

## Webinar Transcript: Farm Income and Financial Forecasts - February 2020 Update

Good afternoon everyone and welcome to our webinar, Farm Income and Financial Forecast, February 2020 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 this webinar, you may enter a question to 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. Carrie you may begin your Presentation.

Thank You Valerie. Well, good afternoon everyone, thank you so much for joining me today. I'm pleased to have this opportunity to present to you the latest USDA data on U.S. farm sector income and wealth. The goal of the ERS farm income and finance program is to measure, forecast, and explain indicators of economic performance for the U.S. sector as a whole. We release forecasts three times a year. With today's release we're releasing our first calendar year forecasts for 2020 for the U.S. We're also updating our forecasts for 2019 to include some new and updated data as it has become available since our last release in November.

So, what does our forecast cover and what is the farm sector. First, the farm sector as a whole, which is comprised of two million farms who operate 900 million acres of land, that's what we mean by the farm sector. I'll also discuss the income and finances of the approximately 951 thousand farm businesses that account for about 90% of the total value of agricultural production in the U.S., and lastly, we'll look at the well-being of the over 6 million people who live in households attached to a farm.

So brief summary, our profitability measures for 2020 are actually mixed. Net cash farm income is forecast to decline 9% in 2020 relative to 2019, and net farm income is forecast to increase 3.3% in 2020. I'll explain this divergence from the two measures of income shortly, but know that on this chart, or this slide, I'm discussing all our data in nominal dollars, meaning I'm not making any sort of adjustment for inflation. Later charts will look at the data in inflation-adjusted dollars.

So, getting back to the forecast, helping to boost income in 2020 are cash receipts from commodity sales which are forecast to increase almost 3% in 2020. But pulling down income are direct government payments, which are forecast to decline almost 37% or almost 9 billion dollars in 2020. Also, federal commodity insurance indemnities are forecast to decline. Additionally, total production expenses are forecast to increase 3%, or over 10 billion dollars. On the farm sector balance sheet, farm sector assets and debt are forecast to increase with an overall increase in equity of about 1%. Looking at farm businesses, which are larger farms and those where the operator's principle occupation is farming, average net cash farm income in 2020 is forecast to decline 8%. For those households that operate a farm, median farm household is also forecast to decrease 0.3% in 2020.

We have two primary measures of farm sector income as shown on this chart, net farm income and net cash income. Now this chart is in inflation-adjusted dollars, we're using 2020 dollars and then adjusting prior years to be consistent with 2020.

Let's start with net cash farm income, which is the top orange line. This includes cash receipts from farming, or the sale of farm commodities, as well as cash farm related income, and government payments from farm programs. Less, or net of cash expenses, those are the expenses that farmers incur to produce agricultural commodity, spending like on feed, seed and labor. Now when we say cash, I'm just referring to the fact that there is a market transaction for the exchange, or the purchase, or sale. Net cash farm income is forecast to increase almost 14% in 2019. So, you see a bit of a spike in 2019, and that's with sales from crop inventories helping to boost income in 2019. In 2020 net cash farm income is expected to decline almost 11% with farmers expected to sell much less from inventories or almost nothing, and then there other factors contributing to the forecast decline in 2020.

On to net farm income. This is a broader measure that incorporates non-cash items including non-cash income, and non-cash expenses like economic depreciation. Also, income is recorded in the year in which the production occurred rather than the year in which it was sold. So, sales from inventories are excluded from net farm income because they are sales from the prior year's production, and that exclusion of these sales from inventories, resulted in a smaller forecast increase in net farm income in 2019, which is forecast increased 10% in 2019. In 2020 net farm income is forecast to increase just slightly, about 1%, putting it at its highest level since 2014. Both measures are forecast to be near their average in 2020. Net cash farm income is forecast to be 0.6% below its average from 2000 to 2018. While net farm income is forecast to be about 5% above its average since 2000.

