



ECONOMIC IMPACT STUDY

2024





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Executive Summary

Introduction

The Southeastern Pennsylvania Manufacturing Alliance (SEPMA) engaged the Delaware Valley Industrial Resource Center (DVIRC) to conduct an economic impact study to quantify the effects of manufacturing-related training programs on wage increases, career advancement, and productivity growth. The study serves to provide insight into the economic benefits and potential outcomes associated with investing in employee training and development initiatives.

Objective

The primary objective of this study is to evaluate the economic impact of wage increases following training programs implemented by manufacturing companies in southeastern Pennsylvania. The focus is to assess how these wage increases contribute to the overall economic growth, workforce productivity, and business competitiveness within the manufacturing sector.

Findings

Economic Impact of Training Programs

Training programs significantly increase wages for employees through skill enhancement, promotion opportunities, marketability, performance improvement, retention and motivation, and compliance with industry standards. Wage increases range from less than 5% to nearly 30%, with “Six Sigma – Black Belt” training resulting in the highest pay increases among survey respondents.



Wage increases range from

less than 5% to nearly 30%,
with “Six Sigma – Black Belt” training
resulting in the **highest pay increases**
among survey respondents.

Direct Impacts

Increased consumer spending, improved quality of life, reduced income inequality, and higher tax revenues.

Indirect Impacts

Productivity gains, job creation and retention, benefits to suppliers and support industries, investment and innovation, and regional development.

Case Studies



DVIRC’s research identified several regional companies—including **Electro Soft Inc., Brown Superstores, Inc., Weber Display & Packaging, Brooks Instrument, and Philly Shipyard**—reporting successful training initiatives that led to significant wage increases, career advancement, and productivity gains.

Sector-Specific Findings

The Equipment Manufacturing and Ship Building industries reported the most significant wage increases; these findings aligned with overall positive economic trends. Increased wages in these industries suggest potential narrowing of income disparities and increased consumer spending, tax revenues, and economic growth.

Industries reporting the most significant wage increases



Equipment Manufacturing



Ship Building

Recommendations

To maximize the economic impact of training programs, manufacturers should invest in high-impact training, track and analyze outcomes (including productivity increases), promote continuous learning, use innovative technologies, and collaborate with industry associations.

Policymakers should increase financial incentives to encourage manufacturers to offer training, foster public-private partnerships, and support workforce development policies.

Other stakeholders, including economic development organizations and advocacy groups, should facilitate access to training, encourage employer engagement, support community-based initiatives, and measure and communicate training impacts. Collectively, these efforts will enhance workforce skills, productivity, and economic prosperity in Philadelphia and beyond.

Introduction

Philadelphia has a diverse and complex workforce development ecosystem comprised of jobseekers, employers, workforce providers, economic development- and research institutions, philanthropy-, policy-, and advocacy groups, government, and more.

As the City's Workforce Development Board, Philadelphia Works (PhilaWorks) develops and manages smart workforce solutions that respond to business needs and increase economic opportunity for all Philadelphia residents. PhilaWorks is a 501c3 non-profit organization that invests in solutions and services to grow Philadelphia's economy by connecting employers to workforce talent and career seekers to jobs. PhilaWorks accomplishes this mission by:

- Influencing the public policies that support economic growth through partnerships with government, public, and private organizations;
- Optimizing funding and resources to invest in regional solutions to build a skilled and thriving workforce; and
- Leveraging resources and cross-sector relationships to advance a thriving workforce. PhilaWorks implements innovative solutions and pilot programs that strengthen Philadelphia's economy.

Through industry partnerships such as The Southeastern Pennsylvania Manufacturing Alliance (SEPMA), PhilaWorks enables maintenance of a competitive advantage in the manufacturing industry, focusing on retaining workers, and expanding and enhancing businesses. SEPMA is a multi-employer collaborative comprised of regional manufacturers that work with education, workforce development, economic development, and community organizations to address the workforce and other competitiveness needs within the manufacturing sector.

SEPMA engaged the Delaware Valley Industrial Resource Center (DVIRC) to conduct an economic impact study to quantify the effects of manufacturing-related training programs on wage increases, career advancement, and productivity. The study further serves to provide insight into the economic benefits and potential outcomes associated with investing in employee training and development initiatives.



Objective

The primary objective of this study is to evaluate the economic impact of wage increases following training programs implemented by manufacturing companies in Southeastern Pennsylvania. The focus is to assess how these wage increases contribute to the overall economic growth, workforce productivity, and business competitiveness within the manufacturing sector.

Methods

DVIRC conducted a literature review to gather case studies relating to wage increases and training programs in the manufacturing sector. In addition to this secondary research, we conducted primary research interviews with manufacturing companies within the PhilaWorks ecosystem that have implemented training programs, hoping to make employee wage increases possible for their employees. This primary research gathered information on training investments, the resulting wage adjustments, productivity gains, and other economic indicators.

