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Something to Think About

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COMMON CENTS

Last night, my teenaged son asked me how often I calculate the volume and area of different shapes. Perhaps I should have questioned his question, but I suppose I wasn't on top of my game or something. I simply replied: "Not all that often, but sometimes I have to do so."

This morning, literally on the way out the door, he asked me to sign a math test the teacher had returned the previous day. Care to guess what the test covered? Your first three guesses don't count, unless they are the volume and area of different shapes. I have should have known; I should have known.

Oh, the grade at the top of the paper wasn't bad enough to start scouring the yellow pages, if they even still exist, for a tutor. No, but it still elicited this heartfelt, 'Father Knows Best,' response: "Come on, son. Gee whiz." That is some sage stuff. Somewhere, the powers that be are working hard on my Father of the Year coffee mug, and Zebco is modeling a new line of fishing hooks based on his grade.

In truth, geometry wasn't my strongest subject back in the day. Now, I realize it is nothing really more than remembering the correct calculation for any given shape or angle. However, when I was my son's age, I failed to understand why it was important to know the area of some weird shape I had never previously seen, and, truthfully, haven't seen since. Some of them appear to exist only in middle school textbooks.

Still, that doesn't excuse anything, and as I told him on the way to school: "John, just because I may not use geometry very often doesn't matter. My job doesn't call for it. However, if you want to be an engineer or an architect, or any number of other jobs, you have to know how to do that math."

I remember a case study we did in business school. In it, a pizzeria owner starting losing money after he introduced a super-sized pizza. He couldn't sell enough of the things, and the more he sold, the more money he lost. This baffled him, as he had diligently determined the price of his inputs based on the area of the larger pie, using the calculation $2\pi r$. Surely, he thought, one of his employees had to have their hand in the till, but he couldn't find any proof of it.

He was beside himself that he was facing going out of business, even as people were lining up out the door for his new massive pizza. When he lamented this to one of his friends, an architect, his friend asked him: "What formula did you use to determine your costs?" When he replied $2\pi r$, the architect said: "There is your problem. You calculated the circumference of pizza, not the area. The calculation you need to use is πr^2."

It has been a long time since I read this case study, but for some reason I believe the pizza in question was 18". As such, the difference in the circumference and the area would have been 56.55 inches relative to 88.83 inches squared. That is significant. It is no wonder the guy was losing his shirt, and why folks were waiting in line. As such, you never know when you are going to use something you never thought you would ever need.

Now, I tell you this for a couple of reasons: 1) my son has said he would like to own pizza restaurants when he gets older, sort of another Papa John if you will, only with better pizza, and; 2) I would like for him to be an engineer or learn how to write code and design software and apps. Either

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What new technology does is create new opportunities to do a job that customers want done.

Tim O'Reilly

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way, I would like for him to be in control of his own career destiny, from the get go. This will require a lot of determination, creativity, and more than a little math and science.

The other day, I was discussing our nation's growing income inequality and the current outcry for a $15/hour minimum wage with someone at the office. Make no mistake about it: increasing the minimum wage to $15/hour makes the people clamoring for it feel good about themselves. However, it ultimately won't do much about income inequality, and the reason is simple: companies won't pay employees more than their marginal output is worth to them. In other words, companies don't pay people more than they are worth, regardless of the mandated Federal minimum wage.

The sneaky truth? If someone is truly worth at least $15/hour + benefits to an employer, they probably aren't getting the current minimum wage of $7.25/hour. Maybe there are at some places, but companies generally like to keep productive workers happy and, well, around. Still, I will go out on what I think is a pretty short limb and suggest the number of workers currently getting $7.25/hour but are worth $15/hour, or more, to their employer is small enough as to make the current furor somewhat head-scratching.

Obviously, a lot of the attention in this argument has been on fast food restaurants and retailers like Walmart. According to the Bureau of Labor Statistics (BLS), the median wage for fast food cooks (occupation code 35-2011) in May 2014 was $8.91/hour. Remember, that is the person smack dab in the middle; half made more and half made less. For 'other fast food' and counter attendants (occupation code 35-3021) the median was $8.76/hour. Perhaps more importantly, the top 90th percentile of fast food cooks made $11.39/hour, and the 90th percentile of other fast food workers brought home $11.46/hour.

You see, even the most productive 10% of fast food workers still made uncomfortably less than the desired $15, and the market equilibrium for fast food workers, in aggregate, is less than $9/hour.

