RBC Dominion Securities Inc.

Investment Outlook

Wealth Management
Dominion Securities

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Innovation: We need to embrace it rather than fear it

There is much talk these days about technological disruption to industries and the implications of that on our economy and society. However, instead of fearing disruption, we need to embrace it. As a society, we have no choice ... Reducing debt levels, ensuring social entitlements and increasing our standard of living will all depend on it ... It is not like we haven't gone through this before. In fact, we have been going through this over and over since the industrial revolution 350 years ago.

Is the best of innovation behind us?

Productivity growth has slowed dramatically in the last couple of decades. American economist Robert Gordon makes the case that much of the transformative innovation that took place from 1870 to 1970 was the result of applications with electricity and the internal combustion engine. The two big sector winners for this were in agriculture and manufacturing. For example, in 1900, 40% of U.S. workers worked in agriculture; today, that figure is less than 2%. With regards to manufacturing, Ford's introduction of the assembly line in 1913 eventually reduced the amount of time to build a car from 12 hours to 90 minutes, As a result, the price of a Model T dropped from $850 to $300.

There is hope that the combination of robotics and artificial intelligence could be the two big forces for the next transformative innovation in our economy. Outside of this, big productivity gains will be impossible in an economy predominately focused on the service sector. Simply, it is just much easier to reap productivity gains from machines than people ....

Is demographics part of the reason?

Studies have shown that productivity declines with an aging society. In much of the world outside of Africa, this continues to be a concern. As we get older, we naturally take on less debt and less risk, which makes sense given we have more to lose and less time to recover. With the decline in productivity, we have seen our economy slow, as one-third of economic growth has historically come from productivity. Slower economic growth means companies have less reason to invest.

There is no better place to watch the effects of demographics than within Japan, which has the worst demographics of any country in the world and an aversion

towards immigration that makes matters even worse. However, because of this, the Japanese have embraced robotics and are now a world leader in it.

Would an economic forest fire be the answer?

Democracy has a downside. Governments seemed to be locked in this vicious circle of protecting moral hazard in our economy. Every time our economy or financial markets get into trouble, the government seems to feel it is its responsibility to rescue it. After the Great Recession, we never saw the economic transformation that we should have seen. Dropping interest rates to zero and pumping trillions of dollars into the financial sector through quantitative easing recapitalized the financial sector and made it easier for companies to borrow funds for such things as stock buybacks to increase earnings. There has been more of a focus on financial engineering as of late rather than traditional engineering. Without the pressure to change, there is less need to innovate. Pain is a necessary evil in an economy as it makes sure we take the necessary risk for the potential return. When these factors are not well aligned, moral hazard creeps in. Forest fires allow nature to be reborn and is a necessary cycle in Mother Nature. Too bad it doesn't occur enough in our economy.

Ted Talk The death of innovation, the end of growth
Robert Gordon (Economist)

Let's embrace change …

The problem going forward will not be so much with dealing with mass unemployment, but more so transitioning that temporary unemployment to new types of employment. There will be winners and losers, but assisting the losers with this transition should be a focus of government. An example of this type of change can be seen with what happened to jobs with the introduction of spreadsheets. Bookkeepers (record keeping and calculation) were the losers, as they competed with them, and accountants and consultants (analysis) were the winners because they complemented them.

Quote of the Month
"Productivity isn't everything, but in the long run it's almost everything." Paul Krugman (Economist)

Artificial intelligence reduces the uncertainty around different risks more so than producing exact answers. It can analyze far more variables than a human through algorithms and computing power to produce more certain outcomes. Therefore, artificial intelligence will reduce the value of those who predict things for a living, but it raises the value of those who use predictions to make judgments.

Conclusion

We are in a period of change in our economy that we have not seen in a century. It is a natural evolution of our economy and society. History has shown that those who embrace innovation will be the winners. Ultimately, innovation drives productivity, which drives our standard of living. Is there really any choice?

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