# THE GREAT TECH REVOLUTION: OUR BLESSING AND CURSE

From the supporters of Donald Trump (and Bernie Sanders), to the street protesters of Southern Europe, voters around the world are mad as hell.
"Inequality, immigration, and the establishment's perceived indifference, are firing up electorates in a way that has rarely been seen before"- Andre Tartar, et al , Bloomberg 3/22/16.
The authors have continued to document the buildup of income inequality all over the world in recent years and suggest that things are getting worse. The author of the present article further suggests this global phenomenon is deeply rooted in another global happening, the technological revolution which is altering this world inside out. It promotes prosperity and growth, and it also creates insecurity and frustration among a ever greater number of people around the world. Yet, the tech changes are so much a part of our daily lives that we tend to take it for granted. Has it become the elephant in the room that we ignore? It is the time to take a look at this elephant before it crushes us. We will talk about a few of the things the new industrial revolution has done to us, the impact of automation, extreme competition, tech monopolies, and the coming recession in America. This author will also say a few things about what we can do in the future

**Automation:**

A big part of the tech revolution is the wide use of smart machines and the connected machines. They make us super efficient. They also take people's jobs away. Automated production lines, robotized warehouses, self check-outs at stores, and self check-in at airports are just some examples. MacDonald just opened its first automated store in Arizona. We may never know how many book keepers, accountants and clerks have been replaced by computers and the web over the last decade or so. A few years back, the federal government spent billions to save the troubled General Motors. General motors eventually recovered after bankruptcy. Ford and Chrysler also have turned themselves around, but the new Big Three employ more robots than humans. Now they have about 1/10 of the human employees than they used to. Although the big three are selling a lot of cars, the city of Detroit remains depressed. In fact, the whole state of Michigan is still not doing very well. Making things worse, businesses (and all government and private organizations) are obsessed with cost cutting in recent years. The process often involves replacing well paid and secure human jobs. That trend is likely to continue into the foreseeable future. We have to ask the question, where are the displaced people going?

The American economy is doing fine on paper. We are near the tail end of a record long, but mild, recovery since 2008. The growth is likely to continue for about two more years. The government statistics say we are steadily creating jobs and the unemployment rate is around 5%, indicating full employment. Looking closely, however, we see a different story. The jobs added since 2007 tend to be part-time, temporary, or contracted workers for short-term engagement. So many lost their secure and well paid positions and doing multiple odd jobs to survive. We see college graduates move in with parents and become Uber drivers.( However, even Uber just invested a lot of money in driver-less cars). Part-time workers already account for about 17% of our work force and growing. It should not be a surprise to see so many frustrated and angry working people. Even workers with well paid secure jobs feel threatened by automation. West Coast harbors are plagued with strikes and endless slow downs for years because of the harbors' desire to automate their facilities. They will not cut the current employees but they will hire less and weaken the union in the future. The conflicts have turned our harbors into maybe the least efficient part of our economy.

**Extreme Competition:**

The internet connects people around the world. It benefits the consumers and helps economical growth. To a business, however, it may mean that your customers are connected to all your competitors, often with a few touches of a smart phone. A retailer may be forced to either sell with little or no profit or to sell nothing at all. The competition in tech business can be just as bad. A real estate company was quoted several thousand dollars to construct a new website, but ended up paying a coder in India $500 to do the same job. How bad is the situation? We may get some ideas by checking out the most competitive discount retail giants and the biggest monster in E business. Not long ago we were talking about Walmart moving into small towns and wiping out all the mom and pop stores. Now we are seeing Walmart preparing to close 150+ stores for lack of profits. That gives some idea about the competition in the new world. Walmart and other big box discount chain stores, such as Costco and Target are still profitable. They achieve that by branching heavily into fresh and frozen food, items that E businesses have difficulties to stock and ship. In doing so, they put heavy pressure on traditional super markets, such as Safeway and Lucky. It seems few businesses can escape extreme competition now a days. Both super market chains have automated check-outs to reduce workers. All the stores so far mentioned in this paper employ large numbers of part-time workers to save money.

The monster E retailer, Amazon, has had no problem expanding it's business because they offer good deals. They have their “seventh generation” automated warehouses, which are probably the most efficient in the world. Their sales doubled in the last five years to over 100 billion a year. Yet, they made less money in 2015 than 2011. They actually lost money in two of last five years. The most recent report on Amazon shows good profits. But 60% of that comes from their new web (cloud) service business which is still new and less competitive. Amazon too has had to cut costs to the bone because of very low profit margins. They don't hire many human workers. If they do hire, they may not pay very much. Based on their own ad, they want to hire high school graduates for $12 an hour for their new South San Francisco warehouse, with no mention of benefits. Amazon's success is very much depending upon the great deals they offer to customers. They do not have the profit margins for many high priced human employees.

Small businesses are not having a easier time either. It is very easy to start. A young person with an instagram and an e mail can build a respectable volume of sales in a short time. A few may grow and last if they find the right niches for themselves. Others will disappear quickly.

