

## **Transcript: Farm Income and Financial Forecasts, November 2019 Update**

**Slide 1:** Good afternoon everyone and welcome to our webinar, Farm Income and Financial Forecast, November 2019 Update. My name is Valerie Negron and I will be your host. As a reminder, this webinar is being recorded and will be posted on the ERS website next week. At any time during the webinar, you may enter a question into the chat feature at the bottom left corner of your screen and our speaker will answer questions at the end of the presentation. Our speaker today is Carrie Litkowski. Carrie is a senior economist and farm income team leader at USDA's Economic Research Service. She is responsible for developing sector wide measures of farm income, value-added, and the aggregate farm sector balance sheet. Previously, Carrie served as an economist at the Bureau of Economic Analysis where she was responsible for the production of farm income and employment statistics nationwide. I think we're ready to start, so Carrie, you may begin the presentation.

Thank you Valerie and thank you all for joining me today on this webinar, the day before Thanksgiving. I'm pleased to present to you the latest USDA data on U.S. farm sector income and wealth. The ERS income and finance program measures forecasts and explains indicators of economic performance for the U.S. farm sector. We release our forecasts three times a year and with today's forecast we are updating our U.S. forecasts for 2019 to include some new and updated data as it has become available since our August release. This includes some additional survey-based data on 2019 crop plantings, reduction and pricing. We're also using the latest forecasts from the November World Agricultural and Supply Demand Estimates report, WASDE report.

**Slide 2:** So, what does our forecast cover? First, we'll start by looking at the two million farms who operate 900 million acres of land. Next, I'll discuss the income and finances of the approximately 951,000 farm businesses who account for over 90% of the total value of agricultural production in the U.S. Lastly, I'll look at the well-being of the over 6 million people who live in a household that are attached to a farm, a family farm.

**Slide 3:** Here's a brief summary of what I'll discuss today and the order in which I'll discuss them. Please note, that on this slide all values are in nominal dollars, meaning that there aren't adjusted for inflation, so they're not adjusted to take into account how the value of a dollar today might be different than a value of a dollar was 20 years ago. Later on in the presentation, I'll look at some figures in inflation adjusted dollars as needed.

So, both net farm income and net cash farm income are forecast to increase in 2019. Net cash farm income is forecast to be up about 15%, and net farm income is forecast to increase 10%. This is while cash receipts from commodity sales are expected to increase only slightly, about 0.6 % in 2019. Most of the increase in farm income is expected to come from higher direct government payments, which are forecast to increase 64% or about 8.8 billion, and higher payments from federal commodity insurance indemnity. So these are payments to farmers for covered losses -- losses that are covered by insurance. These are forecast to increase 4.1 billion dollars. Total production expenses are forecast to increase slightly, just under 1 billion dollars in 2019.

On the farm sector balance sheet, farm sector assets and debt are forecast to increase, with overall farm equity rising about 2%. And then average net cash farm income for farm businesses is forecast to increase almost 20% in 2019. A farm business are those larger farms, and farms where the primary occupation of the operator is farming. Lastly, we're going to take a look at household well-being, and medium farm household income is forecast to increase about 5% to \$76,000 in 2009.

**Slide 4:** We have two primary measures of farm sector income. First, we have net cash farm income, which is shown by the orange line. This includes cash receipts from farming, or sales of farm commodities, as well as cash farm-related income, government payments from farm programs. Less cash expenses. So, these are the costs that farmers incur in order to produce their production. Things like seed purchases, labor costs. And by cash we just mean that there's a market transaction for the exchange.

Net farm income is shown by the blue lines, and it is a broader measure that incorporates non-cash items, in addition to cash items, and includes an accounting for changes in inventories, which I'll talk about a little more later, and includes non-cash expenses like economic depreciation. Both measures are forecast to increase in 2019. Now note that in this chart, it's in inflation adjusted dollars, so we've adjusted prior years to be consistent with the level of inflation in 2019.

Let's start with looking at net farm income, the blue line. It peaked in 2013, and then declined for the next couple of years until it reached its lowest level in 2016 since 2002. Since then, net farm income has trended upwards and it's forecast to increase almost 8%, or to almost 93 billion dollars in 2019. That still puts it about 32% below the 2013 peak in net farm income. That value also puts it just 3% above its average across 2000 through 2018.