We derive net farm income by measuring first its component parts, or from the bottom up, and then summing to net farm income. This allows us to further analyze the forecast change in net cash, net farm income from 2019. The forecast increase in income is due to expected increases in the value of crop and livestock production. In this chart we have – starting from the left and moving to the right – on the far left, net farm income, the forecast for 2019, at 93.6 billion, and then on the far right we have the forecast for 2020.

The blue bars indicate which components or items are expected to increase net income, while the bars in red are the ones that are expected to take away from growth. Starting with crops, if you take crop receipts, the sales, adjust them for changes in inventories, you get a measure of the value of crop production, and in 2020 the value of crop production is forecast to increase 16.1 billion relative to 2019. Additionally, we expect livestock cash receipts to increase 8.2 billion in 2020. Tampering that growth in income though, are decline... sorry...increase, in production expenses of 10.4 billion. Now they're shown as a decline here because we subtract out expenses in the calculation of income, so higher expenses mean lower income.

We're also expecting government payments to decline almost 8.7 billion dollars in 2020; and also farm related income of 2.1-billion dollars decline, which largely reflects expected declines in insurance payments to farmers in 2020.

In the previous chart we saw that cash receipts are forecast to increase in 2020 relative to 2019, and 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 we 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 other changes listed here and they include those commodities for which data does not exist to allow us to separate out price and quantity effects separately.

So, starting from the left, in 2020 total cash receipts are forecast to increase 10.1 billion dollars, and that is because of both higher commodity prices as shown by the orange bar, and higher quantity sold as shown by the gray bar. If we look at crops alone, crop cash receipts are forecast to increase 1.9 billion and this is following expected increases in quantities sold, as prices are expected to decline slightly. On the livestock side and animal products side, both higher prices, and higher quantity sold, are driving the increase in total livestock cash receipts in 2020.

We can next look at cash receipts by commodity. Note that these data in this chart, we're looking at calendar year forecast – so not a marketing year but a calendar year – and the data in this particular chart is in nominal dollars. We forecast receipts for about 25 different crop commodities or commodity groupings. This chart focuses in on the major crops. After remaining relatively flat in 2019, total crop cash receipts are forecast to increase about 1% in 2020 led by increases in receipts for corn, fruits and nuts. Cash receipts for corn are forecast to increase about 2% due to expected higher quantity sold, which is expected to offset lower prices. Receipts for soybeans are forecast to decline for the fourth consecutive year, reflecting anticipated lower quantity sold in 2020, and higher prices. Receipts for fruits and nuts are forecast to increase 6%, and wheat receipts are forecast to increase 1%. Largely because of expected higher prices for wheat in 2020.

Total animal and animal product cash receipts, or I also refer to them as livestock cash receipts, are forecast to increase almost 5% in 2020 with all commodities expected to see an increase in 2020. Receipts for cattle and calves are forecast to increase 1.6 % due to both higher prices and quantities sold. Larger increases are expected for dairy and hog receipts following expected higher prices and quantities sold for both of those commodities.

Another component of farm income, or a source of income for farmers, are direct government payments from farm programs that are major directly by the U.S. government to farmers and ranchers without any intermediaries. After increasing 10 billion dollars or 73% in 2019, government payments are forecast to decrease by almost 9 billion dollars or 37% in 2020. This increase and then decline in government payments 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 disruption, and that's shown by the pink bar segment on this chart. In calendar year 2019, about 14.3 billion in MFP payments were received by farmers, and for calendar year 2020 we're forecasting that farmers will receive about 3.7 billion dollars in payments. This is representing payments from the third tranche of the MFP program authorized in 2019. We are assuming in this forecast, that these will be the final MFP payments in 2020.

Looking at other categories of government payments, we have payments that are a function of crop prices as represented by the orange bar segment on this chart, and they are forecast to increase about 1.1 billion in 2020, largely because of higher payments that are expected under the price loss coverage program – the PLC program. We're also forecasting an increase in all other payments which is shown by the purple bar, this reflects an expected increase in payments under the dairy margin coverage program and a modest increase in supplemental and ad-hoc disaster assistance in 2020. The blue line shows us total government payments adjusted for inflation, and since 2007 payments have averaged around 13 billion through 2018. In 2019, direct government payments are forecast to be at their highest level since 2005, and 2020 levels are expected to be closer to their average levels.