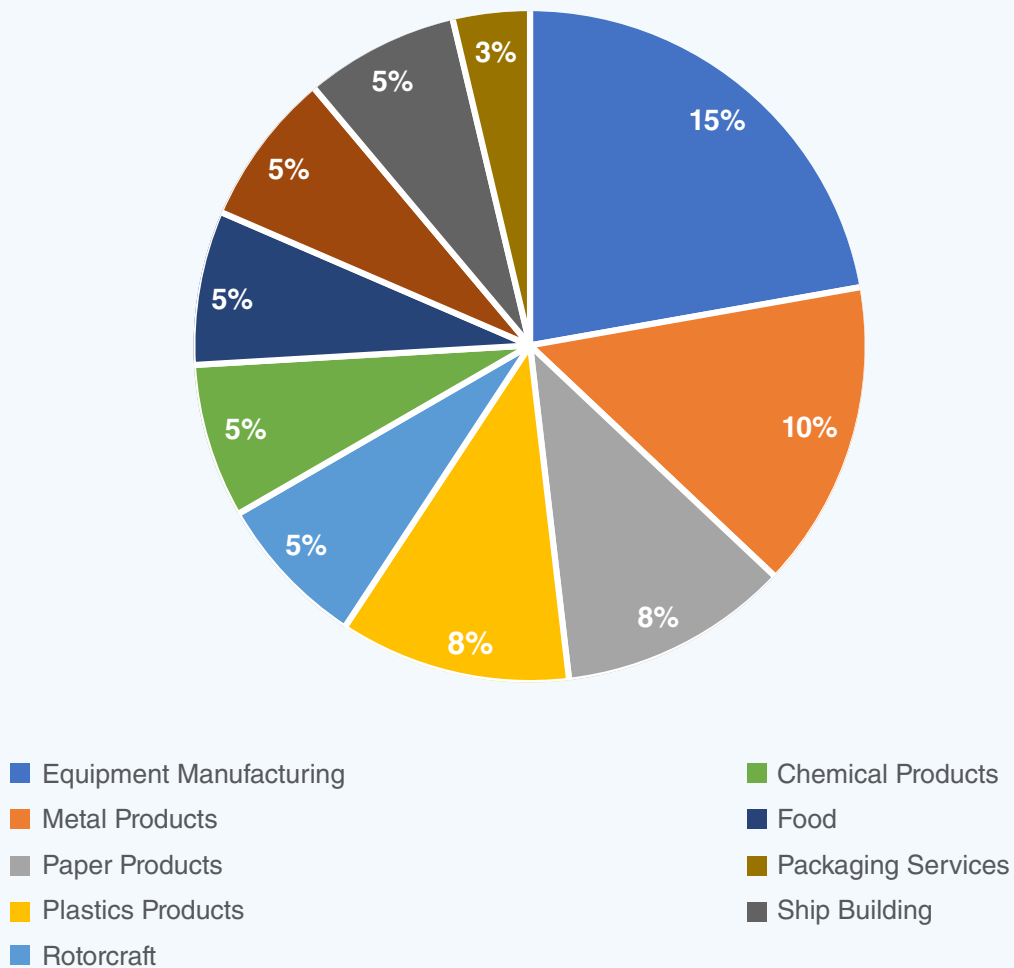
Using appropriate economic models and methodologies, DVIRC analyzed the direct and indirect economic impacts of training programs on wage increases. DVIRC highlighted examples of manufacturers that experienced positive economic outcomes (i.e. wage increases) as a result of training initiatives. Based on the study findings, this report provides actionable recommendations to enable manufacturing companies, policymakers, and other stakeholders to enhance training program effectiveness and maximize economic benefits.



Industry Population

This economic impact analysis focuses on a number of industry sectors across the region as depicted in Figure 1 below. The sectors with the largest representation were equipment manufacturing, metal products, paper products, and plastic products.

