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Workforce Crisis in the United States of America

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Abstract: There have been numerous discussions within industry, professional societies, trade associations and educators concerning the future workforce and skilled labor. The purpose of this essay is to explore the US Census Bureau data and compare to Departments of Labor and Commerce data. Is there really an issue? What is the condition of our future workforce and why? Could the change in our skilled labor signify a disaster for the US Economy? What is the impact of overseas industry? Dr. Penrose explores the evidence and connects the dots that are being missed by industry stakeholders, from government to business and industry leaders, in this essay, which is a continuation of the series relating business to reliability and maintenance.

Introduction

While demand for manufactured product has remained constant, or grown, as a share of the US economy, the actual production has lagged by a widening margin since 2000. This wedge means that actual demand has not translated to expanded employment output. Additionally, as the baby-boom generation grows older and leaves the workforce, there is a lag in replacement workers to cover the replacement demand and demand for new employment.

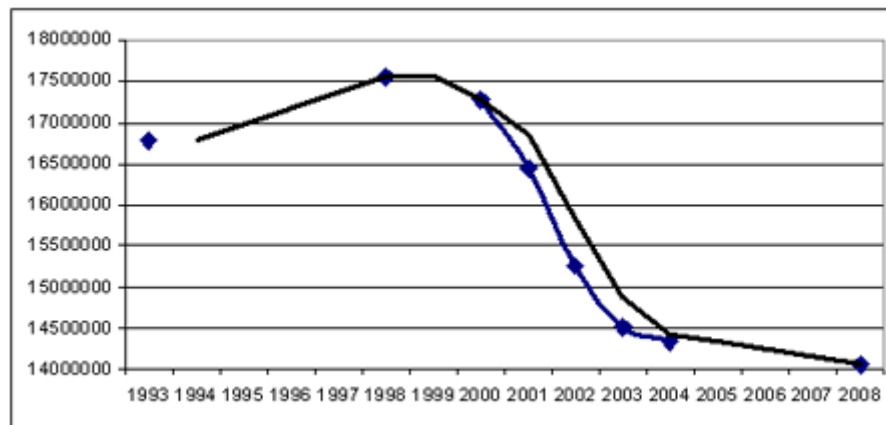


Figure 1: Manufacturing Employment in the USA (All Labor)

“A continuing divergence between the increased average age and a decrease in population growth will continue to make it difficult to find and retain qualified workers.¹”

What Has Brought Us Here?

Baby boomers that were born from 1946 to 1964 will be between 50 and 68 years old in 2014. The annual growth rate of the 55 and older age group is projected to be 4.1%, four times the rate of growth of the overall labor force. The 25 to 54 age group will be around 0.3% and below 25 years will be essentially flat from 2004 through 2014. This means that our experienced and reliable workforce will be aging with a growing lag from a younger work force.

“Since the second decade of the 1900’s, several population events have occurred in the United States with a long-lasting impact on future labor markets. The impact of these events appeared after a roughly 16 year lag, when the population cohorts involved entered the labor force.²” The events in question are as follow:

1. 1920's and 1930's: A noticeable reduction in birthrates, a phenomenon referred to as the 'Birth Dearth.' This group presently makes up the 75 year and older generation, and is by and large, out of the workforce.
2. 1946 to 1964: The 'Baby-Boomer' era involved a significant increase in the US fertility rate and approximately 78 Million people were born. This segment was between the ages of 40 and 58 in 2004 and will be between the ages of 50 and 68 years in 2014.
3. 1965 to 1976: The 'Baby-Bust' era refers to the era where the number of births decreased once again. This segment of the population constitutes the prime-aged worker group aged 25 to 54 from 2004 through 2014. This group makes up a much smaller population and the difference in numbers will contribute to the decrease in the growth of the labor force through 2014.
4. 1976 to 2000: The 'Baby-Boom Echo' is comprised of the children of the baby-boomers after 1976. A part of this cohort entered the workforce in 2004 and will be in the prime-aged workforce by 2014.
5. As a result of this fluctuation in population, the baby-bust generation is entering the prime labor age. Because of the much smaller group, the numbers applied to replacing the aging workforce, as well as new job growth will cause difficulty in the workforce by 2014.