Not included in direct government payments are commodity insurance indemnities, these are payments to farmers for losses that are covered by insurance, and these also contribute to farm income. This chart looks at federal net insurance and government payments relative to the rest of net farm income for the agricultural sector as a whole, and 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 calling this net insurance payments.

For 2019, we expect insurance payments, including prevented planted payments, to be high due to the extensive flooding that occurred throughout the Midwest in 2019. In 2020, net indemnities are forecast to decrease about 1.7 billion. When combined with direct government payments, net insurance to payments plus direct government payments are forecast to account for about 20% of net farm income in 2020 compared to 32% in 2019. When we look at net farm income excluding these payments – as shown by the gray bar – it is forecast to increase in 2020.

Now that we've discussed the sources of income or revenue to farmers and ranchers, let's look at the expenses incurred by farmers to produce their agricultural output, or what we call production expenses. These include spending on such items as seed, fertilizer, seed, rent, labor. In total, production expenses are forecast to increase in 2020. This chart shows total expenditures of both nominal and inflation adjusted dollars. In nominal terms, expenses are forecast to increase 3%, when adjusted for inflation expenses are forecast to increase 1% in 2020. Now this is noteworthy because in inflation adjusted dollars this increase in 2020 would mark the first increase in expenses since 2014, yet expenses are expected to remain about 18% below the peak that we saw in 2014.

We can also look at expenses by category, and we expect spending for most categories to increase in 2020. This chart compares 2018, 2019, and 2020 expenditures by category. Items above the dotted line are expected to see increased spending, while those below it are expected to see a decline. Feed purchased, which is a single largest category of expenses – accounting for about 16% of total expenses – is expected to continue to increase in 2020. Another big expense are cash labor expenses, which are also forecast to increase and continue to increase in 2020, as wage rate is expected to continue to rise in 2020. Spending on fuels and oils is forecast to increase after declining in 2019. This is due in part to forecasted higher prices for diesel fuel in 2020 based on forecasts from the Energy Information Agency.

The only notable category of expenses that is expected to decline is interest expenses. These are forecast to decline in both 2019 and in 2020 after increasing for five consecutive years. The recent decreases are due to expectations for lower interest rates that are expected to continue into 2020. Spending on seed, pesticide, fertilizer, are all forecast to increase in 2020 due in part to expectations of increased planted acres for the top 14 planted crops in 2020.

In addition to farm income, the balance sheet is another tool we can use to measure or gauge the health of the farm sector. It provides us with information on the value of physical and financial assets, as well as the level of debt in the U.S. agriculture sector over time. Looking historically, the balance sheet remains strong and stable, and we expect it to be less volatile than income.

Farm income ... sorry equity... as shown in green, is forecast to decrease 7% in 2020 in inflation-adjusted dollars. Since 2014 – there's a peak there – farm equity has declined 5%. Similarly, farm sector assets are forecast to decrease 0.6% in 2020 and be 3% below its level in 2014. Farm real estate assets, which are the value of land and buildings, account for about 80%. The farm sector assets and are expected to contribute most to the decline in total assets from 2019 to 2020, but when looking at the decline since 2014 its declines in inventories, investments, and other financial assets, that are contributing to most of the decline in total assets since 2014.

Farm sector debt, as shown by the blue, is expected to continue to rise and forecast to increase 0.5% in 2020 – inflation adjusted – that would put debt at its highest levels since 1982. The increases are being driven by increases in real estate debt, which account 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 sector equity of 2.7 trillion dollars in 2020.

