

# Why You Should Reconsider College as an Investment

By Miles Free, Director of Industry Research and Technology PMPA :: mfree@pmpa.org

## Part 1: College as an Investment...Really?

It continues to be my experience that most parents in most communities—and most guidance counselors in most communities—see manufacturing as a place for the kids in the bottom of the class. They think that everyone else should have a college degree as their “destiny.”

Yet, the number of unemployed bachelor’s degree holders living in their parents’ basements, unable to pay off their college loans AND support themselves, is testimony that something about this thinking might need to change.

Many families assume that a college degree for their children is an indisputable investment, one that will assure their children’s economic success. They seldom look at the underlying assumptions.

As a parent, as a former plant manager, as an industry professional and as an adjunct professor at a private university, I’d like to help you review some of those assumptions. Because I know that if your children have the potential to be successful in college, they can also be successful in the manufacturing industry. Here, we have plenty of jobs for sharp people and a career path that will include some college—but not years of college debt and lost earnings.

**Assumption No. 1: A Bachelor’s Degree Takes Only Four Years.** This is the first assumption you need to understand for planning purposes. The degree completion rate has fallen so badly that the National Center for Educational Statistics now reports the 4-, 5-, 6- and 8-year bachelor’s graduation rates. Eight years to complete a 4-year degree!

Approximately 58 percent of first-time, full-time students seeking a bachelor’s degree in 2004, completed the degree at that institution within six years or 150 percent of nominal completion time.

**Assumption No. 2: Your Child Will Graduate.** This is the flip side of Assumption No. 1. If 58 percent of students who start the program graduate within six years, that means that 42 percent (not quite half) will not. But they will have paid (or will owe) for whatever they spent in that 6-year time period. Will that debt have a return if there is no degree to show at a job interview?

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**Assumption No. 3: Bachelor’s Degree Earnings Outpace Non-Degree Holders.** There are a number of studies that can show you this quite clearly. There’s only one problem... they are historic. The studies were conducted back when we had a functioning economy and college graduates could find jobs.

That is not the case today, and it is not looking very bright in the immediate future. More than half (53.6 percent) of America’s recent college graduates are either unemployed or under-employed according to the Associated Press.

**Assumption No 4: A College Degree Will Result in a Job, Not Just Debt.** It used to be that a college degree was a guarantee to a better job and a brighter future. Today, all that a degree seems to assure is student loan debt. According to Business Week, more than one quarter of the post-college population is unemployed. One in ten has a college loan debt over \$40,000.

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## COLLEGE AS AN INVESTMENT

According to the Federal Reserve Bank of New York, nearly one-third of all student loans have past due balances of 30 days or more. The average college loan debt is \$25,250. That figure is up 25 percent over the past ten years.

Among people under 30 years old, 40.1 percent have outstanding student loan debt. For people between the ages of 30 and 39, 25.1 percent have outstanding student loan debt.

Americans 60 and older still owe about \$36 billion in student loans. So there are no assurances that the college investment will, in fact, result in a job capable of paying back that debt. But on average, there will be debt, regardless of whether or not there is a job.

**Assumption No. 5: How Many Marine Biologists Will the Economy Need?** Is your student's goal realistic? I speak from experience on this one. Marine biology was the dream of one of my kids, and that of many of her fellow students.

According to the website of the Southwest Fisheries Science Center/National Oceanic and Atmospheric Administration, "The employment outlook in this field is highly competitive. The supply of marine scientists far ex-

ceeds the demand and the number of government jobs (the federal and state governments are important employers) is limited."

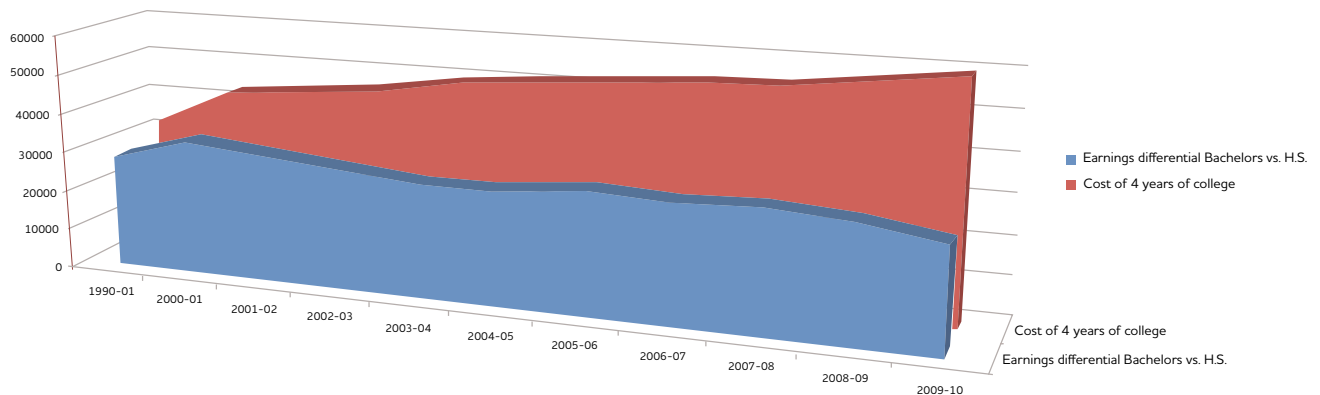
The Innovators Guide website has this to say: "Prospective marine biology students should be aware that those who would like to enter this specialty far outnumber the very few openings available each year for the types of glamorous research jobs many would like to obtain."