Figure 1: Industry Population



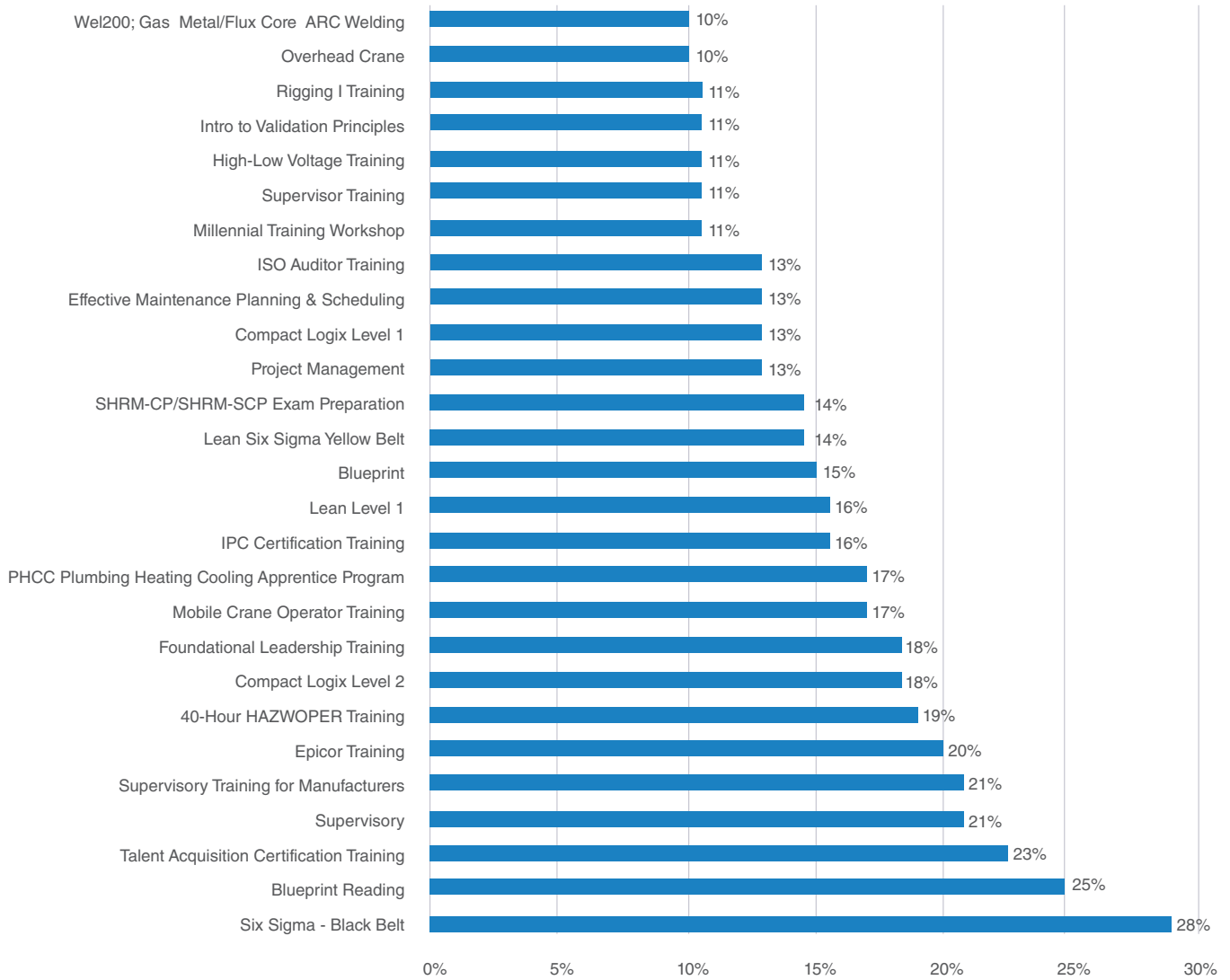
Training Programs

Training can significantly increase wages for employees through several mechanisms:

- **Skill Enhancement:** Training programs typically aim to improve employees' skills and knowledge. As employees acquire new skills or refine existing ones, they become more valuable to the organization. This increased value can translate directly into higher wages, as the employee becomes capable of performing more complex tasks or handling responsibilities that command higher pay.
- **Promotion Opportunities:** Training often prepares employees for advancement within the organization. Promotions typically come with increased responsibilities and higher compensation. By investing in training, employers groom employees for promotion, leading to wage increases associated with elevated roles.
- **Marketability:** Employees who undergo training become more marketable not only within the company but also in the job market at large. Acquiring new certifications, skills, or qualifications can make employees more attractive to other employers, giving them leverage to negotiate higher wages if they consider switching jobs.
- **Performance Improvement:** Better-trained employees often perform better in their roles. This improved performance can lead to tangible benefits for the organization, such as increased productivity, higher quality outputs, and greater customer satisfaction. Employers may reward such contributions with bonuses or salary increases. The Association for Talent Development (ATD) reports that organizations with strong learning cultures have 30-50% higher employee engagement and retention rates, and their employees are 2.9 times more likely to exceed performance expectations. Research by the National Center on the Educational Quality of the Workforce, meanwhile, found that a 10% increase in workforce education level leads to an 8.6% increase in productivity.
- **Retention and Motivation:** Offering training demonstrates to employees that the organization values their development and growth. This can enhance employee satisfaction and motivation, reducing turnover rates. Employers may further choose to reward long-term commitment and loyalty with incremental wage increases or retention bonuses, establishing a positive feedback loop of loyalty and increased compensation.
- **Industry Standards:** In some industries, specific certifications or training are required to perform certain roles or to comply with regulations. Employees who obtain these necessary qualifications often command higher wages due to the specialized nature of their skills and the legal or industry requirements.

Moreover, these facts underscore the direct correlation between skill enhancement through training and increased employee value and wages.

Figure 2: Average Percent Pay Increase After Training



The U.S. Bureau of Labor Statistics reports that workers who have undergone training and obtained certifications earn an average of 20% more than their peers who lack such credentials. Figure 2 illustrates a similar correlation between various training programs and the subsequent wage increases for employees who complete them. The data reveals that different training programs result in varying pay raises, with percentages ranging from just under 5% to nearly 30%. “Six Sigma – Black Belt” training resulted in the highest pay increase (approaching 30%), while workers completing “Wel200; Gas Metal/Flux Core ARC Welding” training saw the lowest average pay increase of just under 5%.



Workers who have undergone training and obtained certifications earn an average of **20% more** than their peers who lack such credentials.



“Wel200; Gas Metal/Flux Core ARC Welding” training saw the lowest average pay increase of **just under 5%**.

Based on primary research findings, it was found that although some companies do track and maintain data to quantify the impact of training on wages, a larger number of the companies surveyed do not have this data readily available. For those that did track and monitor training/wage statistics, those with the most beneficial impact on salaries, advancement, and productivity included:

- **Recertifying Forklift Operators:** These skills are a necessity for improving safety and operational efficiency;
- **Overhead Crane and Safety Training:** These are similarly essential for operational safety and efficiency in particularly hazardous environments;
- **Certification Training (e.g., IPC 610, IPC 620, J-STD):** Critical for technical roles;
- **Skills Matrix Certifications:** Key skills are linked to higher salaries and advancement opportunities;
- **Development of Supervisor/Management Skills:** Enhancing managerial skills can lead to promotions and salary increases;
- **Entry-Level Training:** Providing foundational skills to entry-level associates can improve productivity and justify wage increases;
- **Lean and Technical Skills:** Efficiency improvements through Lean and technical training enable significant cost-saving and productivity-enhancing initiatives;
- **Multi-Equipment Training:** Training employees on multiple pieces of equipment increases their versatility and value, leading to higher wages; and
- **Supervisory Training:** Ongoing training for supervisory roles is vital for career advancement and associated wage increases.