However, farm sector debt has been growing at a faster rate than the sectors asset. As illustrated in this chart, which looks at the amount of debt relative to assets and relative to equity, and here I'm showing that we've got the debt to asset ratio shown as a percentage. These are what we call solvency ratios, which provide a measure of the sectors ability to repay financial liabilities – you know their debts or their loans – through the sale of assets. Both ratios gradually are increasing since 2013 and are expected to continue to increase through 2020. The ratios are above their average for the prior ten years and have been so since 2015, putting the sector's risk of insolvency at its highest level since 2003. However the solvency ratios for the sector still remain below the peak levels seen in the early 1980s – the farm crisis of the 80's – and remain low enough to suggest as a likelihood of default across the sector remains low, although we always mean that we are know that there are always farmers who may be struggling. Additional financial ratios including liquidity measures are available on our website if you're interested.

Speaking of defaults, with this growing financial stress within the sector there has been a lot of interest in farm bankruptcies. This chart looks at the rate of farm bankruptcies, which has been trending upward since 2015. According to data from the U.S. courts, there were 586 bankruptcies in the U.S. in 2019; that's a 22% increase from 2018. In 2020 this equates to a bankruptcy rate of nearly 3 bankruptcies per 10,000 farms. Off proceeding, and then coinciding with this increase in the bankruptcy rates, has been an increase in debt payments when they are measured as a share of production, and this is shown by the debt service ratio on this chart which is in blue. What it means is that from 2014 to 2017 farmers have had to spend or we use more of their production

income to make debt payments, but the share has remained stable since 2017. So, it has not been increasing or is not expected to increase in the most recent period.

Up to this point, I've been discussing farm forecast for the farm sector as a whole, now let's look at farm businesses which are very important subset of all farms. So what is the farm business? We define it 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 – this is income before expenses. There are roughly 951,000 farms that meet this definition, and on this chart, they are represented by the blue and red segments for commercial and intermediate farms. According to data from the 2018 Agricultural Risk Management Survey (ARMS), residents' farms – as shown by the gray bar – account for the majority of all farms, but commercial and intermediate farms account for over 90% of all agricultural production and hold most of the sectors assets and debt. That's why we think they're important to look at. Using data from the 2018 ARMS, we were able to project how the sector level forecasts can be expected to affect farm businesses in 2019 and 2020, and breakdown the forecast for farm business income by commodity specialization and geographic region.

Now looking only at farm businesses, and we're also going to switch over to looking at net cash farm income, which if you recall for the sector as a whole, net cash farm income is forecast to decline in 2020. So, using ARMS we can categorize farms by commodity specialization, and that means 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 decline in 2020, after increasing in 2019. Note, these values are in inflation-adjusted dollars.

All crop farm businesses are forecast to see lower government payments, and higher cash production expenses on average in 2020. Those impacts our greatest for farms specializing in wheat, where average net cash farm income is projected to decreased 27% in 2020. Generally, wheat farmers have a larger share of their gross income that's coming from government payments compared to the other type of crop farms. Average net cash farm income for corn farm businesses is expected to fall in 2020, but to be near its level that it was in 2018. Similar is the story for soybean farm businesses where average net cash farm income is expected to decline in 2020 but to return to levels near levels that or the average that was in 2018

For farm businesses specializing in livestock, the outlook for average net cash farm income is mixed. Farm businesses specializing in cattle and calves, and poultry are expected to see average net cash farm income decline in 2020. This is due to lower government payments and higher cash expenses being forecast in 2020. While farm business specializing in hogs and dairy are forecast to see income increase again in 2020. This is following the expected increases in hog and dairy cash receipts that we've talked about earlier

By looking at how agricultural production is distributed geographically, we can forecast how average net cash farm income for farm businesses can be expected to change in 2020 by resource region. All nine resource regions are expected to see average net cash farm income decrease in 2020 by 4% or more. For all farm businesses in total, average net cash farm income is forecast to decrease 9% in 2020, and again this is reflecting the decrease in net cash farm income for the

farm sector as a whole, and this is after, you know for these farm businesses, we are forecasting an increase in 2019, so this is a decline after an increase.

