

## Webinar Transcript: [Farm Income and Financial Forecasts – December 2020 Update](#)

Good afternoon everyone and welcome to our webinar, Farm Income and Financial Forecast, December 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 the webinar you may enter a question into the chat feature 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 everyone for joining me today. I'm pleased to have this opportunity to present to you the latest USDA data on farm sector income and wealth. The Economic Research Services' Farm 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 release we're updating our calendar year forecast for 2020, to include some new and updated data as it has become available, since our last release on September 2. This includes some additional survey-based data on 2020 production and prices, and we're also using the latest projections from the November World Agricultural Supply and Demand Estimates report – the WASDE report.

So what does our forecast cover? First, we'll start by looking at the farm sector as a whole, which is comprised of two million farms who operate about 900 million acres of land. Next, I'll discuss the income and finances of the approximately 965,000 farm businesses that account for about 90 percent of the total of value of agricultural production in the United States. Lastly, we'll take a look at the well-being of the over six million people who live in a household attached to a farm.

Here's the big summary of our forecast that's being released today, and it's also the order in which I'll discuss the topics today. We are forecasting income to increase in 2020. Both measures are forecast to increase, with net cash farm income forecast to increase almost 23 percent relative to 2019, and that farm income is forecast to increase 43 percent. This is despite an expected decline in cash receipts from commodity sales. Cash receipts are expected to decline about one percent in 2020. So, much of the increase is coming from direct government payments which are forecast to increase 24 billion dollars in 2020, more than doubling. Also contributing to the increase are total production expenses which are forecast to decline about one and a half percent. On the farm sector balance sheet, assets and debt are both forecast to increase, with overall equity rising by about one percent. When we look only at these larger farm businesses, or where farming is the principal occupation of the operator, average net cash farm income for farm businesses is forecast to increase almost 33 percent. Looking at households that own or operate a farm, median total household income is forecast to increase almost five percent in 2020. Note on this slide, the values are nominal, meaning I'm not making any sort of adjustment for inflation. Some slides later in this presentation are inflation-adjusted dollars.

And actually, on this very next slide, I'm looking at inflation-adjusted dollars, meaning that I'm adjusting values for prior years to be consistent with 2020. We have two primary measures a farm sector income. First, the yellow line at the top, that's net cash farm income which includes cash receipts from farming or sales from farm commodities, as well as cash farm-related income, government payments to farm operators, less cash expenses or the expenses farmers incur in order to produce their agricultural commodities. We use cash meaning that there's a market transaction that's something that's observed. Net cash farm income is forecast to increase 21 percent in 2020 when inflation adjusted, this will put it at its highest level since 2014. Net farm income, that's the blue line, is a broader measure of income that incorporates non-cash items like economic depreciation, and accounts for changes in inventories. In 2020, net farm income is forecast to increase 41 percent or 35 billion dollars. This would be the fourth consecutive year of increase in net farm income, and it would put it at its highest level since 2013. Both measures in 2020 are forecast to be well above their average from 2000 to 2019 as shown by the dotted lines. Specifically, net cash farm income is forecast to be nearly 23 percent above its average and net farm income 32 percent above its average.

We derive net farm income by first measuring its component parts or from the bottom up. This allows us to further analyze the forecast change from 2019. This chart is in nominal dollars, not adjusted for inflation, and the increase is largely coming from higher government payments to farm operations. So, in this chart let me explain how we have it set up. On the far left we have the net farm income estimate for 2019 at 83.6 billion, and then on the far right we have the forecast for net farm income in 2020 at 119.6 billion. The bars in blue indicate which components are contributing to growth, and the solar bar in red is indicating what is pulling down income. So, if we start from left to right, crop receipts or crop sales, are forecast to increase 6.5 billion dollars. Next, we make an adjustment to account for changes in crop inventories as net farm income represents income from current production only. Cash receipts combined with this adjustment gives us a measure of the value of crop production for the current year. In 2020 the value of crop production is forecast to increase 15.6 billion dollars. Animal and animal product receipts, which I will sometimes refer to as livestock receipts, are forecast to fall 9.7 billion dollars. Production expenses are forecast to decrease 5.2 billion, this boosts income because expenses are subtracted out in the calculation of net income, that's shown in the blue bar. But the largest contributor to higher income in 2020 are direct government payments to farm operations, which are forecast to increase 24 billion dollars in 2020, and we will talk about this a lot more later.