Several companies provided insights into productivity increases resulting from training, indicating that the more equipment an employee is trained on, the greater their productivity and value to the enterprise. Companies often use local resources such as the Delaware Valley Industrial Resource Center (DVIRC), Drexel University, Community College of Philadelphia (CCP), and Mid Atlantic Employers Association (MEA) for third-party training support, while platforms like Exonify enable scheduling and delivery of training. Technical training centers, meanwhile, are preferred for specialized certification training.

While some companies have quantifiable data to support these wage increases, there is a need for more systematic tracking and analysis of the impact of training on wages across industries. Investing in effective training programs can lead to significant wage growth, advancement opportunities, and overall productivity improvements, which benefit both employees and organizations.

Overall, investing in training not only benefits the individual employee by enhancing their skills and career prospects, it also advances organizational goals by improving productivity, retention, and competitiveness in the marketplace. This mutually beneficial relationship often leads to increased wages as a direct result of the enhanced value and capabilities that trained employees bring to the workplace.

Training with the most beneficial impact on salaries, advancement, and productivity included



Recertifying Forklift Operators



Overhead Crane and Safety Training



Certification Training



Skills Matrix Certifications



Development of Supervisor/Management Skills



Entry-Level Training



Lean and Technical Skills



Multi-Equipment Training



Supervisory Training

Wage Increases and Promotions

The impact of manufacturing training on income distribution, consumer spending patterns, tax revenues, and overall economic growth in Pennsylvania can be assessed through various lenses:

Income Distribution

- **Wage Increases:** Manufacturing training can lead to higher wages for workers who acquire new skills or certifications. This can potentially narrow income inequality by providing more equitable access to higher-paying jobs within the manufacturing sector.
- **Skill Premium:** As trained workers become more productive and valuable to employers, they may command a wage premium compared to their untrained counterparts; this could positively affect income distribution for trained individuals.

Consumer Spending Patterns

- **Increased Disposable Income:** Higher wages resulting from manufacturing training can increase disposable income for workers. This can drive consumer spending on goods and services, which in turn stimulates economic activity in local communities and supports retail- and service industries.
- **Quality of Life Improvements:** Better-paying jobs can enhance the overall standard of living for workers and their families, potentially leading to changes in spending patterns towards more discretionary and higher-value items.

Tax Revenues

- **Higher Individual Income Taxes:** Increased wages from manufacturing training can contribute to higher individual income tax revenues for the federal- and state governments.
- **Corporate Tax Implications:** Improved productivity and profitability within the manufacturing sector—driven by trained employees—may lead to higher corporate tax revenues as well.

Overall Economic Growth

- **Sectoral Growth:** A skilled manufacturing workforce can bolster the competitiveness and growth of Pennsylvania's manufacturing sector; this can attract investment, create additional jobs, and contribute to broader economic expansion.
- **Multiplier Effects:** The economic impact of manufacturing training extends beyond the sector itself. Increased demand for goods and services from trained workers can stimulate growth in related industries, such as transportation, logistics, and professional services.

Long-Term Economic Sustainability

- **Workforce Development:** Continuous investment in manufacturing training programs supports the long-term sustainability of Pennsylvania's workforce. It ensures that the state remains competitive in the global manufacturing landscape and resilient to economic fluctuations.
- **Innovation and Technology Adoption:** Training programs often help employees expand their skills related to new technologies and best practices. This can foster innovation within the manufacturing sector, driving productivity gains and maintaining Pennsylvania's position as a leader in advanced manufacturing.

In summary, manufacturing training in Pennsylvania can lead to positive outcomes across a number of areas: income distribution, consumer spending, tax revenues, and overall economic growth among them. By enhancing skills and productivity, training programs support higher wages, increased consumer demand, and greater economic efficiency, thereby benefiting both individual workers and the broader economy of the state.