Farm businesses in the Fruitful Rim are expected to see the smallest decline 4%, due to expected increases in dairy, fruit, and nut cash receipts. Likewise, farm businesses in the Northern Crescent are expected to see smaller declines in average net cash flow um income due to expected increases in dairy receipts. the region's affected most by the forecast to decline in government payments in 2020 are the Northern Great Plains, Mississippi Portal Heartland, and Prairie Gateway, and these are largely the same regions that are expected to see the largest declines in the average net cash farm income.

Up to this point, I've been discussing the forecast for the farm sector as a whole. Now let's look at farm households, because also when we look at farm income or the financial performance of farm businesses, it may not give us a complete or accurate picture of the well-being of households that own and operate farms. This is because farm profits are often shared with other stakeholders like landlords and contractors, and the well-being of the farm operator household is determined by a combination of on farm and off farm activities with the majority of the farm household income generally coming from off the farm. [...] two million farms in the U.S. and we're going to look at the operator farm operator households attached to these family farms. There are over six million people who live in a household attached to a farm.

One measure of their well-being is household income, which is forecast to decrease in 2020 at the median. This chart looks at income earned on farm and off farm, which combined gives us U.S. total household income. Now this chart is in inflation-adjusted dollars. For farm households, median income from farming is forecast to decrease and remain negative in 2020. Now recall that most farms are residential farms, meaning they are small farms, and their primary occupation is not farming. This results in low median farm income. In recent years, slightly more than half of farm households have had negative farm income. Median off-farm income, the middle section of the chart, is forecast to be relatively unchanged 2020 when adjusted for inflation. Off farm income sources include off farm wages, non-farm business earnings, dividends, and any transfer payments or receipts. In total median farm household income is forecast to decline 2.1% in 2020 to 76,590 at the median. This chart illustrates that the majority of farm household income is coming from off farm sources and predominantly off farm jobs. Note that these are medians so they will not add up if you take the farm, the off farm, and then the total.

This chart takes a deeper look at the farm household income, looking at it by type of farm, again in inflation-adjusted dollars. For residential and intermediate farms, total household income, as shown by the red line, tracks very closely with off farm income, as shown by the blue line. And off farm income accounts for essentially all of the household's income at the median. Income from the farm is shown by the gray line and is virtually zero for residents and intermediate farms. For commercial farms, on farm income is more important and is driving the trends in median total household income. Following the sector level forecast for farm income, on farm income for commercial farms is expected to decrease in 2020 and drive the decrease in total household income. One thing in particular that I take away from this chart is that households that run

commercial farms, yes they have the highest total household income, but they also see the most volatility – the year-to-year change – in their income.

The information I presented today is available on our website along with all estimates for prior years. We have data tables, charts, and maps, and written summary of our findings. Our next release is scheduled for September 2<sup>nd</sup>. So, that's a little different, usually we release in late August but this year it's going to be September 2<sup>nd</sup> at which time we will update our 2020 forecast again and we will also convert our 2019 forecasts into estimates, meaning that they're going to be based on more observed and known information. At that time, we will also have new state level estimates for 2019. With that, I will open this up to questions.

All right, thank you Carrie, looks like we have a couple of questions. Question one, why are all crop farm businesses' average net cash farm income forecast to decline when crop cash receipts are forecast to increase?

Yes, thank you for that question. Yeah when we looked at the top half of the presentation, we saw that we are forecasting increase in cash receipts for the sector as a whole, but that increase in cash receipts is relatively modest – at 1% increase, or not quite 2 billion dollars – and when we look at net income and net income for farm businesses, that increase in cash receipts is expected to be dwarfed, or eclipsed I should say, by the drop in government payments, because we are looking at a drop in government payments for the sector as a whole of almost 9 billion dollars in 2020, and additionally on top of that we're forecasting an increase in cash expenses. So, despite higher sales of crops, we think that on average, crop farm businesses are all going to see declines in net cash income in 2020 because of these large drops in government payments as well as an increase in expenses.

Thank You Carrie, our next question is, which is the better measure of farmers cash flow NCFI or NFI?

