



## **DOLLAR & SENSE: THE BROOKINGS TRADE PODCAST**

**“A look at food insecurity and agricultural trade around the world”**

**Washington, D.C.  
August 28, 2023**

*Guest:*

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*Episode Summary:*

Caitlin Welsh, director of the Global Food and Water Security Program at the Center for Strategic and International Studies (CSIS), reviews global food insecurity, noting that malnourishment extends beyond just hotspot countries, potentially affecting over 40% of people worldwide. She discusses shocks that have affected food security and agricultural trade, such as Russia’s invasion of Ukraine, COVID-19, and India’s restriction on exports of rice in 2022, and also comments on foreign entities’ purchases of agricultural land around the world.

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**DOLLAR:** Hi, I'm David Dollar, host of the Brookings trade podcast *Dollar and Sense*. This will be our last episode before we take a pause while I'm away on leave. Today, we're going to talk about food security and agricultural trade. My guest is Caitlin Welsh, director of the Global Food and Water Security Program at the Center for Strategic and International Studies, CSIS. So welcome to the show, Caitlin.

**WELSH:** Thanks for having me, David.

**DOLLAR:** So let's start with a general picture of food security and hunger around the world. Where are there particular pockets of insecurity and hunger?

**WELSH:** Sure. Great place to start this conversation. I'll actually take a step back and talk about the number of people experiencing food insecurity around the world. That is estimated to be as many as 783 million people experiencing undernourishment, and that's up by at least 122 million since before the COVID pandemic.

So since the COVID pandemic, we saw that that pandemic itself, as well as economic shocks, climate-related shocks and other phenomena, have really pushed up food insecurity for a number of people around the world.

We can look at this in terms of hotspots, as you mentioned, which are countries that are experiencing the most acute forms of food insecurity on the brink of famine. The U.N. FAO, the U.N. Food and Agriculture Organization, and the U.N. World Food Program, WFP, put out a report recently stating that there are about 22 countries that are considered hotspots. The countries of worst concern are countries in the Sahel in West Africa. So Burkina Faso, Mali, Nigeria, Sudan, South Sudan, Yemen, Somalia, Afghanistan, all of these countries are countries that are experiencing a combination of conflict, governments, crises, climate change impacts, economic crises, and other phenomena.

Food insecurity, though, is not limited to those hotspot countries. It's not limited to the 783 million people who are undernourished. If you want to take a broader look at this, another number that the UN publishes once a year is the number of people around the world who cannot afford the least expensive form of a healthy diet. And that's far more people around the world. That's estimated to be around 3.1 billion people. So about 42% of the world's population can't afford the cheapest form of a healthy diet.

So all this to say the number of people experiencing food insecurity really depends on how you define that. But I really like to look at this larger number about the number of people who can't afford the cheapest form of healthy diet. Again, over 40% of the world's population.

**DOLLAR:** So you mentioned a number of African countries. Are there any other geographic regions that stand out? I understand it's really global.

**WELSH:** Yes, absolutely. So I did mention a number of African countries, but I threw in some others as well. So Yemen in the Middle East and then Afghanistan. Again,

those are countries that are considered the worst of the hotspots. Apart from that, we see countries in Central America, part of the Northern Triangle countries. Guatemala, Honduras and Nicaragua that are experiencing the impacts of drought and governance challenges.

And all this to say that again, food insecurity is not limited to people in these hotspot countries. It's many millions of people around the world, up to billions, depending how you define it. And it's not just in these countries, but in every country around the world, in every community around the world, there are people experiencing food insecurity.

And to bring it home for us, the Washington area, the Capital Area Food bank points out the fact that in every zip code in the Washington region, in D.C., Maryland, Virginia, there are people who avail themselves of food banks. So food insecurity exists in every country, in every community.

**DOLLAR:** So let's talk about some of the shocks that have affected food security and agricultural trade over the last few years. Some are more short term, some more long term. It seems to me from my reading that big, short-term shock has been the Russian invasion of Ukraine, which has had a significant effect on grain markets, grain trade. How has that affected food security?