In a previous chart, we saw that crop cash receipts re forecast to increase while animal and animal product receipts are forecast to decline relative to 2019. In this chart we show what's behind these shifts in cash receipts, through a simulation we can deconstruct the change in cash receipts into a price effect and a quantity effect, in other words we can identify whether changes in prices or quantities sold are driving the change in cash receipts. So, starting from the left, in 2020 total cash receipts, so that's his first group of bars, are forecast to decrease 2.6 billion dollars due to lower prices, so that's the orange bar, and lower quantities sold are expected to decrease receipts by another one billion dollars, that's the blue bar. We have a gray bar here that indicates all other changes and that represents commodities for which data doesn't exist to allow us to separate a price and quantity effect. So, on net, total cash receipts are forecast to fall 3.2 billion dollars or one percent as shown in the purple bar. When we adjust prior years for inflation that would put cash receipts the total at their lowest level since 2009. When we separate crops from livestock, we get

two very different stories. For crops, prices are expected to rise and lead to higher crop cash receipts in 2020. For livestock, the decrease in receipts is coming from expected lower prices for animal and animal products in 2020.

Next, we can look at cash receipts by commodity. Note, these are calendar year forecasts, and this chart is in nominal dollars. We forecast receipts for about 25 different crop commodities or commodity groupings, this chart focuses on the major ones. After falling in 2019, total crop receipts are forecast to increase three percent or 6.5 billion, as I showed you on a previous chart. And this is being led by increases in receipts for fruits, nuts, soybeans, vegetables, and melons, which are expected to offset declines for other commodities. Cash receipts for corn are forecast to decrease about five percent due to expected declines in both prices and quantities sold. Receipts for soybeans, are forecast to increase seven and a half percent, this increase is following declines in the prior three years, and is due to expected higher prices in 2020, or should more than offset lower quantities sold. Receipts for fruits and nuts are expected to see the largest increase at 16 percent, due to higher prices received by farmers for fruits and nuts.

Total animal and animal products cash receipts are forecast to decrease almost six percent or \$9.7 billion dollars, with most commodities expected to see a decrease. This will put them at their lowest level since 2009 when we adjust prior values for inflation. Receipts for cattle, calves, dairy, broilers, and hogs are all expected to decline in 2020 because of lower prices. Receipts for broilers, are expected to see the largest dollar and percent decline following 6.7 billion or 24 percent in 2020. We are forecasting egg receipts to increase 16 percent because of higher prices.

Another component of farm income, or source of income to farmers, are direct government payments, which are payments made directly to farm operations by the U.S. government, without any intermediary. After increasing 8.8 billion or 64 percent in 2019, government payments are forecast to increase by 24 billion, more than doubling in 2020. The expected increase in 2020 is largely because of supplemental and ad-hoc disaster assistance payments for COVID-19 relief, which are included in the purple bar in this chart representing all other payments. Forecast at 32.6 billion in 2020, all other payments includes payments from both of the Corona Food Assistance Programs, CFAP1 and CFAP2, which provide direct relief to producers whose operations have been directly affected by COVID-19. payments from CFAP1 are forecast at \$11 billion, and we forecast that 13.3 billion will be paid out in calendar year 2020 under CFAP 2. Also included in all other payments, the purple bar, are loans from the paycheck protection program administered by the Small Business Administration. Although administered as a loan, these loans will be forgiven if the program's requirements are met. We're treating these loans as direct payment to farmers and forecast them out at 5.9 billion in 2020. This amount may be revised with any unforgiven amounts ending up as farm debt rather than a direct payment. The remainder of all other payments includes other supplemental and ad-hoc disaster assistance, including the WHIP+ program. The pink bar represents payments under the Market Facilitation Program, the MFP program, which are also included in our 2020 forecast. The program was part of an aid package to assist farmers in response to trade disruptions. Most of the payments under this program were received in 2019, but about 3.7 billion was paid out to farmers earlier this year and is included in our 2020 forecast. Payments that are a function of crop prices, as represented by the orange bar, are forecast to increase by about 3.6 billion in 2020, mostly because of higher payments under the Price Loss Coverage Program, as well as ARC, or the Agricultural Risk Coverage Program. In

total, direct government payments are forecast to increase, or to be at their highest level ever in 2020, even when prior years are adjusted for inflation which is what is shown in that blue line. The prior high was in 2000, when payments were at 33.8 billion when adjusted for inflation.

