial Assistance**

If FSH support staff cannot identify a resource in the community to overcome the apprentice's barriers, FSH then steps in to provide last-dollar emergency assistance. An emergency expense can completely disrupt one's post-secondary plans and in most cases starts a domino effect with detrimental results. Apprentices provide documentation of their overdue bill, childcare cost, estimated repair, etc. and are required to meet with FSH support staff in creating a plan for future problem-solving.

In addition to staff being available to support students twelve hours per day, six days per week, in July of 2022, Family Scholar House launched MyKY.info, a state-wide, innovative safety net mobilized website/web-app, available in English and Spanish. The app connects people in need with free, locally-provided community resources. MyKY.info is available to everyone across the Commonwealth simply by accessing the internet through a computer, smart device, or public kiosk. Individuals who need services are able to quickly filter and search for



free local social service agencies and what they can offer. Access to MyKY.info is provided without the input of any personal information, so all inquiries are anonymous.

MyKY.info and all of the support services listed are not just built for versatility and ease of use. They also increase the effectiveness of being able to secure information for those seeking help. Further, available across several user applications such as; the individual who is personally seeking services, to social service agency staff that are looking for services for their clients, and first responders. This all-encompassing program includes a community awareness campaign, training for first responders and other end users, as well as a continuous resource partner update system. The sole goal is to help people find what they need when they need it.

These support services are not just available to the FSH apprentices participating in the residential program, but also to any non-residential apprentices with employer partners and apprentices in the Kentucky Community & Technical College System.

Among the many industries with apprenticeships, both traditional and modern apprenticeship opportunities, Family Scholar House currently supports programs in all of the following fields,

- Allied Healthcare & Nursing
- Automotive
- Barbering
- Business & Insurance
- Carpentry
- Culinary Arts
- Dental Assistance
- Drone Navigation & Maintenance
- Hospitality
- Information Technology
- Millwrights

FSH offers support and outreach services to employers with entry-level workers and apprenticeship and work-based learning programs. When partnering with FSH, employers are giving their employees access to resources to promote workforce participation on their path to career success.

FSH outreach services include targeted call campaigns to apprentices and entry-level workers to provide support, gather data, congratulate, and much more. Call campaigns can include but are not limited to:

- Help apprentices/employees address any life challenges that could interfere with workplace success and ask what is needed for them to be successful
- Check on apprentices/employees that have online coursework
- Welcome apprentices/employees to the team
- Congratulate apprentices/employees when completing a certification/credential or achieving journeyman status

FSH works closely with Kentucky's Office of Employer & Apprenticeship Services, not only to ensure all apprentices have access to support services, but also to provide connections to employers that are registering apprenticeship programs.

By utilizing its customized, proprietary, and securely-encrypted database, FSH is effective in tracking the progress and success of apprentices and the resulting economic impact. With its myriad support services, FSH has the ability to help employers decrease turnover and increase retention, by ensuring that their apprentices have everything they need to succeed.

Employers can learn more about workforce solution services at [workforcesolutions@familyscholarhouse.org](mailto:workforcesolutions@familyscholarhouse.org).





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Meet Dania, one of FSH's residential apprentices. Before Dania found Family Scholar House, she was looking for a way to provide for her family and still have time to be an amazing mother. She wasn't sure if she would have to settle for less than what she wanted for her life or if it would be possible to pursue a post-secondary path. Toward the end of her pregnancy, a friend mentioned Family Scholar House. After attending orientation, Dania knew that Family Scholar House was going to change her life and support her in reaching her goals and help her on her path to financial independence.

During Dania's pre-residential process, she attended workshops to learn about the different possibilities available for post-secondary education and had many different interests ranging from medical school to carpentry. It was after Dania attended a YouScience Career Exploration workshop at FSH that she decided what career path she would choose. You Science is a career survey that uses engaging 'brain games' to capture real measures of aptitudes.

For Dania, building her own home has always been a goal that she thought would never come true. When thinking about how she could make this dream become reality, it motivated her even more. Dania is currently working through the Carpentry Apprenticeship with Indiana Kentucky Ohio Regional Council of Carpenters (IKROCC).

After her first day at IKROCC, Dania called her success coach in tears because of the list of tools that she needed to have before she would be able to start working on-site. Having just decreased her work hours in order to attend the apprenticeship program, Dania knew it would be months before she would be able to purchase all of the tools. There was no hesitation by Dania's success coach to help her have the items she needed as a relatively small investment in her career opportunity. Dania says this was the turning point for her. She says it wasn't that she didn't believe she could reach her goals, but that she was worried about how she would juggle being a single mom to a one-year-old son while completing her online training and getting to her worksite at 6 a.m. each day. Dania shared that when picking up her tools and other supplies from her success coach, she knew that she would have the support needed from FSH to reach all of her goals.