**WELSH:** Yeah, absolutely. This has been a very important shorter term shock. In terms of impacts on food insecurity around the world, the U.N. is estimating that it's actually COVID that has had a greater impact through shocks to global trade, and reductions in income, limiting people's ability to purchase food.

Nonetheless, Russia's invasion of Ukraine had immediate and dire effects on food insecurity around the world. First and foremost through food prices. Immediately upon Russia's invasion of Ukraine, the U.N. FAO's Food Price Index reached an all-time high in February 2022. The following month, another high. So the highest point ever in the history of this index was reached immediately after Russia invaded Ukraine. The food prices globally have subsided since then. We saw a recent uptick this past month, but food prices around the world spiked upon Russia's invasion of Ukraine with reduction of exports of commodities from the Black Sea region, mainly wheat, maize, sunflower oil, and some other commodities.

One important point is that I think that headlines can obscure the fact that it's not only trade and consumption of these major commodities that's been affected by Russia's invasion of Ukraine and restrictions in trade in the Black Sea region. It's also consumption of all types of foods because families, especially those that have limited amounts of income, as they spend more money to purchase staple foods, they have less money available to procure higher value foods that are higher in nutritional value.

So when the prices of commodities and staple foods rise, families consume less healthy foods affecting nutritional status of people again in many countries all over the world. So again, impacts are not limited only to wheat, maize, and sunflower oil and the other commodities that are exported from the Black Sea.

So, severe impacts of Russia's invasion of Ukraine on global food prices and for food insecurity around the world. Again, not only through the mechanism of higher global food prices, through other mechanisms as well. For example, the U.N. World Food Program was procuring a lot of its supplies from Ukraine. As global food prices increased, it cost more money to procure those supplies. Also, energy prices spiked. So looking at the World Food Program itself as the cost of food and the cost of fuel increased, it took a lot more money for the WFP to do its daily operations. So they needed more money to help people experiencing food insecurity, acute food insecurity all over the world.

But I think it's important to put this phenomenon in the context of Russia's invasion of Ukraine, generally speaking, because from the outset Russia was targeting all aspects of Ukraine's agriculture sector as a major front in its invasion of Ukraine. We really saw that come to the forefront when Russia withdrew from the Black Sea Grain Initiative last month in July of 2023. But Russia, again has targeted Ukraine's agriculture sector for a number of reasons relating to its larger goals in the context of this war. First and foremost, knowing that agriculture is a major source of income for the Ukrainian government, it's 20% of its GDP, 40% of its export value, employs 17% of Ukraine's labor force.

Also, because Russia knows that its own food exports are a major source of soft power for Russia. So the less exports come from Ukraine, the more that Russia can make up for that shortfall in exports through its own exports. And just a side note, when it comes to wheat and in particular as Ukraine's exports decline, Russia's exports are soaring due to favorable weather conditions this year.

Russia also knows that the less access Ukraine has to Black Sea ports, the more it's forced to export through its neighboring countries. Where that has caused friction where those countries saw an increase in the amount of grain from Ukraine in those countries, depressed domestic prices for those grains. So their own farmers were suffering. So we saw protests and bans put in place by Poland, Slovakia, Bulgaria, and Hungary and others.

All this to say that Russia very well understands these dynamics and is making Ukraine's agriculture sector and even more important front in its invasion of Ukraine since it withdrew from the Black Sea Grain initiative in July.

**DOLLAR:** You know, I'll just editorialize that a lot of developing countries have a neutral position concerning the war between Russia and Ukraine. And given all the misery that Russia's caused, it's really quite extraordinary.

**WELSH:** It is. And to pin that only on reliance on Russia's exports for food security would be a bit reductive. But I think we would also be remiss not to look at the importance of Russia's food exports to food security in a lot of African countries. They might rely on Russia for security purposes, as a development partner, for many other things. But these countries know that at the end of the day, if food prices rise and if they rise suddenly, then their leaders' hold on power will be shaken. And so these countries, I think, understanding the importance of Russia's formidable agricultural exports, have had that factor influence their reluctance to speak against Russia.