Yeah, okay, cash flow, that's the important word here. If you're talking about cash flow, looking at like how much money might be available to farmers in that year, in relative to other years, I would say net cash farm income is probably the better measure because it is actually looking at the market transactions that are taking place, how much the farmers are receiving in cash or cash equivalents for their sale of their crops, and how much they are having to outlay for producing those crops, their expenses. Whereas net farm income, I do consider it to be a broader measure because it includes additional things like say, economic depreciation. That is something that a farmer year to year maybe doesn't feel in his pocketbook because it's not a real expense in the sense that he's not paying depreciation every year. He or she will only kind of feel it when they have to replace like a tractor, so in that year it will affect the cash in their wallet for that year. But it's also broader because it includes non-cash income, so it takes into account, you know, the value that farmers get for instance, for living on the farm rather than having to say rent a house separate from the farm business. But if you're interested in cash flow, then the net cash farm income may be the measure that would be preferred

All right, next question. Can you describe the makeup of cash receipts in the Heartland region: percentage of corn, hog, dairy products?



Oh, that's a good question. I cannot do it off the top of my head, but in the Heartland you do... I'm going to bring up this chart so I don't...oh I skipped it here. In the heartland you do have like your Iowa, Illinois, Indiana, so you have a lot of corn and soybeans. You also have, because you especially, because you've got Iowa in there you've got a lot of hogs. If you're looking for a really specific breakdown I would recommend you, there's two things you could, you could look at our state level estimates, and kind of see what states in the heartland, although these regions don't follow state boundaries perfectly, but we also have a publication, it's a little bit dated at this point, where we summarize each region by what kind of what was predominantly grown or raised in that region, and if you email me I'd be happy to send you that link.

All right, we have someone asking if you can tell us your forecast for net cash income for crops versus livestock.

Yeah, I talked about...I can't divide it for the sector as a whole, like I can't say that farm income for crop sector and livestock sector, you know, we can't divide them for the sector as a whole because we don't have expenses for the sector as a whole separated out. So yeah, certainly we have measures of cash receipts by crop and livestock, but when we're measuring things like say labor, we don't have labor at least in our data product as it exists now, we don't have labor expenses for crop production separate from labor expenses to livestock production. So, the next best thing we can do is look at the farm, the average net cash farm income for farm businesses, and I talked about that my presentation looking at the different types of crops, and the different types of livestock. So, but if you wanted to kind of summarize them, pretty easy for crops because for all types of crop farm businesses we're forecasting declines in 2020. So, I would say the outlook for average net cash farm income for crop businesses is that of decline. For livestock, it's mixed because we are expecting cattle farms to decline, and poultry farms to decline, but hog farms to see increases in income, and dairy farms to increases in income. I have not aggregated them, like across, to see what that would come out in net, but given that the increase in livestock cash receipts is pretty significant in 2020 – it's 8 billion dollars – I would expect if we were just to look at livestock farm businesses as a whole, as a one single group, that they would be a forecast increase in net cash farm income in 2020.

Great we have another interesting question here, is there any adjustments made for possible decrease in demand from China due to the epidemic, the corona virus epidemic?

Yeah right, definitely a hot topic, the coronavirus. We did not make any adjustments in our forecast to account for that. It is just too recent of an event to account for that, and it's not really feasible at this point to kind of extrapolate how this virus could affect the AG sector at this point. So, there are no adjustments being made right now.

Another question, are there any particular fruits or nuts that are forecasted to have a strong 2020?

Okay, that's is a good question. For our forecasts, as you can imagine, it's difficult to kind of have apples, literally add apples and oranges together. So I rely on the experts here at ERS who do fruits and nuts, and they provide a forecast for aggregate, you know, aggregate production and

prices for fruits and nuts. So, I do not know if there is any fruit and nut in particular, off the top of my head, that is expected to increase in 2020.

Carrie what is the forecast for working capital?