Another source of income to farmers are commodity insurance indemnities, which are payments to farmers for losses covered by insurance. This chart looks at federal net insurance and government payments relative to the rest of net farm income, or the ag sector as a whole, and this chart is in inflation-adjusted dollars. The top peach bar shows indemnity payments paid to farmers, plus the premiums paid by the farmer for federal commodity insurance – or what I’m going to call net insurance payments. In 2020 net indemnities are forecast to decrease about 8 percent. The darker orange bar segment shows direct government payments, as we looked at in the previous chart. In 2020 direct government payments are forecast to account for about 39 percent of net farm income, that is the highest share since 2001, which was at 41 percent. The highest share ever was in 1983 at 65 percent. Note, I think it's important to realize that when looking at direct government payments as a share of net income, it may overstate their importance as a source of income to farmers. Government payments as a share of gross income, that is before subtracting out expenses, is forecast to be 11 percent in 2020. When we combine these federal payments to farmers, the net insurance and direct government payments, they are forecast to account for about 44 percent of net farm income, compared to 35 percent in 2019. The gray bar is net farming from excluding these payments, and it is forecast to increase in 2020 about 21 percent.

Another factor that affects income are the expenses incurred by farmers to produce their agricultural output or production expenses, this includes items such as feed, fertilizer, hired labor. In total, production expenses are forecast to continue to decrease in 2020. This part shows expenditures in both nominal and inflation-adjusted dollars. I think this is a good illustration of what I mean when we say inflation-adjust dollars. So, we're keeping 2020 values for the forecast the same while adjusting prior years upward for inflation. In nominal terms expenses as shown in the blue line, are forecast to decrease about \$5.2 billion or one and a half percent in 2020. When adjusted for inflation expenses are forecast to decrease 2.7 percent or \$9.5 billion. This would mark the sixth consecutive year of decline in total expenses in the inflation-adjusted series, and that's following five years of consistent growth from 2010 to 2014. It puts expenses at their lowest value since 2010. We haven't had a decline in expenses of this magnitude or duration since the farm crisis of the early 1980s.

While expenses are expected to decline in aggregate, there are some expenses that we expect to increase in 2020 relative to 2019. Now this chart is in nominal dollars. This chart compares 2019 and 2020 expenditures by category. Those that are above the dotted lines are expense items that we expect to increase in 2020, while those below are the ones we expect to fall. The largest increases are expected for net rent and property taxes with around seven percent increases. Spending on fertilizer and labor are also expected to increase. Feed, seed, and pesticide expenses are forecast to be relatively unchanged in 2020. So, what is driving down expenses? Well first, interest expenses are forecast to decline 26 percent or \$5.6 billion in 2020 due to lower interest rates – that would put them at their lowest level since 2003 when inflation adjusted. Spending on fuels and oils is forecast to decline 14 percent. Fall in the forecast for lower prices for diesel fuel from the energy information agency. Livestock poultry purchases are also forecast to decline 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, as it provides information on the value of the physical and financial assets, and the level of debt in the U.S. agricultural sector over time. Looking historically, the balance sheet remains strong or at least stable. Farm equity, the green area, is forecast to be nearly unchanged in 2019 in inflation-adjusted dollars, but since 2014 equity has declined 5 percent. The equity is what you have left when you subtract assets from debt. Sorry, debt from assets. Similarly, farm sector assets are forecast to be relatively stable in 2020, increasing just 0.2 percent. However, farm real estate assets, that's the value of land and buildings, which account for about 80 percent of the farm sector's assets, are expected to decrease slightly 0.3 percent. Putting them at their lowest value since 2013. The value of farm inventories, that's the value of crops, animals, and purchase inputs that are left at the end of the year, is also forecast to decline six percent. So, what's helping to stabilize farm sector assets are increases in assets from investments and other financial assets that are held by the farm sector and farmers. Farm sector debt, that's the blue area, is expected to continue to rise and is forecasted to increase nearly three percent in 2020. That would put debt at its highest level since 1981 when inflation adjusted, and the increase is being driven by rising real estate debt, which accounts for about 60 percent of total debt. But the value of farm sector assets still greatly exceeds the level of debt, resulting in farms sector equity of 2.7 trillion dollars.