**DOLLAR:** So let's move on and talk about some of the longer run issues. I lived in Asia for a long time, had a number of different opportunities to go to the Tibetan Plateau and the disappearance of glaciers there in our lifetime is just really extraordinary. And to me as a non-specialist, definitely worrying. But can you give us a sense of how climate change is affecting agricultural patterns and this whole issue of food security?

**WELSH:** Before Russia invaded Ukraine, the U.N. food agencies were talking about the 3C's being the main factors that were influencing rising food insecurity. Those being, COVID, conflict—and that at first was regional conflict in some of the countries that I had mentioned earlier, South Sudan, Sudan, Yemen, Afghanistan, others. But then Russia took this to a new level upon its invasion of Ukraine and that affecting food insecurity around the world.

But the third C was climate change, and that manifests in many ways all over the world. It's through variations in the amount and timing of rainfall, which impacts particularly crops that are rain fed instead of instead of fed by irrigation. It affects temperatures, in terms of extreme temperatures, high and low patterns of temperatures.

But when it comes to the impacts of climate change on food security, it's important to note that it's not only through the mechanism of reducing agricultural production through all of these means, through water patterns, through temperature or other things, but through many other mechanisms as well. Climate change affects the infrastructure that we rely on to transport food. Climate change affects labor participation.

In fact, *Bloomberg* covered a report that talked about the impact of extreme heat on labor. So when temperatures spike in a lot of places and a lot of day laborers are forced not to work to stay home to protect themselves from heat, well, they have less income to purchase food and for their households to be food secure.

We see increases in the prevalence of diseases that affect malnutrition, particularly diarrheal diseases. So there's a whole host of avenues through which climate change affects food security and not only through reductions in agriculture production, reductions in the availability of food in the first place.

**DOLLAR:** So given these shocks, these very different shocks, we're talking about—COVID, conflict, climate—is this leading to more impediments in agricultural trade? Are we seeing more countries restrict agricultural trade because they're fearful of their own agricultural security, even if they are, in fact, a surplus nation?

**WELSH:** More countries not necessarily. What we have not seen is a rapid increase in the number of countries that are imposing food export restrictions as we saw at the time of the last major food insecurity crisis in 2008, 2009. The reductions in production and export among major several major exporting countries, high energy prices, a lot of things happening at the same time, and a number of major exporters slapped on export restrictions which further restricted supplies on global markets.

We saw the threat of that when COVID hit. A number of countries put on export restrictions at the same time, and that subsided.

What we have seen very recently in looking at July of 2022 is the imposition of one very major and very impactful export restriction, which is India's restriction in exports of rice, India being the world's top exporter of rice. Forty-two countries around the world rely on India for at least 50% of their rice imports. Not long after India imposed that that export restriction, we saw rice prices hit their highest point in 15 years. So that's one export restriction to take particular note of.

But when we look at entities that that track export restrictions month-to-month regularly again through the COVID pandemic and over time, we see that the share of traded calories that are restricted due to export restrictions is about 6%. It was 6% in July. It will likely increase in August due to the one that I just mentioned, but it's hovered between 6 and 8% so far this year.

**DOLLAR:** Well, that actually is a lower number than I would have guessed. So that's you know, that's relatively encouraging.

**WELSH:** It's good to have some encouraging news when it comes to food insecurity and malnutrition.

**DOLLAR:** Yeah, well, it's good to see some part of international trade is continuing. Can I ask you about China's role in all this? China is the biggest trading nation and I lived there for nine years. My experience was that it's a water scarce country, particularly the north, disastrously water scarce, and therefore it's somewhat food short. So it's a major food importer. What is China's role in global food security and global food trade?

**WELSH:** Yeah, that's a great question. China had aimed in the last decade to become food self-sufficient, that is, to produce enough food to meet the food security demands of its population. It then recognized that that was an unattainable goal and has stopped expressing that as a major goal.

