

The Washington Post

Wonkblog

The big contradiction in how the world's most powerful people think about its future



By Max Ehrenfreund January 20

DAVOS, Switzerland — The future seems to be everywhere at the World Economic Forum, an annual conference of some of the world's most powerful figures in business and government.

In a few rooms, otherwise very serious people are playing with virtual-reality sets. Entrepreneurs are chatting about software with potential partners and investors. Sometimes, they are chatting with the software, too.

Along with all the buzz, though, there is real anxiety about what comes next. It is a moment of both promise and great uncertainty, and world leaders are divided on their expectations.

Some of the elites here this week were looking forward to radically disruptive progress, but others are worried about whether unorthodox policies from populist politicians such as President-elect Donald Trump will further cool a global economy that for years has been tepid at best.

The population of developed countries is aging, reducing the size of the labor force and constraining growth. Despite the talk about technological advances, the overall productivity of the economy — a rough measure of the benefits of innovation — is not increasing as fast as it once did. Many economists worry that leaders such as Trump could exacerbate these negative trends by restricting global trade.

In a discussion on stage in Davos on Friday, International Monetary Fund managing director Christine Lagarde offered a cautiously optimistic view. She said the fund expects the pace of economic expansion worldwide to accelerate from 3.1 percent last year to 3.4 percent this year as developed countries continue to recover from the financial crisis.

“This certainly is looking better than what we have seen in previous years,” she said.

Lagarde also laid out a couple of worrisome possibilities. She noted that under the Trump administration, the U.S. government is expected to borrow more money while the Federal Reserve increases interest rates.

Both of these shifts would limit the supply of dollars available overseas. Since many governments and corporations around the world have loans that must be repaid in U.S. currency, these trends could put a real squeeze on foreign economies.

Lagarde also worried that if Trump combines tariffs on goods imported into the United States with tax relief for corporations and deregulation in the financial sector, policymakers in other countries might be inclined to follow suit in all three areas to discourage businesses from shifting their operations to the United States.

The result, Lagarde suggested, would be a decline in global commerce, less revenue for cash-strapped governments and a more unstable financial sector. “That, for me, would be a really big black swan,” she said, using investors' slang for an unpredictable disaster.

The contrast between those grim warnings and the extraordinary prosperity forecast by technology's evangelists makes the mood at the conference feel somewhat manic.

The program features sessions on artificial photosynthesis, quantum computers and using animals to grow human organs. The organizers have labeled a few innovations “world-changing technology.”

Just outside the conference hall on the Promenade, the main street running through this ritzy alpine resort, major software companies have brick-and-mortar retail spaces for advertising and socializing during the week of the forum — the Microsoft Cafe, the Palantir Pavilion.

Erik Brynjolfsson, an economist at the Massachusetts Institute of Technology, foretells a world in which robots can see as well as humans and converse fluently in human language. “It takes some imagination, but not that much imagination,” he said in an interview. “That is going to transform the economy.”

Brynjolfsson says that official statistics do not convey the extent to which technology is already changing modern life outside the formal economy, and he predicted it is only a matter of time before the formal economy will be transformed, as well. A century ago, he noted, it took owners of factories about 30 years to figure out how to take advantage of electricity.

If artificial intelligence is responsible for a second revolution in manufacturing, technology could ease worries about the economy's overall output.

Yet technological progress could create other problems. Many speakers at Davos have worried that automation is forcing workers out of their occupations, leaving many feeling as though they have nothing to do.

“It particularly represents a challenge for people in our economy with low skills, particularly the older

workers who don't feel able to embrace and learn new skills and new technologies," said Philip Hammond, the U.K. chancellor of the exchequer, speaking on the panel with Lagarde. "It's living in a fool's paradise to pretend that you can ignore this."

Technology responds to the needs of business, said Justine Cassell, a researcher at Carnegie Mellon University. If robots that replace human labor make factories more profitable, engineers will build them. "That's a function of what the market demands," Cassell said. "If the market demands killer robots, there are going to be killer robots."

She advocates developing machines that work in concert with humans, rather than replacing them. In the jargon of economics, Cassell hopes robots and people can be complements, not substitutes.

She is in Davos to demonstrate software she and her colleagues have developed. Unlike most researchers in artificial intelligence who focus on processing the content of speech, Cassell's group is interested in small talk, gestures, facial expressions and all of the other ways that humans establish rapport.

Their current project — SARA, for Socially Aware Robot Assistant — is designed to pick up on social cues. The machine gives the uncanny impression of understanding not only what people are saying within a limited vocabulary, but also what they are feeling.

Cassell suggests that SARA could save doctors precious time by conducting interviews for them. "She can make patients feel listened to," Cassell said.

Cassell, though, says she has not thought much about the applications of her work — she is an academic looking to start a discussion, not an entrepreneur looking to make money.

Perhaps SARA will never be commercialized. Then again, perhaps it is the innovation technologists have been waiting for, artificial intelligence with the potential to greatly improve productivity in a major sector of the economy. In that case, figuring out how to use its capabilities in business would nonetheless take time and ingenuity.

A new technological revolution might be inevitable, but it seems to be a long way off — despite the hype at Davos.