Figure 3: Percent Wage Increase per Industries

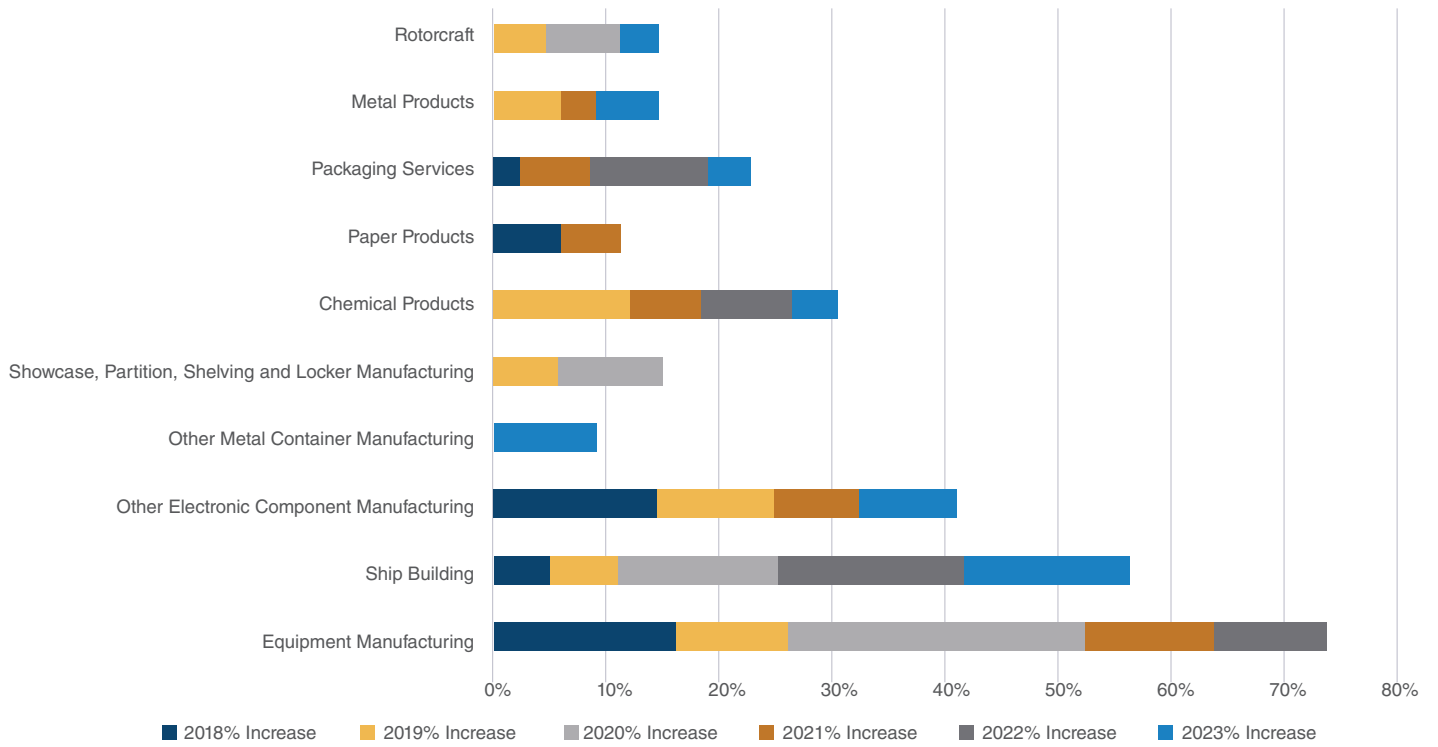
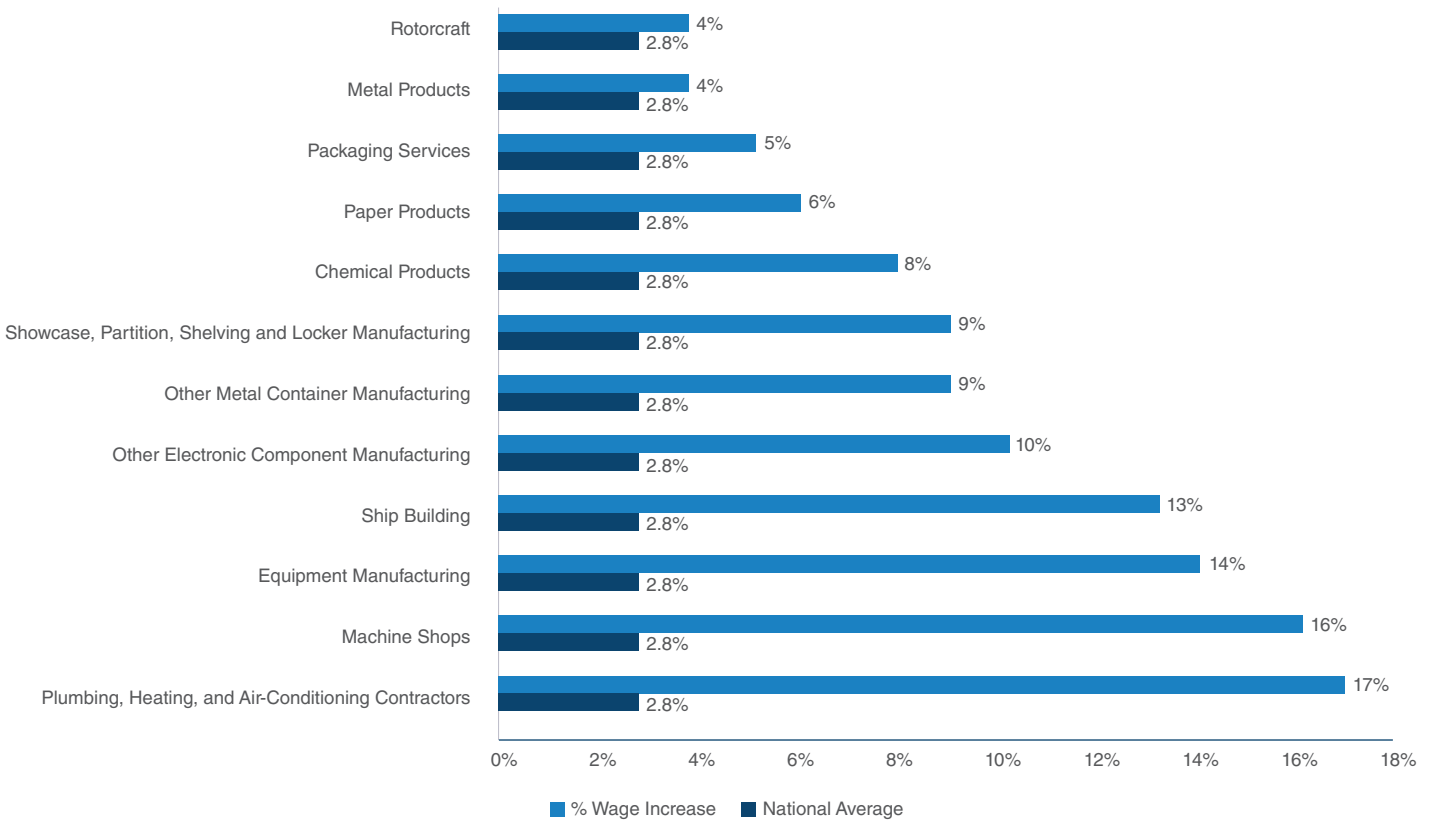