Net cash farm income has followed a similar trajectory, and in 2016, dropped to its lowest level since 2009. Net cash farm income is forecast to increase almost 13% to 119 billion in 2019. This would put it about 10% above its average across 2000 through 2018.

**Slide 5:** We derive net farm income by measuring its component parts or from the bottom up. This allows us to further analyze the forecast change from 2018, so to identify what is causing this projected increase. Now this chart is in nominal dollars, so it is not adjusted for inflation.

In the far left we have the net farm income estimate for 2018 at 84 billion dollars, and then on the far right we have the farm income forecast for 2019 at 92.5 billion dollars. The bars in blue indicate which components are expected to add to growth, while the bars in red identify which components would take away from growth.

So, working left to right, crop cash receipts are forecast to increase 1.9 billion dollars, but we have to make an adjustment-- a downward adjustment-- for cropped inventories, 7.5 billion dollars to be exact. In net farm income, we're trying to get an income from current production only, so we make an adjustment to account for changes in inventories because they actually represent sales from prior years' production, not current year's production.

Livestock receipts and the inventory adjustment are relatively unchanged, and offsetting from 2018. Production expenses are forecast to increase slightly, 0.7 billion dollars. Now it's shown as a negative here because higher expenses are reduced income because we subtract out expenses in the calculation of net farm income. So really, what you're left with are the two main contributors to growth in 2019, and that is government payments--which are forecast to increase 8.8 billion, and we'll talk about those more later--and also the increase in farm-related income of 6.1 billion, that is primarily reflecting higher insurance indemnity payments to farmers from commodity insurance program. So, like crop insurance.

**Slide 6:** In a previous chart, we saw that over all cash receipts are forecast to increase in 2019 relative to 2018. In this chart we show why cash receipts are forecast to increase. Through a simulation, we can deconstruct the change in cash receipts into what you can call a price effect and a quantity effect. In other words, we can identify whether prices or quantities sold are driving the change in cash receipts. We also have this "other changes" category which includes those commodities for which we don't have data that allows us to separate out a price and quantity effect.

So, if we start here on the left with total cash receipts, we see that if we were to hold quantity-sold constant, cash receipts would increase 6.3 billion dollars due to higher prices. When you hold prices constant, then the quantity sold would lower cash receipts 4.8 billion. So, you net these together and you get a 2.2 billion dollar increase in cash receipts on the whole. We can further subdivide this to look at crop cash receipts separate from livestock cash receipts. For crop cash receipts we are expecting higher prices. You know, 8.4 billion dollar price effect for cash receipts for crops. But then a lot of that is taken away by a downward quantity effect, meaning that less quantities were sold in 2019 with a net effect of being crop cash receipts increasing 1.9 billion. On the livestock, we have the opposite story. We're expecting lower prices, but higher quantities sold, and those two effects nearly cancel each other out.

**Slide 7:** Next we can look at cash receipts by commodities. Now, note that our data, all of it, including cash receipts, are reported as calendar year forecast, so not crop year forecast. The data in this chart is in nominal dollars, and we forecast receipts for about 25 different commodities or crop commodities specifically, or commodity grouping. This chart just focuses on the major crops.

Total cash receipts for crops are forecast to increase about 1%, led by increases in receipts for corn and vegetables, and melon. Cash receipts for corn are forecast to increase about 2% or almost one billion dollars due to higher prices. Now here, for corns especially, we have large opposing prices received in quantities sold in packs, meaning we are expecting higher prices and lower quantities sold. This is happening as a result of reduced yields and production forecasts for the 2019 / 2020 marketing year, and this is expected to reduce and tighten supplies which lead to higher prices. And these higher prices are expected to increase cash receipts for corn.

It's a different story for soybean cash receipts, where receipts are forecast to decline about 5% or 1.8 billion dollars, reflecting anticipated drops in both prices and quantity sold in 2019.

Cotton prices or receipts are forecast to decline. And then we have receipts for fruits, nuts, vegetables, and melons, they're all forecast to increase in 2019 after declining in 2008, and this is largely due to price increase. Finally, wheat receipts are forecast to fall as quantities sold and prices are expected to decline in 2009.