The median age for the labor workforce peaked at 40.6 years in 1962. In 1982 this value was 35 years, 37.7 years in 1994, 40.3 in 2004 and is projected to be 41.6 in 2014. It is expected that labor growth will slow to 1% from 1.2% from 2004 to 2014. Additionally, the continued trend in 'early retirements' of the 55 and older workforce will signify additional challenges, especially as the early group of baby-boomers are already close to retiring in vast numbers³.

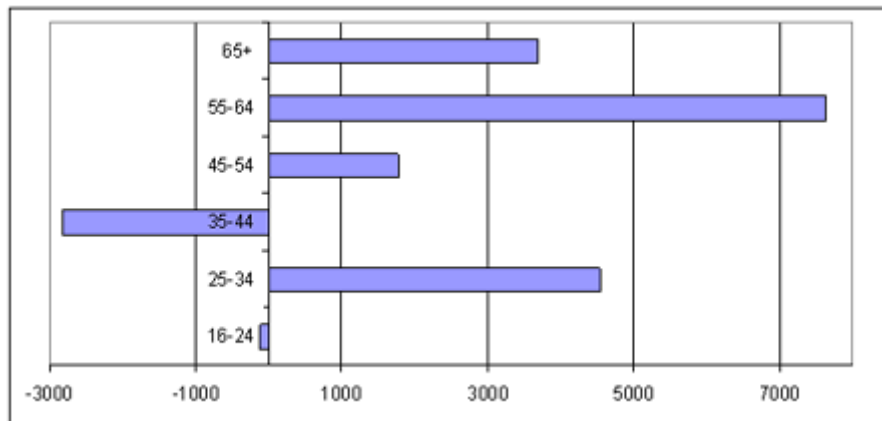


Figure 2: Change in Workforce (in 1,000's) by Age Group from 2004 – 2014

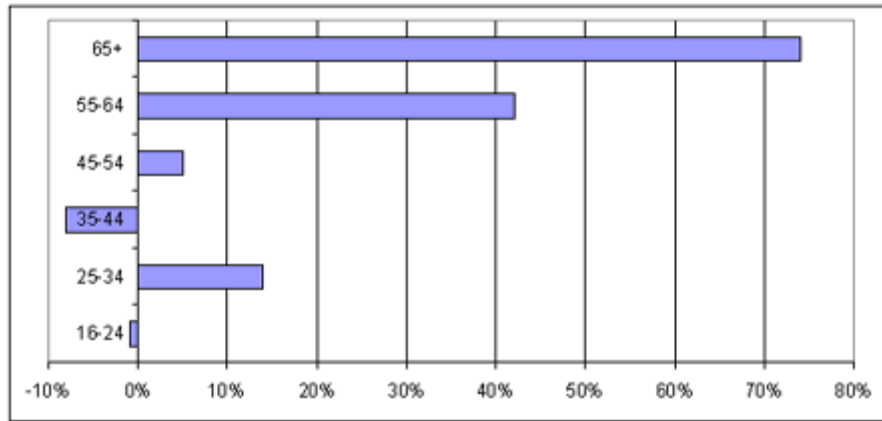


Figure 3: Percent Change in Workforce 2004 to 20145

What is the Impact?

Defining the impact of this change is a challenge as it is meeting a range of responses from the Department of Labor Statistics, US Department of Defense, a variety of states' Departments of Commerce, and the National Association of Manufacturers, to name a few.

In a report presented by the US Department of Defense to Congress in February, 2005⁶, it was reported that there is no industrial crisis and that feelings of crisis are 'misplaced.' The report then goes on to justify why the US Department of Defense needs to obtain military materials overseas.

The US Bureau of Labor Statistics states, within its November 2005 report that while there is a change in the makeup of the workforce to an older workforce, that there is sufficient manpower to maintain USA competitiveness. However, all of the reports take into account number of people and not skill, experience or work ethic.