Figure 4: Wage Increase per Industry vs National Average



Figures 3 and 4 above—Percent of Wage Increases per Industry, and Percent Wage Increase vs National Average, respectively—offer a comparative analysis of wage increases across various manufacturing sub-sectors for the years 2018 to 2023.

- Equipment Manufacturing shows the most significant wage increases, with total wage increases for the period of approximately 70%. 2018 and 2020 in particular showed significant wage growth.
- Ship Building also demonstrates substantial wage growth, with notable increases in 2022 and 2023, and an aggregate increase of nearly 60%.
- Other Electronic Component Manufacturing and Chemical Products sectors showed consistent wage increases, with significant growth in 2018 and 2019.
- Rotorcraft and Metal Products sectors show more modest wage increases, with percentages ranging between 5% and 6% per year over the survey period.
- Plumbing, Heating, and Air-Conditioning Contractors and Machine Shops show the highest wage increases, significantly above the national average.
- Ship Building and Equipment Manufacturing also have high wage increases, confirming the findings in Figure 3.
- Most sub-sectors listed reported wage increases above the national average—some significantly so—indicating sector-specific wage growth trends.



Influence on Income Distribution

The wage increases across these industries contribute to changes in income distribution. Higher wages in industries like Equipment Manufacturing and Ship Building suggest a potential narrowing of income disparities, as workers in these sectors see more substantial pay increases. This can lead to a more equitable income distribution, especially if that wage growth is sustained over time and spread across employees at different responsibility levels within these industries.

Impact on Consumer Spending Patterns

Increased wages generally lead to higher disposable incomes, which can boost consumer spending. Workers in industries with significant wage hikes are likely to increase their spending on goods and services, driving demand in various sectors of the economy. This increased consumer spending can have a multiplier effect, stimulating economic activity and supporting business growth.

Effect on Tax Revenues

Higher wages result in increased tax revenues for all levels of government. As employees earn more, their income tax contributions rise, which can enhance the government's ability to invest in public services and infrastructure, further supporting economic growth. Additionally, higher consumer spending can lead to increased sales tax revenues.

Overall Economic Growth

The wage increases observed in Figures 2 through 4 suggest a positive trend for overall economic growth. Industries that offer significant wage increases may see higher productivity levels as employees are more motivated and skilled. This can enhance the competitiveness of these industries both domestically and internationally.

Increased wages and consumer spending, meanwhile, contribute to the economic multiplier effect, where initial spending leads to further economic activity. This can result in sustained economic growth and development. Higher wages might also attract more skilled labor to these industries, promoting innovation and efficiency. This investment in human capital can drive long-term economic growth.

In summary, the Figures above illustrate how wage increases across various industries can influence income distribution, consumer spending patterns, tax revenues, and overall economic growth. The positive trends in wage growth resulting from increased manufacturing-related training, particularly in high-impact industries, indicates a healthy economic trajectory with potential benefits for workers, businesses, and the broader economy.



Direct and Indirect Economic Impacts of Wage Increases Resulting from Training Programs

The wage increases resulting from training programs in the manufacturing industry have both direct and indirect economic impacts, influencing various aspects of the economy.

Direct Economic Impacts

- **Increased Consumer Spending:** Higher wages enable employees to have more disposable income, leading to increased spending on goods and services. This boost in consumer spending can stimulate local businesses and support economic growth in the region where the manufacturing company operates.
- **Improved Quality of Life:** Higher wages improve the standard of living for workers and their families. This can lead to better housing, healthcare, education, and overall well-being, contributing to social stability and community development.
- **Reduced Income Inequality:** Wage increases from training programs can help narrow income gaps within the workforce. This can reduce socioeconomic disparities and promote a more equitable distribution of economic resources in society.
- **Higher Tax Revenues:** As employees earn more, they contribute more to income tax revenues, both at the state and federal levels. This increased tax revenue can support public services, infrastructure projects, and social programs.

Indirect Economic Impacts

- **Productivity Gains:** Trained employees are often more productive and efficient in their roles. This can lead to cost savings for their manufacturing employers, improve overall production output, and enhance competitiveness in the market.
- **Job Creation and Retention:** Higher wages resulting from training programs can improve employee satisfaction and reduce turnover rates. This stability in the workforce encourages companies to invest further in their operations (including in additional training), potentially leading to job creation and improved long-term employment opportunities.
- **Supplier and Support Industries:** Increased economic activity from higher wages can benefit suppliers and support industries that provide goods and services to the manufacturing sector. This creates a ripple effect throughout the supply chain, generating additional economic activity and employment.
- **Investment and Innovation:** Companies that invest in training programs to raise wages often prioritize parallel innovation and technological advancements. This can lead to the adoption of new technologies, processes, and sustainable practices, which further drive competitiveness, economic growth, and environmental benefits.
- **Regional Development:** Strong manufacturing sectors supported by skilled, well-compensated workers, attract investment, talent, and business development to the region. This regional economic development and diversification contributes to follow-on growth beyond the manufacturing sector itself.

