MORNINGSTAR

The third industrial revolution is basically dead, leading economist says

By Steve Goldstein
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WASHINGTON (MarketWatch) — Moore's Law has been dead for some time, and the productivity boost from the third industrial revolution has nearly run its course, a leading economist said Thursday.

Northwestern University Professor Robert Gordon, who's long been a pessimist on the issue, used everything from economic data to the latest underwhelming Consumer Electronics Show to make his point at a Cato Institute event.

What is clear is that productivity growth has been lackluster for years. It averaged 1.75% per year between 1890 and 1920, 3.1% between 1920 and 1970, and 1.65% between 1970 and 2014.

Gordon pointed out that many of the entertainment, information technology and communications innovations that shape our modern lives — from TVs to web browsers to mobile phones to ATM machines — are decades old. Amazon, Wikipedia, Google, Facebook — all invented at least a decade ago.

"It's not whether the inventions will stop happening, it's whether the productivity impact from the inventions has already largely occurred," he said.

What Gordon calls total factor productivity growth has slumped. It was 2.03% per year between 1920 and 1970, and then slumped until 1999. Between 1999 and 2004, it improved to 1.69%, then fell back to 0.61% between 2004 and 2009, and to 0.48% between 2009 and 2014.

Why won't productivity improve from here? Gordon notes that growth in manufacturing capacity has ceased. It's no surprise then the price index for information and communication had its biggest declines in the late 1990s, and now is barely changing.

Moore's Law held that the number of transistors in an integrated circuit doubles every two years. Now, Gordon points out, it takes about 14 years for that to occur. "Moore's Law is obsolete," he said.

The real uncertainty is not about productivity but is about capital intensity, he said.

At the same event, not all the economists were so pessimistic. Erik Brynjolfsson of the Massachusetts Institute of Technology pointed out that pessimistic predictions of stagnation have proliferated before— in the 1930s and 1940s, which was before a big upturn in productivity and prosperity.