**Slide 8:** Looking over animal and animal-product cash receipts, or you might hear me refer to the livestock cash receipts. While receipts for cattle and calves are forecast to fall slightly 1% in 2019, larger changes for other commodities are expected to nearly offset each other. Receipts for dairy and hogs are forecast to increase following expected higher milk prices and, for hogs, both higher prices and higher quantity sold. On the flipside, receipts for broilers and chicken eggs are forecast to decline due to lower prices.

**Slide 9:** Another component of farm income are what we call direct payments. These are payments made to farmers--directly to farmers--from farm programs without any intermediary. After increasing 2.1 billion in 2018, government payments are forecast to increase by 8.8 billion in 2019. This increase in 2019 is due to payments under the market facilitation program, the MFP program, which is part of an aid package to assist farmers in response to trade dispute and is shown in this chart by the peak segment of the bar chart. The increases in 2018 and 2019, again largely from the MFP payments. In 2018, we estimate that 5.1 billion dollars were made in MFP programs and were received by farmers in calendar year 2018, because we record these payments by when they were received by farmers. In 2019, we're forecasting MFP payments to amount to 14.3 billion. So, this includes payments from the 2018 program that were received in the first half of calendar year 2019, plus payments from the first and second tranche of the 2019 MFP program.

Looking at some of the other types of direct payments, we're also forecasting an increase in supplemental and ad-hoc disaster assistance in 2019, and that is shown by the purple bar. You know these are payments for damages and losses caused by recent hurricanes, wildfires, and flooding, largely the WIPP-plus program if you're familiar with that. But overall, since 2007, total government payments have averaged about 13 billion dollars through 2018. In 2019 direct government payments are forecast to be at their highest level since 2005, even after we adjust for inflation, which is shown by that blue line.

**Slide 10:** Not included in our measure of direct government payments are commodity insurance indemnities. So, these are payments made to farmers for losses that are covered by insurance, and this also contributes to farm income.

This chart looks at federal net insurance and government payments relative to the rest of net farm income for the Ag sector, as a whole. Now this chart is in inflation-adjusted dollars. The top peach bar shows indemnity payments paid to farmers less premiums paid by the farmers for federal commodity insurance. Or, I'm going to call this net insurance payment. In inflation-adjusted dollars these are forecast to increase almost four billion dollars in 2019, and this would put them at their highest level since 2013, which back then those payments in 2013 were response to a widespread drought in 2012.

We expect indemnity payments to be higher in 2019 due to the extensive flooding that occurred throughout the Midwest earlier this year and affected corn and other crops. So, also in indemnities are the preventive Plant Payment.

Net Federal Insurance indemnities, combined with direct government payments, are forecast to account for 31% of net farm income in 2019. If you look at the gray area of the bar, this is net farm income excluding these payments, and it would be forecast to decline in 2019. So, we'd have a decline of net farm income, if not for these federal payments to farmers.

**Slide 11:** So now that I've discussed the sources income or farm revenue, let's look at the expenses incurred by farmers to produce their agricultural output, or what we call production expenses. These items include things such as spending on feed, fertilizer, and hired labor. In total production, expenses are forecast to stabilize in 2019 after decreasing in 2018. This chart shows total expenditures in both nominal and inflation-adjusted dollars. In nominal dollars, the blue line expenses are forecast to remain nearly unchanged from 2018, but when adjusted for inflation, expenses are forecast to decline 1.6% in 2019. This would mark the fifth consecutive year of declining expenses, and we haven't seen a decline of this magnitude or duration since the farm crisis of the early 1980. And while below their peak in 2014, expenses in 2019 are forecast to be near levels seen around 1979 and 1980.

**Slide 12:** While expenses aren't expected to change much in the aggregate and in nominal dollars, the forecast for individual expense items are mixed. So, in this chart I'm just looking at the change in nominal dollars. This chart compares 2017, 2018 and 2019 expenditures by category. And above the dotted line we have items for which spending is expected to increase, and below the dotted line, items for which spending is expected to decrease.

