

The World Is Full of Grain

Agricultural production is at record levels—and that could make the planet less stable.

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Grain harvested in Hampshire, England (Neil Howard/Flickr)

Apple sold [over 10 million](#) iPhone 6s in a single weekend—a record. Google is under pressure from European authorities on two fronts: concerns over [anti-competitive practices](#) and [privacy violations](#), following an EU court ruling recognizing citizens’ “[right to be forgotten](#)” by the web. Amazon is embroiled in a commercial dispute with Hachette and retaliated by discriminating against writers working with the publisher. In reaction, many prominent authors have signed an [open letter](#) denouncing Amazon’s behavior.

Information-technology and Internet companies are magnets for media attention. But we hear far less about the companies that produce the food we eat—especially those involved in agriculture. And yet agricultural activity is breaking records in ways that will have huge consequences for hundreds of millions of people. Did you know that worldwide wheat production is the [highest it’s ever been?](#) And that despite growing consumption, farms and granaries are overflowing with excess production?

The International Grains Council [estimates](#) that inventories of soy, wheat, barley, and corn are reaching their [highest volume](#) in 30 years. In the United States, this year’s corn

harvest [is expected](#) to top last year's, which was also unprecedented. Europe is setting records with its wheat and corn harvests, and Canada is doing the same with wheat, barley, and oats. "The new abundance will have broad effects, weakening incomes of farmers and companies that supply them, fattening profit margins at food and biofuel companies and—eventually—slowing food price inflation for consumers in rich and poor countries alike," [writes](#) Gregory Meyer of the *Financial Times*.

And what has caused this explosion in grain supplies? Prices. They've been unusually high in recent years and have encouraged farmers to pour money into boosting production. According to the Food and Agriculture Organization of the United Nations, from 2005 to 2013 the land used to cultivate wheat, soy, and corn grew by 11 percent globally. [Never before](#) has such a large swath of the earth been tilled.

There are four main factors behind these rising prices: world population growth; increased food consumption in poor countries (in large part due to rising middle classes and their disposable income); the use of grains in the production of fuels like ethanol; and the greater frequency of extreme climatic occurrences that have the potential to destroy harvests or limit farm yields. High prices served as an enormous incentive to invest in agriculture and more investment propelled production to unprecedented levels, which in turn is now pushing prices down.

Today's lower prices could discourage investment and reduce future production, ushering in another period of higher prices. This cycle is nothing new, but in recent years it has been shaped by new drivers (climate change, demographic change, volatile global economic conditions) that make the swings more frequent and the range of variation more extreme.

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The problem with these developments is that greater food-related volatility will bring about social and geopolitical instability. Nearly [20 percent](#) of the world population is directly involved in agriculture, meaning that one out of five people on the planet would be affected by such flux. (By contrast, the consumer-electronics manufacturing industry only employs [2.3 million people](#), or 0.03 percent of the world population.) The boom-and-bust cycle of agricultural prices has severe effects on poor farming populations that lack the savings and other cushions to buffer the impact of prices suddenly plummeting. And even if agriculture ranks low on the global scale of economic activity (it accounts for only [2.8 percent](#) of overall income), it remains very important for poor countries. In India, for example, agriculture represents [18 percent](#) of the economy and generates [54 percent](#) of employment.

Both the demand for and supply of agricultural goods have experienced abrupt changes in the past 50 years. One of the most notable is the concentration of production in several countries. According to [a study](#) by Julian Alston and Philip Pardey, 42 percent of the world's farmed land is clustered in five countries (India, the United States, Russia, China, and Brazil). By comparison, the 100 countries with the least agricultural activity account for a mere 0.78 percent of harvested land. The authors write that Brazil, China,

and India “have among the largest total numbers of farmers and the ‘food-poor,’ whose lives can be very substantially improved through agricultural innovation leading to more abundant and cheaper food.” And yet the experts also draw attention to the rapid drop over the past 50 years in public and private investment in agricultural research and development, particularly in wealthy countries where agriculture is a relatively insignificant part of the economy. Given the geopolitical stakes, however, we would all benefit if the brains at Apple, Google, and other titans of modernity applied their creativity to disrupting and improving the oldest economic activity in the world.