However, farm sector debt has been growing at a faster rate than the sector's assets. That's illustrated in this chart, which looks at the amount of debt relative to assets and relative to equity, and they're being shown here as percentages. These are solvency ratios, which provide a measure of the sector's ability to repay financial liabilities of loans and debt through the sale of assets. Both ratios have been gradually increasing since 2013 and are expected to continue to increase in 2020. This would be the first time the ratios have increased across eight consecutive years, but the total amount of the increase from 2013 to 2020 is less than what we saw from 1979 to 1985. So, that big spike that you see around the period of the farm crisis of the early 80's. The ratios are about their average for the prior 10 years, that's the dotted line, and have been so since 2015. This puts the sector's risk of insolvency at its highest level since 2002. However, solvency ratios for this sector still rarely remain below the peak levels that we saw in the early 80's and remain low enough to suggest that the likelihood of default across the sector remains low.

This increasing financial stress within the sector is somewhat reflected in the rate of foreign bankruptcies, but liquidity is forecast to improve in 2020. One liquidity measure is the debt to service or debt service ratio, as shown by the blue line on this chart. From 2014 to 2018, the ratio increased each year implying that a greater share of production income was needed to make debt payments, and suggested lower liquidity, that is the amount of capital that is readily available of cash. In 2019, the ratio decreased, and is expected to decrease even further in 2020, largely because of lower interest rates. While the debt service ratio fell in 2019, the farm bankruptcy rate reached its highest level in 2019, highest level since 2010 that is. According to data from the U.S. courts, there are about 585 bankruptcies in 2019. That represented about a 22 percent increase 2018 and it leads to a bankruptcy rate of nearly three bankruptcies per 10,000 farms. Data through September 20 of this year suggest that bankruptcies in 2020 may be a bit lower than they were in 2019.

Up to this point, we have been discussing the forecast for the farm sector as a whole. Now let's look at farm businesses, this is an important subset of all farms. We define a farm business 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 – so that's income before expenses. There are roughly 965,000 farms that meet this definition, and they are represented by the blue and red segments for commercial and intermediate farms. According to the 2019 Agricultural Risk Management survey (ARMS), residence farms, which are those farms where the operator is retired whose primary occupation is not farming, account for just a little over half of all farms. Commercial and intermediate farms account for over 90 percent of all agricultural production and hold most of the sector's assets and debt. So, this is why we think they're important to look at. Using data from the 2019 ARMS, we're able to project how the sector level forecast can be expected to affect farm businesses in 2020, and we can break down the forecast for farm business income by commodity specialization and geographic region.

So now looking only at farm businesses we're going to look at average net cash farm income, which is expected to increase about 31 percent in 2020 when inflation adjusted, and this is after increasing in 2019 as well. So, this chart is in inflation-adjusted dollars. Using ARMS we can categorize farms by commodity specialization, and by that we mean that at least 50 percent 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 by 31 percent or more in 2020. All crop farm businesses are forecast to benefit from higher government payments in 2020. Farm businesses specializing in wheat and cotton are expected to see the largest percentage increase in average net cash farm income, and the average net cash farm income for soybean farm businesses is forecast to increase, but that would still put it below the average that we saw in 2016.

For farm businesses specializing in livestock, most are expected to see average net cash farm income increase in 2020, following higher government payments and lower expenses. Farm businesses specializing in cattle and calves, average net cash farm income is forecast to increase for the first time in six years. Poultry farms are the only category of farm businesses where the average net cash farm income is forecast to decrease in 2020 by 3 percent. As receipts for broilers are forecast to fall more than the receipts for cattle hogs and dairy. Dairy farm businesses are forecast to see the largest increase among the livestock operations, as milk receipts are forecast to decline only slightly or one percent in 2020, but they are also expected to benefit from higher government payments in 2020.