Let's start with seed purchase, which is a single largest category of expenses accounting for roughly 16% of total expenses by farmers. Seed purchase is expected to increase about 4% in 2019, following higher prices for feed in 2019. This would be the first increase in feed expenses since 2014. Cash labor expenses are also forecast to increase about 7% in 2019 as wage rates are expected to continue to rise. Interest expenses are forecast to decrease 6.3% in 2019 after increasing for five consecutive years. The increase or the decrease is due to expected lower interest rates in 2019. Spending on fuel and oil is forecast to decrease about 10% due in part to forecast lower prices for diesel fuel in 2019. This is from a forecast from the Energy Information Agency. Spending on seed, pesticide and fertilizers are forecast to decline in 2019 due in part to lower expected planted acres for the top 14 planted crops in the U.S.

**Slide 13:** In addition to farm income, the balance sheets is another tool that we can use to measure or gauge the health of the farm sector. It provides information on the value of physical and financial assets and the level of debt in the U.S. agricultural sector over time. Looking historically, the balance sheet remains strong and stable, at least in recent years.

Farm equity, as shown by the green area, is forecast to increase slightly--just 0.3%-- in 2019 in inflation-adjusted dollars and has been relatively stable since 2015. Likewise, farm sector assets have remained relatively stable overall in recent years, and are forecast to increase half a percentage point in 2019. Now in assets--farm real estate assets-- the value of land and buildings

account for about 80% of farm sector assets. When inflation-adjusted, real estate assets are expected to be nearly unchanged from 2018. Farm sector debt--that's the blue area--is expected to continue to rise and forecast to increase 1.5% in 2019. This would put debt at its highest level since 2002 in inflation-adjusted dollars. The increases since 2015 are being driven by increases in real estate debt, which accounts for about 60% of total debt. But the value of farm sector assets still greatly exceeds the level of debt held by the sector, resulting in farm equity of about 2.7 trillion dollars in 2008.

**Slide 14:** However, despite this positive outlook on the balance sheet, farm sector debt has been growing at a faster rate than the sector's asset. As illustrated in this chart, which looks at the amount of debt relative to assets and relative to equity. So, the debt-to-asset ratio and the debt-to-equity ratio, along with their 10-year moving averages. These are what we call solvency ratios, which provide a measure of the sector's ability to repay financial liability debts alone to the sale of assets. Both ratios gradually increasing since 2013 and are expected to continue to increase through 2019. Both ratios are above the average for the prior 10 years and have been above average since 2015, which means that the sector's risk of insolvency is now at its highest level since 2009. However, the solvency ratios for the sector still remain below peak levels seen in the early 1980. Financial ratios, including measures of liquidity, are available on our website.

**Slide 15:** With this growing financial stress within the sector, there has been a lot of interest in farm bankruptcy. This chart looks at the rate of farm bankruptcies which has been trending upward since 2015, and we projected that the bankruptcy in 2019 will be nearly 3 per 10,000 farms. Preceding and then coinciding with this recent increase in bankruptcy rates was an increase in debt payments when measured as a share of production. So, debt payments are what you pay for interest and to pay down principal. This is shown by the debt-service ratio, which is the blue line. So, what we're saying here is that, starting in 2014, farmers have had to spend or use more of their production income to make their debt payment. And this has, in my opinion, kind of served the debt-service ratio as somewhat of a leading indicator. Some years for the bankruptcy rate.

**Slide 16:** Up to this point we've been discussing forecasts for the farm sector, as a whole. Now let's look at farm businesses, which are an important subset of all farms. A farm business is defined as all farms where the primary occupation of the operator is farming, plus those farms that had \$350,000 or more in gross cash farm income before expenses. There are roughly 951,000 farms that meet this definition, and they're represented by the blue and red segments on this chart that represent commercial and intermediate farms. The gray bar is residence farms. These are small farms and farms where the principal occupation of the operator is not farming.

According to the 2018 Agricultural Resource Management Survey, the ARMS, resident farms accounted for the majority of all farms but commercial and intermediate farms account for 90% of all agricultural production and hold most of the sector's assets and debt. Using data from a 2018 ARMS we are able to project how the sector level forecasts can be expected to affect farm businesses in 2019. We can break down the forecast for farm business income by commodity specialization and geographic region.

**Slide 17:** Now, only looking at farm businesses, average net cash farm income for farm businesses is expected to increase in 2019 after declining in each of the previous four years, so that's for all farm businesses. In this slide though, we're looking at a crop farm business. Using ARMS, we can categorize farms by commodity specialization, meaning that at least 50% of the value of production comes from a particular commodity. Average net cash farm income for all categories of crop businesses is expected to increase in 2019. Note that this chart is in inflation-adjusted dollars, and we are looking at average or per-farm net farm income.