The Wisconsin Manufacturing Study⁷ identifies one of the key issues over the next decade will be the waning of a competent replacement workforce (Table 1).

Concerns	Percent
Availability of skilled, qualified workers	61.6
Healthcare coverage and costs	19.2
Training	5.5
Compensation to workers and compensation levels	5.5
General benefits and insurances	2.7
All other	5.5

In the Spring of 2005, the National Association of Manufacturers contracted Deloitte to study the workforce.⁸ "The details behind the talent shortage reveal a stark reality. More than 80 percent of respondents indicated that they are experiencing a shortage of qualified workers overall – with 13 percent reporting severe shortages and 68 percent indicating moderate shortages. Also worrisome is the finding that 90 percent of respondents

indicated a moderate to severe shortage of qualified skilled production employees, including front-line workers, such as machinists, operators, craft workers, distributors, and technicians. As expected, the research showed that engineers and scientists are in short supply, with 65 percent of manufacturers reporting deficiencies – 18 percent severe and 47 percent moderate.”

What would cause this diverse view of the United States workforce over the next decade?

The Younger Generation

One of the key points that sets the four sets of information, presented in this essay, apart are their points of view. The US Bureau of Labor Statistics focus on the forecast of significant increase (about 60% of growth) in the professional and service industries, with the most significant being in the computer industry.

“Advances in manufacturing technology, such as faster machines and more automated processes, and a shift of assembly and other production activities to countries with lower labor costs are expected to decrease employment for a number of production-related occupations.”⁹

In particular, maintenance in the manufacturing industry is expected to decrease by 17,000 jobs with self-employment in this group increasing slightly. The total percentage of workforce in the maintenance and repair industry is expected to remain steady at 3.9%, although with a much aged workforce. The US Bureau of Labor Statistics lists maintenance skilled workers as requiring moderate on-the-job-training (OJT) (e.g., farming and agriculture is long OJT and food service is short OJT).

In general, over the 2004 to 2014 period, 54.7 million job openings are expected in the economy, approximately three times as from general employment growth (18.9 million). The slower increase in population and available workforce is expected to fill in these jobs.

However, statistics do not account for the attitude of the 16 to 24 year old range, which is decreasing its presence in the workforce. “During the past several decades, the number of students enrolled in high school, college and summer school has increased, resulting in a decline in the overall labor force participation rate of youths, especially those 16 to 19 years. According to research by the Bureau of Labor Statistics, more of the workforce in the 16 to 24 year old age group reported going to school as one of the main reasons for their nonparticipation in the labor force in 2001 than their counterparts had reported a decade earlier.”¹⁰

“The most disturbing barrier, manufacturers report, to securing needed workers is the broken image of manufacturing within the state. High school students disdain this future, avoid even discussing it with their colleagues, and accept manufacturing jobs apparently with reluctance.”¹¹

The incoming workforce, depended upon by the Bureau of Labor Statistics and US Department of Defense reporting of a lack of industrial crisis, is viewed differently by manufacturers. “There is an emerging two-tiered workforce in Wisconsin.¹² Older, reliable, hard-working employees are retiring soon. Their potential replacements may not be as dedicated to the work ethics of their forerunners and they are increasingly difficult to hire and retrain.”¹³ The report continues to point out that although declining and replacement workers are not yet in high demand, the warning signs are there.

The issue in the USA is almost unique, as it relates to the 16 to 24 year generation. “The problem for US manufacturers is that the challenge is not universal. Countries with rich educational heritages, e.g., India, China and Russia, are graduating millions more students each year from college than the United States. With such international talent readily available and significant shortages existing at home, it is clear that the future of American manufacturing may now be at stake.”¹⁴

Additionally, the quality of education and worker will be, and may presently be, degrading. “In addition to shortages of various types of employees, manufacturers surveyed reported that they are also dissatisfied with the skills of their current employees. Among respondents to this national survey, nearly half indicated their current employees have inadequate basic employability skills, such as attendance, timeliness and work ethic, while 46% reported inadequate problem-solving skills, and 36% indicated insufficient reading, writing and communication skills.”¹⁵