As for retail, well, nationwide the median wages for clerks, cashiers, and what the BLS calls 'retail sales workers,' which would cover rank & file Walmart employees, range between $8.50-9.00/hour. So, it is basically the same story there: the clearing price for this segment of workers is, also, uncomfortably below the desired amount. In so many words, there is no shortage of folks whose output isn't worth $15/hour to potential employers. That is the cold, harsh reality of the situation. Raising the cost of these workers doesn't necessarily increase their value.

And you have to keep in mind many of these low-wage employers are already working on a shoestring. Consider the following two paragraphs from an article in Fortune magazine on April 22, 2015 by Phil Wahba:

> McDonald's shuttered 350 poorly performing stores in Japan, the United States, and China the first three months of 2015 as part of its plan to boost its sagging profits.
>
> Those previously unannounced closings, disclosed on a conference call with Wall Street analysts on Wednesday, are on top of the 350 shutterings the world's largest restaurant chain had already targeted for the year. While those 700 store closings this year represent a fraction of the 32,500 or so restaurants worldwide, they show how aggressive McDonald's is getting in pruning poorly attended locations that are dragging down its results.

Disclosure

Something to Think About Cont.

Now, I am picking on the fast food industry, but it is just the starkest reminder most workers are, gasp, fungible. Their employers can replace them for approximate wages with little impact on overall company productivity and output. As a result, the individual employee doesn't have value as much as the employee's position does. This is a very difficult concept for people to grasp, that their true worth to the company is the marginal value of their output in excess of the 'accepted cost' of their position. In the end, the difference the company pays an employee over the cost of the position is the amount it is willing to pay to keep the employee's marginal utility.

So, what if the government artificially sets the cost of the position in excess of the employee's ability to produce? That's right, they lose their job. More than likely, since shift leaders don't relish firing people, they 'lose hours' to a point where it no longer make sense to work at that establishment, so they quit. This is one of those job losses that doesn't quite show up in the data correctly.

In the meantime, corporate America, global really, is hard at work trying to automate unskilled labor as much as possible. It will install sensors at delivery systems like vending machines. It will provide self-service kiosks for checkout and ordering. It will do things like the 'quarter deposit' shopping cart system prevalent in Europe, which reduces the time and expense of having employees retrieve the things. It will reduce menu items. In a word, corporate America will become even more efficient, and that is a fancy way of saying getting more out of less.

The worst part? There are just so many people wholly unprepared for this economic freight train, and pushing for higher wages should only prove to speed things up.

We have previously seen this type of thing happen; it isn't new. The British Agricultural Revolution freed up massive amounts of labor and created massive amounts of capital, which led to the Industrial Revolution. In our country, vast increases in technology resulted in massive productivity gains which freed up labor and capital from industry, which led to a surge in service sector output. Today, we are seeing the same thing in the service sector, although it remains to be seen what follows it.

In other words, our workforce has gone from agriculture to industry to services as increases in technology have made labor redundant and capital plentiful. The first ones out in each instance where the first ones made expendable by technological advancements….intuitively, the least productive in any particularly industry or company.

As a result, our economy will likely have a surfeit of relatively unskilled labor until whatever lies ahead in this yet unnamed economic revolution becomes more clear. However, at each step since we busted the so-called Mathusian Trap with the Agricultural Revolution, we have required less brawn and more brain. There is no reason to think this time will be any different.

This is a large part of the reason why we are long-term bullish on technology, and likely always will be. That doesn't mean technology won't be overvalued at times or underperform the broad market. It will. However, investing is nothing more than playing the odds, and attempting to skew the odds in your favor. What would you say the odds are the global economy will use more technology in the future? That the demand for it will be greater than, say, the demand for cheap hamburgers or even clothes? While those things certainly have, arguably, greater inelastic demand and, therefore, will be less volatile investments, where should the rapid rates of growth be?

Well, I would say in sectors were there is the potential for rapid change and advancement. Instead of answering that immediately, please do me a favor: pull out your smart phone and look at it, and remember the first generation iPhone hit the streets on June 29, 2007, and the first Samsung Galaxy came out 2 years later.

That is less than 8 years ago, and let me give you this one to close on: in 2007, Blockbuster, the video rental chain, had around 7,800 locations worldwide. So, perhaps it would behoove my son to brush up a little more on the old volume and area calculations, even if his old man doesn't use them all the time.

Have a great weekend.