China is the number one export destination for U.S. agricultural exports, but not only for the United States, for many major exporters around the world, China is the top export destination.

And at the same time, China, of course, is a major producer. Talking about rice that I just mentioned, India is a far and away the world's top exporter of rice. But China actually produces more rice than India, it's just that it doesn't export it. China is the world's number three exporter of agricultural products around the world. So China is a major importer and a major exporter at the same time.

Major effects on economic and political dynamics of all types. But just to link this to one thing we were discussing earlier, which is the Black Sea Grain Initiative. One very important data point is that China alone was the destination of about 25% of all grains exported under the Black Sea Grain Initiative from July of 2022 to July of 2023.

When it comes to maize, though, looking at maize in particular, China imported far more. I believe it was around 35% of all maize exported under that initiative, and coming from Ukraine. Ukraine was a major source of China's maize exports. What

was China using maize for? It was to feed animals to produce pork and other products that China's population consumes.

We know that China spoke publicly on a number of occasions about the importance of getting this deal back into place. China imports maize from other countries around the world, but Ukraine is a relatively close and relatively inexpensive source of maize. So we've been observing that as a potential source of pressure on Russia to enter into some sort of agreement again. We know that there are many other efforts happening along the side. Of course, Ukraine signing a deal with Romania to increase exports along the Danube River. All that to say China is an important factor in Russia Ukraine agricultural relations.

**DOLLAR:** Yeah, but it's very interesting what you were saying about China for a while aspiring to real food independence in the sense being able to produce all their own food. I was part of some discussions around that more than ten years ago, and it always seemed irrational to me to try to produce 100% of your food when you were a very water scarce country like China and you could import a lot of things less expensively. And I always argued that if you had perhaps 90% of your food being produced domestically, that puts you in a very secure position. If there's a war, you can always bring more land into cultivation, for example. So, encouraging to hear that things have basically gone in that direction.

**WELSH:** Well, when it comes to food self-sufficiency, as I had mentioned, when you see times of global shocks, like shocks that we experienced during the COVID pandemic, economic shocks due to Russia's invasion of Ukraine, a lot of countries around the world will start talking about the importance of food self-sufficiency, which is different from food security. Food security acknowledges the importance of trade. Very few countries around the world can produce enough calories of the right nutritional value for their populations to be food secure.

But when shocks are happening around the world and countries recognize their vulnerability to these shocks, then there's a desire to look inward. And we were seeing last year expressions of this desire to become more food self-sufficient. Not only among low- and middle-income countries that rely on imports for a major source of their calories, but on high-income countries that one might not necessarily expect to hear that rhetoric from.

**DOLLAR:** In this same vein about thinking about food self-sufficiency, China has also had something of a campaign to buy agricultural land around the world. And I don't really know how extensive this is. I just see what I read in the press that China is buying up quite a bit of agricultural land. That's a different type of effort to have food self-sufficiency, because obviously they're planning to import back into China the agricultural produce, but they seem to put a premium on wanting to control that. So is this a serious issue for the United States? And is this becoming an issue around the world.

**WELSH:** In the United States a number of countries own agricultural land in many states. This isn't regulated by the federal government. It's regulated at the state level. Regulations vary drastically state to state. Some states have strong restrictions in place against foreign purchase of agricultural land. Some states have far few and essentially invite foreign purchases of agricultural land.

Among the major owners of U.S. agricultural land, China is not one of them. It's Canada, Germany, a couple of other countries that we have different relations with that own the vast majority of U.S. agricultural land. Of foreign owners of U.S. agricultural land, China owns a tiny fraction of U.S. agricultural land.

That said, this has garnered significant attention, particularly from Congress over the past couple of years. When it comes to threats to U.S. food security, again, because they own such a tiny fraction of U.S. agricultural land, we don't estimate that this poses any significant threat to U.S. food security.