Connecting the Dots

The US Census Bureau, US Bureau of Labor Statistics and US Department of Defense each identify that the aging workforce is not an issue and no industrial crisis exists, even stating that such feelings of crisis are ‘misplaced.’ From a statistical point of view, this may appear realistic. However, the US Bureau of Labor Statistics did identify a dramatic change in the development of new jobs. Over 60% of new growth will be split between the higher income, higher education professional and management positions and the lower income, lower education servicing industry. Almost all other industries will be fairly stagnant.

Key industries, particularly in manufacturing, that make up the US middle class are moving, slowly, out of the USA. The US Department of Defense, which makes up less than 3.9% of the economy, is making purchasing decisions outside of the US manufacturing industry. Traditionally strong industries, such as automotive and steel, are quickly becoming commodities.

State Commerce departments and US manufacturers have identified a reluctance of the 16 to 24 year generation from entering industry, a reduced work ethic, challenges in retaining the younger workforce and difficulty obtaining skilled workers. “Clearly, this situation is untenable for America. Although our manufacturing sector has been able to remain vibrant and to compete successfully in a global economy, its ability to do so in the future is predicated on the availability of a highly skilled, innovative, ‘high-performance workforce.’ Without a sufficient supply of these types of employees, the manufacturing sector will suffer—which in turn will have a detrimental impact to the nation’s overall economic health.”¹⁶

Conclusion

The purpose of this essay is to provide information and not solutions, a subject for future essays. There is, clearly, a difference in opinion between US Federal Government opinion of the US workforce, in particular the skilled maintenance and repair trades, and State Commerce departments and manufacturing. The general appearance is that the Federal agencies are of the opinion that manpower and training, alone, provides the replacement workforce, and not work ethic and experience that manufacturing and maintenance skilled trades require.

The primary concern is that the existing baby-boom workforce is aging and a new generation of workers is reluctant to join. While the skilled trade workforce is expected to decrease with the reduction of manufacturing within the USA, very little new blood is expected to join with an expected reduction in the 16 to 24 year generation of over 1% as a growing number pursue higher education while that population decreases through 2014.

As a result of the progression of the aging workforce, at a rate much higher than the reduction of manufacturing in the USA, and the movement of manufacturing overseas, an industrial crisis is developing within the 2015 to 2020 timeframe, possibly sooner, with the concurrent increase of early retirement offers. The second wave of workers, resulting from the baby-boom-echo generation, will have fewer mentoring opportunities from the aged workforce.

In conclusion, US manufacturing dominance can be expected to lose ground as a result of overseas competition, the movement of the US manufacturing base overseas, and, most importantly, the loss of the skilled trade infrastructure, within the next 10 to 15 years. A greater gap between an upper class, professional workforce and a lower class, service workforce can also be expected.

1. The MPI Group, The Wisconsin Manufacturing Study: An Analysis of Manufacturing Statewide and in Wisconsin's Seven Economic Regions, Wisconsin Manufacturing Extension Partnership, September 2005.
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3. Toosi, Mitra
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5. US Bureau of Labor Statistics, "Labor Force Projections," Occupational Outlook Quarterly, Winter 2005-2006
6. US Department of Defense, "Annual Industrial Capabilities Report to Congress, February, 2005
7. The MPI Group, The Wisconsin Manufacturing Study: An Analysis of Manufacturing Statewide and in Wisconsin's Seven Economic Regions, Wisconsin Manufacturing Extension Partnership, September 2005.
8. Deloitte, 2005 Skills Gap Report – A Survey of the American Manufacturing Workforce, NAM, Spring 2005.
9. US Department of Labor Statistics, "Employment Outlook 2004-2014: Occupational Employment Projections to 2014," Monthly Labor Review, November, 2005.
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11. The MPI Group
12. Note: Similar comments in studies within other USA State-funded research.
13. The MPI Group
14. Deloitte
15. Deloitte
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