Overall, the economic impacts of wage increases resulting from manufacturing training programs are multifaceted, benefiting individuals, businesses, and communities alike. By fostering a skilled and well-paid workforce, these programs contribute to economic resilience, innovation, and sustainable growth in both local and broader economies.

Direct Economic Impacts of Wage Increases Resulting from Training Programs



Increased Consumer Spending



Improved Quality of Life



Reduced Income Inequality



Higher Tax Revenues

Several manufacturing companies near Philadelphia have implemented training initiatives that led to positive outcomes, including wage increases for their employees.

- **Brown Superstores, Inc.** has many entry-level associates whose skills are enhanced through foundational training, which provides their associates with necessary skills, leading to wage increases and career advancement.
 - A significant amount of Brown's training needs are ServSafe®-related. A number of roles require certification to ensure safe food handling; others carry county-specific registration as well.
 - Brown uses Exonify, a web-based training platform, to track employee training needs and host training content. "Associates go on every day for a few minutes. Studies show that short bursts of training are more easily retained, and then you reinforce that learning on a daily basis. They watch a short video, answer some questions, and then move on the next day if they do well, or maybe repeat the training if they do not.
 - As a union store, advancement is based on a "bid sheet" format. Employees interested in advancing to new roles fill out bid sheets, which are reviewed as openings develop. Brown reviews bid sheets to identify interested parties, evaluate their training status, and develop individualized training programs as needed if the candidate is selected to advance and additional training is required.
- **Weber Display & Packaging** emphasizes the importance of supervisor- and management training, which significantly impacts salaries and career advancement. They also highlight the value of training in various operational skills to improve productivity.
 - Front-line personnel (e.g., machine operators) and front-line supervisors and managers go through a more formal training process than other roles.
 - Machine operator training often involves OEM representatives offering equipment-specific instruction onsite, although some training takes place at the OEM facility.
- Based on their skills matrix, specific certifications have led to significant salary increases. **Electro Soft Inc** finds training in areas such as technical certifications to be highly beneficial in impacting salaries and advancement.
 - Certification trainings include IPC 610, IPC 620, and J standard. Along with blueprint reading and management/supervisory training, these are the company's most common training needs, due in large part to the fact that they are required to advance within the operation.
 - The company's newly implemented "banded salary" structure outlines specific training requirements to advance through the salary gains.

- **Brooks Instruments** focuses on training for staff on the lower end of the spectrum to grow fundamental skills and provide career growth opportunities. In particular, they highlight the importance of entry-level and supervisory training in driving wage increases and productivity.
 - Human Resources will often survey the management team to assess desires/needs and identify any deficiencies (e.g., Are employees struggling with any specific software? Do employees want to develop a certain skillset? Do they want sales training?).
 - As a division of a multinational, Brooks can also receive encouragement from their parent company about developing certain skills or knowledge of a certain technical platform.
 - Employees with aspirations to achieve higher positions typically work with managers/HR to develop an Individual Development Plan (IDP).
- **Philly Shipyard's** focus on supervisory training has been crucial in enhancing productivity and career advancement, which contribute to wage increases.
 - Each year, supervisors review job analyses with employees (a more detailed document than a standard job description) to identify any shortcomings; they develop action plans to identify training needs based on these reviews.
 - Philly Shipyard supplements these reviews with as-needed gap analyses performed by a training and implementation specialist who creates individualized training based on the ADDIE method (“analyze, design, develop, implement, evaluate”).
 - Gap analyses can be driven by government contract compliance needs.
 - Similar to Brown Superstores, Philly Shipyard uses a Learning Management System (LMS) for their leadership development needs.

These examples demonstrate that companies investing in specific training programs, such as technical certifications, supervisory and management skills, and foundational training for entry-level positions, experience significant positive outcomes, with wage increases, career advancement, and enhanced productivity chief among them.

While some companies have quantified data to support these claims, many rely on observed improvements and anecdotal evidence of the perceived value of training initiatives. The data highlights the importance of strategic training investments to drive economic benefits for both employees and organizations. By focusing on impactful training areas, companies can achieve substantial wage growth and productivity gains, contributing to broader economic growth and stability.



Solutions and Recommendations

It is recommended that manufactures, policymakers, and other stakeholders weigh the actionable recommendations listed below to guide decision-making related to enhancing training program effectiveness and maximizing their economic impact.

Manufacturers

• Invest in High-Impact Training Programs:

- Focus on those training programs that lead to significant wage increases, such as technical certifications (e.g., Six Sigma, IPC certifications), supervisory- and management training, and multi-equipment training.
- Partner with local educational institutions and training centers to provide specialized and industry-specific training.

• Track and Analyze Training Outcomes:

- Implement systems to systematically track and analyze the impact of training on wages, productivity, and employee retention.
- Use this data to continuously improve training programs and demonstrate their value to stakeholders.

• Encourage Continuous Learning and Development:

- Promote a culture of continuous learning by providing ongoing training opportunities and career-development pathways.
- Recognize and reward employees who pursue further training and demonstrate improved performance.

• Leverage Technology and Innovative Training Methods:

- Utilize digital platforms and tools like Exonify for scheduling and delivering of training programs.
- Explore the use of virtual reality (VR) and augmented reality (AR) for immersive, hands-on training experiences.