Yeah working capital, that is an important measure that I like to take a look at and it is forecast to continue to decline in 2020, after decreasing in 2019 as well. Now first I just want to clarify what working capital is. It measures the amount of cash that would be available to fund operating expenses after we paid off any current debt. So that's debt due within a year. So, it's kind of looking at cash flow or liquidity. And the decline that we're expecting on working capital is largely due to increases in current debts. So, people are holding more debt that's due within a year or short-term debt. In 2020 we're also forecasting current assets to decrease, and in particular we're forecasting a decline in financial assets or net accounts receivable and that forecast is somewhat tied to our expected decline in net cash income. So, we think because farmers are going to have less cash by the cash income measure in 2020, that they're going to be able to make fewer investments, or have you know, fewer, really fluid liquid assets.

Okay, another question Carrie. Why do you think there will be additional ad-hoc or disaster relief assistance in 2020 beyond the safety net of the 2018 farm bill?

Yeah, disaster and ad-hoc assistance. Some farmers in some parts of the country are still receiving payments for disasters and events that occurred like in 2018 you know we had a lot of hurricane damage for example in 2018. There is additional natural disasters in 2019 for which farmers may be eligible and receive payments for. So, some of the payments that we're forecasting for 2020 it's just a continuation of that. Especially, like, there was a program, WHIP+ – the Wildfire and Hurricane Indemnity Program that authorized payments for these additional events that have occurred in recent history – so, that's what we're continuing to see in 2020 because this distribution of payments can take a while for people to make the claims and for the claims to be made, and there's still money out there that could be paid out.

Okay. How is the Phase one trade agreement with China expected to affect farm income in 2020? Does your forecast take that into account?

Yes, another very hot topic pertinent question. With the phase one trade agreement with China, we are making very specific or particular assumptions ourselves. In this data product we are using production and price forecasts from the January 2020 World Agricultural and supply Demand Estimates report – the WASDE report – and we get additional crop commodity forecasts from the expert year analysts here, that are experts in their particular crop or livestock commodity. Now those forecasts that we get from them – from the WASDE and from our analysts – do consider, or did consider, they're from January, the phase one trade impacts. So they made some assumptions, but they likely do not reflect the full scope of the impacts because this has just happened so recently. I believe the agreement was signed after the latest WASDE report. There's still a lot to see, like particularly how the markets will react, or you know, what the expectation is for their reaction. So, we are considering it, but the full impact is not known yet. And that's one reason why we issue forecast three times a year is so that we can continue to modify and refine our forecasts as additional information comes available, and being in February

it is still really early to try to know how the implementation of this trade agreement is going to affect farmers in particular.

Carrie, is it unusual for the net cash farm income projection and the net farm income projection to differ?

Excellent question, it is not it doesn't usually happen, so I guess it's unusual in that sense, but it's not completely unheard of. I'm bringing up if you see it, the chart for both income measures back to 2000, and you can see that generally they move in the same direction. In addition to this divergence that we're seeing in 2020, there was a pretty obvious divergence in, I believe that's in 2012. And what we had in 2012 was there was a large extensive drought across the middle of the country, extended to actually large parts of the country, and that significantly affected production. So the value of current production was down in 2012, but what farmers did was they sold additional crops from inventories in 2012 because they wanted to likely helped maintain their cash flow. So, we had a divergence in the two measures there, because of sales from inventories, which is the same reason why we have the divergence in 2020. So short answer is yes, it is a bit unusual, but not completely unheard.

Um okay, where do you show equipment cost, leases and depreciation?

Yeah so, for leases like, so some equipment that they do not own, that shows up in production expenses and we have a detailed [...] and it also might be lumped into other, I'd have to look. But those costs for equipment that they don't own, but that they're renting for instance, or they're hiring somebody to operate, do show up in production expenses. That is both a net cash farm income and net farm income. Depreciation is captured in net farm income only, and it is also considered a production expense, and that's in those tables well. So, we look at the capital expenditures and then depreciate that spending to come up with our depreciation estimates, or capital consumption. I use the terms interchangeably.

Carrie looks like that's all the questions that we have time for. Again, everybody, thank you for joining us. Carrie do you mind repeating when the next Farm Income and Financial Forecast would be again.

Oh I would be happy to, Wednesday September 2nd of this year.

Perfect, thank you again, and thank you Carrie.

Thank you.