While I was okay with my child student wanting to study marine biology as a passion, I was under no illusions that it was job training or that it would become a career.

Many experts talk about a college degree as an investment. With completion rates at 58 percent and six years, or 150 percent of time needed to complete it, plus sizeable debt and 25 percent of graduates unemployed, we aren't at all certain that a 4-year degree can be truly considered "investment grade."

*Next Month: Part 2: Another Vision of Career Success—Skills, Employment and Career Growth.*

## WHY YOU SHOULD RETHINK COLLEGE AS AN INVESTMENT



	1990-00	2000-01	2001-02	2002-03	2003-04	2004-05	2005-06	2006-07	2007-08	2008-09	2009-10
Earnings differential Bachelors vs. H.S.	\$28515	\$33981	\$31890	\$30317	\$28630	\$28620	\$30705	\$29691	\$30669	\$29316	\$26308
Cost of 4 years of college	\$33612	\$42436	\$44312	\$46148	\$49248	\$51180	\$52248	\$53828	\$54464	\$57048	\$59480

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## Part 2: Another Vision of Career Success—Skills, Employment and Career Growth

While many of the recent college graduates (over 25 %) are unemployed and heavily in debt for degrees that did not assure their employment, young people with solid high school math ability can get immediate employment in precision machining. Nearly every shop owner that I have spoken with has openings for people with skills or who are willing to learn. On-the-job training is supplemented with coursework at community colleges and online courses. With many employers offering help with tuition, a future of indebtedness is not an issue. Having a job and income while others do not, is a great ‘head start,’ especially when

“Gaining skills, having a job, and having a positive career trajectory are available right now with a career in precision machining.”

one is on a career path where pay increases as skills increase. And you can pay as you go for the college courses you need.

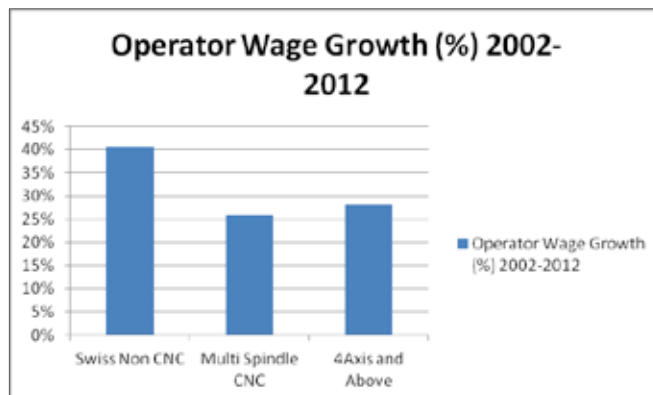
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### Precision Machining: Great Work and Great Pay

PMPA serves companies in the NAICS 332721, precision machining industry. According to the 2010 census, our industry produced about \$12.7 billion dollars worth of products. Parts for medical devices, automotive and aerospace, food service and appliances are just a few of the markets served. PMPA surveys usually 100 shops to track hourly shop wage rates nationwide in the industry. Wages are surveyed by job, geographic area, and average and median.