Dania is an inspiration to women who show an interest in male-dominant fields. Being a woman in carpentry makes her feel more powerful. Dania is grateful to Family Scholar House for how it has been an integral part in her maintaining her mental health and overall wellness while achieving her goals. Family Scholar House was able to take care of the things that were causing her the most stress, from providing study material, work clothes, and tools to cheering her on as she prepared for her placement tests.

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## Recommendations

A lengthy list of recommendations is unwarranted in this case. The data points to marked and achievable gains in workforce expertise and participation when investments in apprenticeships are made. A willingness on the part of parents, students, and businesses is key. Partnerships with existing colleges and universities, including community and technical colleges, is advised.

All partners should work to reduce stigmas, and a federal marketing campaign would be helpful in spreading a cohesive message that doesn't add additional cost burdens to employers. Focusing those messages to target women and minorities is key.



Recruiting women into the workforce, whether through apprenticeships or traditional pathways, will require strategic investments in childcare in terms of availability, affordability, and flexibility, especially for apprenticeships that require training time outside of normal daycare hours. Some apprenticeships may need to be restructured to better allow schedule flexibility for working parents, most of whom are women. Flexible apprenticeship schedules will also be more enticing to the Millennial and Generation Z populations.

While the role of colleges and universities will remain, the asymmetry of funding between postsecondary institutions and apprenticeship programs continues to stifle growth in apprenticeships.<sup>23</sup> Continued state and federal investments in broadening apprenticeships could begin to shore up that funding gap.

Finally, policymakers could also consider including childcare expenses as an allowable cost category in determining the cost of attendance, so that student parents can qualify for higher amounts of financial aid regardless of whether they pursue apprenticeships or traditional college pathways.<sup>26</sup>

## Conclusion

Apprenticeships are a reliable, cost-effective model that benefits all involved. Education institutions that partner on apprenticeship programs are eligible for additional pockets of federal funding, businesses can train and retain employees for less than the cost of hiring workers off the street, and apprentices are able to accelerate into highly-skilled careers without incurring student loan debt. From a purely financial standpoint, apprenticeships make more sense than any other career ladder model.

Apprentices have been proven to reduce employer liability, move into leadership roles to further the company's mission, and have higher productivity rates with lower rates of error than their peers. Apprentices benefit employers by increasing employee morale, including morale among their mentors. Finally, apprenticeship programs are more suited to flexibility, which will allow participating employers to excel when technological changes or other market forces occur while also giving employers the opportunity to customize job roles for the incoming generations.

The future workforce is already here, and Millennials are and will continue to be in leadership roles in most companies as Gen Z candidates enter the workforce pipeline. Programs such as apprenticeships that foster company loyalty and provide flexibility will find themselves aligning with the needs of these two generations now and in the years ahead. Deliberate work to recruit women, veterans, and minority candidates will be needed, as these generations are more diverse and desire more diversity in the workforce, than any generations prior.

Still, despite the clear financial case for shifting to a European model for apprenticeship, employers and families resist. Education among teachers and career counselors is needed. Coordinated efforts to reduce stigmas, eliminate childcare barriers, and make workplaces more suited to those from diverse backgrounds is vital. Collaborations, such as the opportunities available through Family Scholar House, that address the life challenges that can interfere with workforce participation are integral to promoting persistence and credential completion.

Other countries are far ahead of America in implementing apprenticeships on a widespread institutional basis, but the case is clear. Apprenticeships save millions of dollars in taxpayer money that would otherwise be spent on public benefits, increase the amount of money going into the tax base, save citizens thousands of dollars in student loan debt that they can utilize in the economy, and save money for businesses working to recruit and retain a qualified, diverse workforce. A team effort will be needed, and the time is now.

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Learn more @

[www.FamilyScholarHouse.org](http://www.FamilyScholarHouse.org)



### Trager Response Center

Family Scholar House is a free resource to support student and family success both inside and outside the classroom. Contact us for immediate support.

[877-677-9177](tel:877-677-9177)

### Apprenticeship Programs

Family Scholar House provides support for potential students, current students, and their families as they transition into work and apprenticeships.

[Learn More](#)

### Academic & Career Coaching

Participants looking to enroll in the accredited colleges or apprenticeship programs of their choice to pursue the courses of study they prefer, with the goal to obtain a post-secondary certificate or degree.

[Learn More](#)

### Advocacy Support

Family Scholar House assists participants in obtaining needed support services and helps them address barriers to education.

[Learn More](#)