All Cash from farm businesses are expected to benefit from higher government payments and lower cash production expenses in 2019. Those impacts were greatest for farm businesses specializing in wheat, where average net cash farm income is projected to increase 32% in 2019 to \$130,000 per farm, or at the average. Average net cash farm income for corn farm businesses, is expected to reach about \$206,000, a level not seen since about 2014.

Soybean farm businesses average net cash from income is expected to increase in 2019, largely due to higher government payment, and this is after declining notably in 2018. Average net cash farm income for soybean farms in 2019, is forecast to be near the average that we saw in 2017.

**Slide 18:** Average net cash farm income for most types of farm businesses specializing in livestock is forecast to increase in 2019. Average net cash farm income for these farms is forecast to increase about 8% 2019.

For farm businesses specializing in hogs and dairy, average net cash farm income is forecast to increase in 2019 following sizable declines in 2018. We're looking at a bit of a recovery. The increases in 2019 reflect expected increases in hog and dairy cash receipts which we talked about earlier and which is the result of expected higher prices for hogs and milk. Poultry farm businesses are the only category of farm businesses where we're forecasting average net cash farm income to decline in 2019. This is after increasing in 2018, and the decreased reflex expectations of lower cash receipts for poultry in 2019.

**Slide 19:** By looking at how Ag production is distributed geographically, we can forecast how average net cash farm income for farm businesses can be expected to change, in 2019, by resource region. All nine resource regions are expected to see average net cash flow income increase by 11% or more in 2019. The average change for all farm businesses is 20% in 2019. That increase overall reflects the increase in net cash farm income for the sector as a whole.

Let's look at some particular regions. Farm businesses in the Northern Crescent are forecast to see the largest percentage increase in average net cash farm income at 31%, and this is again largely due to higher dairy receipts, higher milk price. Farm businesses in the northern Great Plains are expected to benefit the most from higher government payments in 2019 as they're expected to see an increase of 28% in average net cash farm income. The smallest increase is forecast for farm businesses in the Fruitful Rim following an expected increase in cash expenses, particularly labor expenses, because these farms in the Fruitful Rim,--you know, a lot of dairy and fruit farms-- tend to be more labor-intensive than farms in other production specialties in other areas of the country.

**Slide 20:** Up to this point we've been discussing the financial performance of the farm sector as a whole and farm businesses, but this often may not give an accurate or a complete picture of the well-being of households that own and operate farms. Farm profits are often shared with other stakeholders like landlords and contractors, and the well-being of farm operator households is determined by a combination of on-farm and off-farm activities, with the majority of farm household income actually coming from off the farm.

So now we're going to look at all family farms, and family farms account for 98% of all the 2 million farms in the U.S. And we're going to look at the farm operator households attached to those family farms, and the over six million people who live in households attached to a farm.

**Slide 21:** One measure of farm household well-being is household income. For farm households were forecasting to increase in 2019 at the median. So here we're looking at the median, we're looking at the farm that hits kind of at the middle of the distribution.

This chart looks at income earned on and off the farm which, combined, give us total household income. For farm Households, median income from farming is forecast to increase just slightly 2019 but remain negative.

Recall that most farms are residential farms, meaning that there are small farms by definition and farms where the principal operator, his or her primary occupation is not farming, so this is not their livelihood. In recent years slightly more than half of farm households have had negative farm income. Median off-farm income, so in the middle of the chart, is forecast to increase in 2019. Farm income sources include off farm wage income--so like jobs off the farm, non-farm business earnings, dividends and transfer payment. So, in total, median farm household income is forecast to increase 5.1% to about 76,000 in 2019. This chart illustrates again that the majority of farm household income is coming from off-farm sources, predominantly off farm jobs.

**Slide 22:** This chart takes a deeper look at farm household income, looking at it by type of farm. For residential and intermediate farms, the first two blocks...median household income, shown by the red line, tracks very closely with off-farm income, which is shown by the blue line. And all farm income accounts for essentially all of the household income at the medium. Income from the farm is shown by the gray line. This virtual end is virtually zero for residents and intermediate farms. For commercial farms, on-farm income is more important and is driving the trends in median household income.