• Collaborate with Industry Associations:

- Join industry associations like SEPMA to share best practices, resources, and insights on effective training strategies.
- Participate in collaborative training initiatives to address common industry challenges and needs.

Policymakers

• Provide Financial Incentives and Support:

- Offer tax credits, grants, and subsidies to manufacturers that invest in employee training and development.
- Support programs that provide financial assistance to workers pursuing industry-relevant certifications and training.

• Enhance Public-Private Partnerships:

- Foster collaboration between government, educational institutions, and industry to create and promote training programs that align with current- and future workforce needs.
- Support initiatives that bring together multiple stakeholders to address skills gaps and enhance workforce readiness.

• Promote Workforce Development Policies:

- Advocate for policies that emphasize the importance of workforce development and allocate resources to support training initiatives.
- Ensure that regulations and policies are conducive to flexible, innovative training approaches that meet the evolving needs of the manufacturing sector.

• Support Research and Data Collection:

- Fund research studies to evaluate the long-term economic impacts of training programs and identify best practices.
- Establish mechanisms to collect and share data on training outcomes to inform policy decisions and enable program improvements.

Other Stakeholders (e.g., Economic Development Organizations, Philanthropy, Advocacy Groups)

• Facilitate Access to Training Programs:

- Provide funding and resources to support the creation and expansion of training programs, particularly for underserved populations and small-to-medium-sized enterprises (SMEs).
- Develop outreach initiatives to raise awareness about available training opportunities and their benefits.

• Encourage Employer Participation and Engagement:

- Promote the value of workforce training through campaigns, workshops, and forums that highlight success stories and best practices.
- Encourage employers to take an active role in shaping training programs to ensure they meet industry needs.

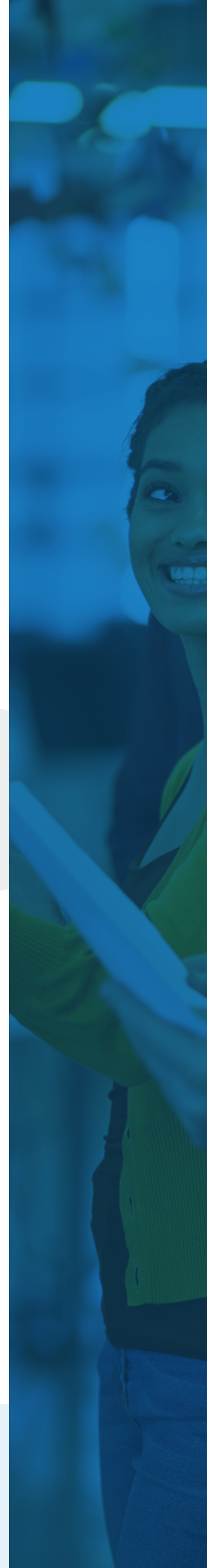
• Support Community-Based Training Initiatives:

- Partner with community organizations to deliver training programs that are accessible to local residents and tailored to regional economic needs.
- Focus on training programs that provide foundational skills and pathways to advanced training and career advancement.

• Measure and Communicate Impact:

- Develop frameworks for measuring the economic and social impact of training programs on communities and the broader economy.
- Share findings and insights with stakeholders to build support for continued investment in workforce development initiatives.

By implementing these recommendations, manufacturers, policymakers, and other stakeholders can enhance the effectiveness of training programs, maximize their economic impact, and contribute to a more skilled, productive, and prosperous workforce in Philadelphia and beyond.



Conclusion

The economic impact of manufacturing-related training programs in Southeastern Pennsylvania has substantial quantitative outcomes. Wage increases following these programs range from under 5% to nearly 30%, depending on the type of training. For instance, “Six Sigma – Black Belt” training resulted in the highest pay increases, approaching 30%, while other programs like “Wel200; Gas Metal/Flux Core ARC Welding” saw wage increases just under 5%.

These wage increases lead to direct economic impacts such as higher consumer spending and tax revenues. Workers who undergo training and obtain certifications earn, on average, 20% more than their peers, which significantly enhances their disposable income. This increase in disposable income drives consumer spending, benefiting local businesses and contributing to broader economic growth in the region. The wage hikes also lead to higher tax revenues for federal and state governments, as more individuals contribute through increased income and sales taxes.

The indirect impacts are also notable. Higher wages and skill development foster productivity gains, job retention, and job creation, particularly in industries such as equipment manufacturing and shipbuilding, which reported wage increases of up to 70% and 60%, respectively, from 2018 to 2023. These productivity gains lead to cost savings for companies and improvements in overall output, further strengthening the region’s economic standing. Additionally, the economic multiplier effect results from the increased demand for goods and services, driving growth across various sectors beyond manufacturing.

DVIRC projects SEPMA’s total annual economic impact to be substantial, with a range from \$5,416,800 on the conservative side to as high as \$7,222,500. This figure underscores the critical role SEPMA plays in driving economic growth, creating value, and supporting local industries. These numbers highlight the organization’s ability to generate significant financial contributions to the broader economy, making SEPMA a key player in the region’s economic landscape.

Appendix A: Primary Research Interviews

Primary Research Interviews

PTR Baler & Compactor

Electro Soft Inc.

Gelest (subsidiary of Mitsubishi Chemical)

Brown Superstores, Inc.

Polysciences, Inc.

Delaware River Stevedores

Weber Display and Packaging

Brooks Instruments

Philly Shipyard, Inc.

Remark Glass

Westlake Plastics Company

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