That said, we have seen examination of the specifics of China's attempts to purchase agricultural land. There is an attempt earlier this year to purchase land that was in relatively close proximity to U.S. military installation and that sale was prevented. So I think that it's important to look at these instances on a case-by-case basis. But generally speaking, the threat of Chinese ownership to U.S. agricultural land as it is right now, at the levels it is right now, is minimal.

**DOLLAR:** Right. And on this issue about buying agricultural land near military facilities, you know, we have an institutional arrangement in place to control that. We have a CFIUS process. I remember a specific CFIUS case that was basically a foreign investment turned down specifically because it was going to be close to a military facility in the U.S. We have a good regime for that on the national security issue. And then what you're saying about it's pretty trivial in terms of food security in the United States, that's really helpful.

**WELSH:** It is. And I think it is important to look at the impacts of other countries' ownership, of all foreign entities' ownership, of agricultural land and potential impacts on natural resources. So, for example, in states in the Colorado River Basin there are some instances of foreign ownership that were getting a lot of press attention recently. For example, a Saudi Arabian company that owned farmland for an alfalfa farm in Arizona had relatively unrestricted access to groundwater to feed alfalfa in this farm. And of course, in the context of water stress of the Colorado River basin, this got a lot of attention. And the Arizona attorney general is talking about not renewing that lease.

And so I think in instances where foreign countries might be contributing to phenomena like water stress, it's important to examine those. But when it comes to threats like the one that potential perceived threats, like the one that you just mentioned, China's ownership of U.S. agricultural land, again, on a case-by-case basis, there could be threats, but generally speaking, I think the threat is minimal.

**DOLLAR:** Caitlin, I like to end on a positive note. We still have an increasing world population and there's always a pessimistic group that worries that we can't feed ourselves, that we're going to have an overpopulated world. What's the optimistic case for feeding the world population, for having functioning agricultural markets, and addressing food insecurity?

**WELSH:** Yeah, the optimistic case is that we can and we will continue to produce enough calories to feed the global population. And another point of optimism, I think, is the increased attention to food security challenges, not just in United States but around the world for a number of reasons. I mean, they have to do with a lot of the



very severe crises that we're talking about. But there's a tension not just at the highest political levels in the major global political fora that happen every year. But among average consumers I see increased awareness. So that's I think that's a positive thing.

I think that our ability to remain food secure, it really depends on what it is that we're eating. In a lot of cases, the diets we're accustomed to consuming are not ones that are going to be sustainable in their long run. So I think that there will necessarily be some adjustment in terms of what it is that we consume in order for us to sustainably produce food to feed a global population.

**DOLLAR:** That's relatively encouraging. And I like to start with that general point. And we definitely produce enough calories in the world. And so part of it's a distributional issue and then there may have to be some changes in patterns as certain things become very expensive or scarce. That's just normal economics.

**WELSH:** Yes. And the people who are food insecure around the world are not food insecure because there are not enough calories available. It's due to many other factors, conflict highest among them. But I'm also optimistic about, again, not just about consumer shifts towards diets that are more sustainable, but also about technological changes, for example, toward reducing the amount of food that is lost and wasted every year. We produce enough calories to feed everyone and we waste a significant amount of food that we produce. If we were to reduce that, then that would also go a long way in terms of making calories more about available and making nutritious calories more available for the world population.

**DOLLAR:** I'm David Dollar, and I've been talking to Caitlin Welsh about the important issue of food security and agricultural trade. A lot of recent shocks with COVID and Russia's invasion of Ukraine, and we've got climate change altering a lot of things. But still there's a lot of encouraging news. So I take away some very positive messages about how well trade has held up with agricultural products and prospects for doing an even better job. Thank you, Caitlin.

**WELSH:** Thanks for having me.

**DOLLAR:** Thank you all for listening. Just a reminder that I'm going to be away on leave for 2 to 3 months, and then our *Dollar and Sense* podcast will take a pause. We will let you know when we are back on the air.

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*Dollar and Sense* is made possible by support from supervising producer Kuwilileni Hauwanga, producer, Fred Dews, audio engineer Gastón Reboredo, and other Brookings colleagues. Show art is by Katie Merris.

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