Following the sector level forecasts for farm income, on farm income for commercial farms, is expected to increase in 2019 and drive the increase in total household income. So, at the median, commercial farms are expected to benefit the most from the forecasted increase in net farm income.

**Slide 23:** Another indicator a farm household well-being is the amount of debt held by the household. This chart looks at mean household debt by type of debt. And by farm debt we're talking about debt which is for farm purposes. And then the other category that is non-farm debt, so for non-farm purposes. We're also going to look at the debt by type of farm. In the most recent



three-year period, mean household farm debt has increased for all types of farms so...but commercial and family farms saw the largest increase in debt in this recent three-year period. Households who operate residence farms hold the largest share of non-farm debt in aggregate. On average, household non-farm debt for residence farms has declined slightly in recent years.

The main point with this chart, is we talked about earlier, how far the sector farm debt is increasing, and it's been steadily increasing for quite a while now. So, this chart is looking at which households are getting most of that farm debt. And as the chart shows, it's mostly the commercial farms that are seeing the recent farm debt.

Today's release also includes additional and new data for 2018 on-farm household financial indicators and analysis of farm household wellbeing. So, I encourage you to check out our website for additional information on farm household.

Speaking of our website, the information I presented today is available on our website along with estimates for prior years. We have data tables charts maps and a written summary of the findings. Our next release is scheduled for February 5, 2020, at which time we will update our 2019 forecast again and present our first forecast for 2020. Here's our contact information. Feel free to email the Farm Income Team of ERS and that will go directly to myself and other members of the team. So, with that, I am ready for any questions.

[All right, thank you, Carrie! Looks like we have a couple questions. Question number one: You said crop receipts are forecast to increase in 2019 due to prices, for which crops are prices rising?]

Yes, we have that. Earlier in the presentation we looked at the price and quantity effects and the crops that we're seeing with the biggest increases or having the biggest effect on the increase in crop cash receipts, are corn, fruits and nuts of an aggregate category, and vegetables and melons. And we're also expecting to see some increases in the prices for hay and sugar beets. These aren't necessarily all the price increases that we're expecting to see in 2019, but the ones that stood out the most for me.

[Okay, next question. Can you break down the change in production expenses into changes due to prices versus quantities?]

(Let's refer to) the same chart I was just talking about it a minute ago -- the price and quantity effects. We are able to do that for cash receipts but not necessarily for production expenses. However, when we forecast expenses, one of the key things that we look at or we take into account with our forecast, is price changes. So, our forecasts are largely reflecting expected changes in prices because we don't really know the actual quantity of what farmers buy or how much the end of actually spending until we get the ARMS data for that particular year.

But there are some exceptions. We do have some quantity side and when we talk about feeds and seed and fertilizer, our forecast looks at information on planted acres. For example, because you know how many acres, you're planting will affect how much seeds and fertilizer that you buy.

So, we don't have a price and quantity break out like with cash receipts but most of our forecasts are being influenced by the prices paid index that we are getting from the National Agricultural Statistics Service (NASS).

[All right, the next question: Why doesn't median farm income plus off farm income equal the listed value for total household income, referring to slide 21?]

Okay I'll bring that back up here. Yes, this is a frequent question that we get. Because we're looking at median, and when we talk about medians, we're talking about taking all of the observations that we have--so in this case the individual farm--lining them up from lowest income to highest income and then taking the farm that is right in the middle. That farm right in the middle means 50% have higher, 50% have lower. Now we do the median by type of income. So, we're going to do the median for farm income, arrange them, pick the middle. And then we're going to rearrange them when we talk about off farm income, take the one in the middle, and then we're going to rearrange them again and look at total income and pick the one in the middle. So, the person in the middle is not the same person for each of these types of income. It's going to be different, so it has to do with how the distribution is different when you're looking at household farm income versus non-farm income versus the total. But if you were to look at total farm income, that person at the middle would have total farm income that equaled the sum of their off farm and on farming.

[Next question: What is happening with a RC and PLC payments?]