**Tech Monopolies:**

A small number of businesses are lucky enough to avoid competition almost entirely. The tech revolution creates new opportunities. A few pioneers are able to seize the opportunities and achieve monopoly-like dominance in certain areas. Usually it is created and protected by a large number of patents. How rich they may become is correlated with the size of their market and the degree of their dominance in the market. Microsoft, Google, Facebook, are some of the examples. These companies have created more than a few of the richest people in the world. And their products promote the technological advancement. The problem is that they hire only a small number of employees, and they only make the top 1% a lot richer. It is becoming an political problem as rich tech workers drive up local housing prices and crowd out the less fortunate from their old communities. Inequality has become a serious political problem as more people are struggling to survive.

How about cutting utility patents from 20 years to 10. The change will increase competition and help the economy. It may also reduce the inequality in our society. For life-saving drugs, cut the patent to five years. After this period, the patent owner gets a five year (transferable) tax break. That will be a good starting point to hold back the price explosion of the American Health Care system.

**The Next Recession:**

We are on our eighth year of recovery since the 2007 recession. The streak may extend to a record ten years before we slide into the next recession. The huge corporate debt bubble will be the culprit. The tech revolution may not have direct relation to the debt. But even a mild recession will magnify the human problem caused by the tech advancement.

Extreme competition may cause misery among retailers, but it strengthens consumer spending, 70% of our GDP. Consumers are getting good deals all the time. Banks are in fairly good shape. Inflation is mild. The ever common part-time jobs repress wage growth. Cheap oil and other commodities help too. The economy is likely to move along with mild growth in the next couple of years. Things will change, however. Oil will level off at higher prices. Ever angrier workers will push up wages. Inflation will edge up high enough to force the ultra timid Federal Reserve Bank to raise interest rates. Debt laden companies will see higher interest payments and refinancing their old debt will be difficult. At the same time, corporate profits continue to trend downward. Many companies will be in trouble.

Why do so many companies carry big debt? A good reason is the Fed's eight years of near zero interest rates and a series of QE's makes debts so cheap and readily available. Unfortunately, they did not borrow money to improve and strengthen business for the long term. That is too difficult and does not guarantee good results in a difficult environment. They took the easy route of financial engineering, stock buyback, mergers, and leveraged buy outs, and gave a small number of investors and management big quick gains. At the same time, the companies are weakened by heavy debts. When cost of debt going up and company profits going down, these companies are vulnerable. There are also about 150 so-called unicorn companies, start-up companies valued over 1 billion dollars. A number of them may never see a dollar of profit. It will not be an surprise that a number of them may fall with higher interest rates. As businesses weaken, the consumers and banks will slow with them. There is a good chance the recession may come in the second half of 2018 or the first half of 2019.

This recession will not be a deep one like the last time. There is no $147 oil to trip over. It will be a slow slide into a shallow hole. Unfortunately, we may stay in the hole for more than two quarters. And we are likely to be stagnant for a long time after that. The number of temporary and contracted workers may grow to over 25% of our working force quickly. Hopefully, that is a big enough number to show America the severity of the problem and take serious action to deal with it.

What can we do to take care of American workers and these stressed managers and owners? We can not stop the great technological revolution. It benefits us and defines us as modern people. But the great tech elephant also pushes more and more human beings into the corner of the room gasping for air. The situation is already alarming and quick action is called for. Stop punishing businesses for hiring full-time employees would be a good start. The current tax rules and government regulations are heavily tilted in favor of machines. There is a payroll tax, worker's compensation insurance, health insurance, retirement contributions and other costs for hiring humans. None of these applies to the use of robots. There is an initial purchasing cost of machines, but that is partially offset by depreciation tax credits. Government is clearly on the side of machines. That has to change. There are many other ways to collect revenue for our governments. Value added tax(tax in every business transaction) is an option. We also will continue to collect sales taxes and personal income taxes. It will be nice if we can throw out all the loop holes for the rich. That will moderate the inequality and increase government revenue. How about lowering the corporate tax so that all the multinational companies will want to move their headquarters and cash to the United States? If we succeed in tax reform, America businesses will be stronger and American will have more full-time jobs for decades to come.

The cost of healthcare remains a major concern for all Americans. Obama-care is a failure mostly because the administration overestimated it's coercive power in a democratic society. Democrats passed the big bill without a single Republican vote in congress. By doing so Obama had divided the country for years. Many Republicans have been looking for revenge instead of cooperation ever since. Many hospitals, clinics and doctors simply refuse to accept Obama-care insurance policies. How helpful is that insurance? Worst of all, Obama-care has caused some companies to cut full-time jobs to avoid high costs. A more sensible approach would have been to cut the inflated costs of healthcare first. Robot surgeons? On-line clinics? We should do whatever is necessary to increase competition to the healthcare monopolies. Only after we have reasonably priced doctors , hospitals and drugs, we can possibly have affordable health insurance for all.

It is clear that we need to change in order to adapt to the new world. Helping millions to keep their full-time jobs should be the number one priority. Overhauling tax system will help tremendously, so will lowering healthcare costs. However, both tasks are tremendously challenging and require extraordinary political will and bipartisan cooperation. Judging by the election primaries, the will for change is already strong. If that isn't enough, the next recession will make it a lot stronger. Big changes, whatever they may be, will come.

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