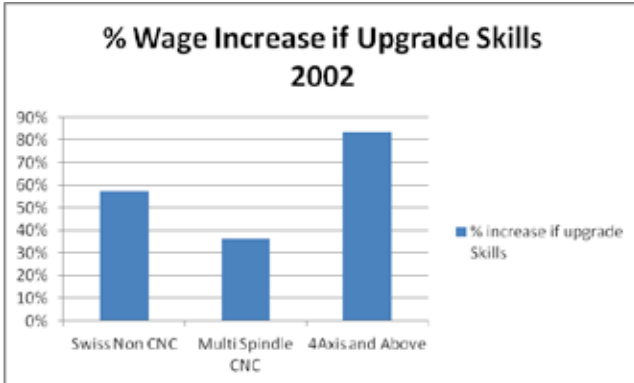
Using the U.S. average for 2002 through 2012, Swiss (non CNC) wages are up 40 percent from \$10.15 to \$14.26; multi-spindle CNC wages are \$11.59 to \$14.58, up 26 percent; and 4-Axis and above CNC wages are from \$10.42 to \$13.35, up 28 percent. Considering that we have “lost a decade” in manufacturing, these numbers show growth and are above the consumer price index increase as well.



These wages are significantly above minimum wage levels, and compared to not working while in college, provide a great head start to lifetime earnings. But an operator position is just the starting point. Why not look at precision machining as a career? What if the operator upgraded his skills to setup operator? How does that look compared to the unemployed college graduate loaded with debt?

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## COLLEGE AS AN INVESTMENT



The above graph shows the percent of change in wages between operator pay in 2002 and setup operator pay in 2012. If employees upgraded their skills from operator to setup operator, our data shows the hourly wages increased for Swiss (non CNC) by 57 percent; multi-spindle CNC by 36 percent; and 4-Axis and above CNC by a whopping 83 percent. And setup operator is just the next step. Some precision machinists further their skills, and go on to specialize as programmers, supervisors, repair technicians or engineers. Additional college coursework is manageable and has a clear ROI when one is already employed.

### How Can We Get More Information?

If you have the ability for high school algebra, geometry and trigonometry, you are likely to succeed in the precision machining field. To find training programs in this field, contact your local community colleges and training schools. Tom Olson, an instructor at Milwaukee Area Technical College recently wrote, "We have a lack of people applying for the skilled trades programs. Especially in machining. We could double our enrollment if we had more candidates." There are openings at schools as well as at employers for people in our advanced manufacturing field.

To find precision machining shops in your area, go to the PMPA website and search for a manufacturer: [short.productionmachining.com/mheqwoh5](http://short.productionmachining.com/mheqwoh5). Enter your state to find candidate companies. Call them and explain that you

want to know more about a career in manufacturing. Ask to visit, and come prepared to see the latest technology and people happy to be making a difference making parts that save lives, keep people safe, or help people to get where they want to go.

PMPA Vice President Darlene Miller led the creation of 'Right Skills Now,' a program to help math-qualified candidates get the skills needed for entry level CNC operator positions. Right Skills Now has programs in several states: <http://rightskillsnow.org/>

To find other schools offering training in precision machining check out the following links:

MATC: [short.productionmachining.com/7gh345s1](http://short.productionmachining.com/7gh345s1)

Tri-C: [short.productionmachining.com/88fkyuek](http://short.productionmachining.com/88fkyuek)

LCCC: [short.productionmachining.com/vt2x2c10](http://short.productionmachining.com/vt2x2c10)

Nationwide list sortable by state:

[short.productionmachining.com/a8hij3a](http://short.productionmachining.com/a8hij3a)

Nationwide list:

[short.productionmachining.com/nnsfy04r](http://short.productionmachining.com/nnsfy04r)

A career in precision manufacturing can be taken as far as you want to take it. Getting skills as an entry level employee will serve you well as you take the next step to become a setup person. Further coursework at the community college level (while you are working and earning a wage) can help you prepare for additional career growth in engineering, quoting, supervision or management. Why start your life at the bottom of a debt hole where there are no assurances for a job and the only guarantee seems to be large amounts of college debt?

Gaining skills, having a job, and having a positive career trajectory are available right now with a career in precision machining. It's something college students thought they were getting, but many are finding, they didn't. The economics of an immediate job, and your family values regarding assuming large amounts of debt, should convince you that in today's economy, a career in manufacturing may be the best decision that you can make. Grow your skills, grow your education, and grow your earnings. Grow your career.

## Why Join PMPA? Grow!

To grow and profit today, you have to work smarter. You have to relentlessly eliminate waste. PMPA is the way to expand your knowledge and increase your capabilities in order to grow your business. Through daily interaction with PMPA staff members, you have access to our expertise on important industry issues. You're also able to tap the collective knowledge of your peers; those who have "been there" and "done that."

Through the meetings, resources and online connections, reports and more, we give you the tools to grow. We look at emerging markets and let you know what's hot and what's not. PMPA programs help you understand your markets so you can make sense of the issues. And, we provide relevant information to help you make informed decisions.