Okay, so here we're talking about government payment, which I'm going to go back to this slide number nine. And the agricultural risk coverage and price loss coverage payments, RC and PLC, are included in this orange bar segment on this chart. And you can see that they have been decreasing, looks like for three years: 2017, 2018 and 2019. The forecast decline in 2019 is largely because we expect prices, you know the short story is, largely we expect prices to be higher in 2019 for crops, especially some key crops like corn. So that's making expected payments, under RC and PL, to be forecast.

[Okay here's a question five: When change in inventory value is negative in 2019, does that lead to increase in 2018 income?]

No, no, that's a good question. What we're saying when we say that we have a crop inventory adjustment of negative 7.5 billion, we're determining that 7.5 billion dollars of what they sold in calendar year 2019 was actually from inventory, so actually came from prior year's production. Going forward, it's not going to carry forward you know because it's actually almost kind of the reverse. You can almost say that, actually I don't want to go that direction, but no it doesn't have an influence on what happens in 2020. In 2020 especially with a net farm income, when we get to it, we're just going to try to measure current production, only if they add to inventories in 2020. So maybe farmers might choose to build up their inventories. That would again increase income, but again that's a choice that they make at the time. It's not necessarily going to be reflective of what they sold from inventories in the prior year. The farmers themselves have specific goals about how much inventory they want to carry over year to year you

[We have a question here asking if you could repeat the estimates for crop insurance indemnities for 2019 and compare that to 2018 and the historical average?]

Okay, I want to make sure I get this question. I believe the question was about insurance indemnities? We are forecasting net insurance indemnities for 2019 to be at 6.5 billion in 2019. That is lower than the net payments in 2018. I unfortunately don't have the net figures right in front of me to calculate it, but it's at least twice, well, looks like it's 155% higher actually, than what it was in 2018 because those are the numbers that we kind of have off to the side. The 6.5 billion is the amount of net indemnities in 2019, and then the percentage changed from 2000. So, they more than doubled in 2019. Historically, net and entities are going to be at their highest level I believe since 2013. And I would say--its hard since I haven't calculated the average--but you can kind of see when the weather events occurred, like I mentioned, there was significant drought in 2012. Some of those indemnity payments in 2013, and then the weather event that we had this year, there was a lot of the flooding and the prevented planting, though probably above-average indemnity or net indemnity payments 2019 because of some weather events this year.

[Here's a similar question: Are the top of payments included in insurance indemnities or direct payments to farmers?]

Yeah that's a good question. The top-off payments would be insurance, I'm sorry I got that backwards, they are direct government payments I think is what we determined, because the top-off payments were authorized by the WHIP plus program. I can't remember exactly what WHIP stands for—the wildlife— well the emergency and advent disaster assistance. Though that program authorized the top-off payments so it would be a direct government payment even though the top-off payments, I believe, are going to be administered by the Risk Management Association (RMA), which makes the insurance payments, so I can see why the confusion. But I believe they are going to be recorded in direct government.

[Alright, here's another question: Someone asks, what is the exact number of farms they should use to determine the farm income per farm they (I quote) “I believe you stated there are 2 million farms so, if net farm income is 92.5 billion dollars, can I then assume the average net farm income is expected to be \$46,250?]

Yes, I think you can do that math. I think that would be right because there are two million farms. I mean it's not exactly two million but it's very close to two million farms. This is the number of farms that we get from NASS, the National Agricultural Statistics Service here at USDA. So yes, if you wanted to get a simple average per farm, that would be the number.

[Okay, someone is asking it: Does the farm income forecasts include the second tranche of MFP that was released on November?]

We are. In our August forecast we were not including the second tranche because it hadn't yet been announced that payments would actually be made. But the announcement was made earlier this month by USDA that the second tranche would be issued and that payments actually would go out in this calendar year. And they have, we saw a massive increase very recently in the

amount of payments under the MFP program as farmers have started to get their second tranche payment and those are included in our forecast.

[All right ,Carrie, looks like we have time for one more question: When is the next forecast?]

That's a great way to end it. The next forecast is going to be released on February 5<sup>th</sup> , I believe that is a Wednesday, at the same time, at 11 O'clock and, as I mentioned, with that forecast we're going to have our first look at what 2020 farm income might look like, and we will also revise this forecast for 2019 as new data becomes available to it.

[All right I want to thank everyone for joining us. Thank you, Carrie!]

Sure, thank you!