By looking at how agricultural production is distributed geographically we can project how average net cash farm income for farm businesses can be expected to change in 2020 by resource region. And all nine resource regions are expected to see average net cash farm income increase in 2020 by 21 percent or more. Across all farm businesses, average net cash farm income is forecast to increase 33 percent from 2019 in nominal dollars, this reflects the forecasted increase in net farm income for the farm sector as a whole. Farm businesses in the Mississippi portal are expected to see the largest increase at 43 percent, largely because of higher government payments. Similarly, farm businesses in the Northern Great Plains and Basin and Range are projected to increase 42 and 41 percent respectively. The Eastern Uplands is projected to have the lowest increase in average net cash farm income at 21 percent. This region has a lot of small farms, and a lot of part-time farmers. And farms in this region have the lowest level of government payments on average.

Lastly, we're going to look at farm households. Up to this point we've discussed the financial performance of the farm sector as a whole, and farm businesses. But this may not give a complete or accurate 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 operators' households is determined by a combination of on-farm and off-farm activity, with the majority of farm household income actually coming from off the farm. So now we're going to look at all family farms, they account for 90 percent of all the 2 million farms in the U.S., and the households attached to them. There are over 6 million people who live in a household attached to a farm.

One measure of their well-being is household income, which is forecast to increase in 2020 at the median. This chart looks at the income earned on and off-farm, which combined give us total household income. Note this chart is in inflation-adjusted dollars. For farm households, median income from farming increased in 2019, that's the far left, and is forecast to increase again in 2020. The increase in 2019 marks the first year since 1996, that's the first year when the armed survey began, that median household income from farming was not negative. Given the broad USDA definition of a farm, which is any place that produced and sold, or normally would produce or sell, at least \$1,000 in agricultural products during a given year. So many small farms are not profitable, even in the best farm income years. And previously we saw that most farms are residential farms, meaning their primary occupation isn't farming. The forecast increase in farm income follows the sector forecast for farm income, which is reflecting higher government payments to farm operations, largely for supplemental and ad hoc disaster assistance in the face of COVID-19.

Next, we can look at the middle set of bars, which is income coming from off-farm sources, which is where most the household income is coming from. Median off-farm income is forecast to decrease in 2020 about 2 percent. Off-farm income sources include off-farm wage income, non-farm business earnings, dividends, and transfers. The forecast decline in 2020 reflects estimated lost employment and wage income because of COVID-19, which is partially offset by estimated economic impact payments that were received by most U.S. households earlier this year. In total, median farm household income is forecast to increase about three percent in 2020 to just under \$87,000 at the median. Note, the median represents just one farm household at the middle of the spectrum, or you know the middle 50th percentile of farm. There are certainly farm households that aren't expected to spare as well in 2020. And because these are medians, the values for on-farm and off-farm income will not sum up to the total.

This chart takes a deeper look at farm household income, looking at it by type of farms. For residential and intermediate farms, median household income as shown by the blue line, tracks very closely with off-farm income – that's the red line. And all farm income accounts for essentially all of the household income at the median. Income from the farm is shown by the gray line and is nearly zero for residents and intermediate farms. For commercial farms, the box at the right, on-farm income is more important, and it is driving the trends in the immediate household total income. Following the sector-level forecasts for farm income, on-farm income for commercial farms is expected to increase significantly in 2020 and drive the increase in total household income for households attached to a commercial farm. Households connected to a commercial farm do have the highest household income at the median, but they also tend to have the most volatility in their income. Today's release includes new data and analysis on 2019 farm household and financial

indicators and on farm household well-being, so I encourage you to check out our website for more information about farm households.

The information I presented today is available on our website, along with estimates of state-level data for prior years. We have data tables, charts, maps, and a written summary of our findings on our website. We also have tables and maps with our state level estimates through 2019. Our next release is scheduled for February 5, 2021, at which time we will update our 2020 forecast again and put out our first forecast for 2020. So, with that, I will now open it up to questions.

Thank you Carrie. As a reminder, you can use the chat feature located at the bottom left hand corner of your screen to submit your questions. All right Carrie looks like we have a few questions. What are...why is net rent forecast to increase?

Yeah, good question, I did note on a prior slide that it actually was one of the expense item that we expected to increase the most. The answer is kind of a number of factors, how we forecast net rent. We do look at the prices paid index data that we get from the National Agricultural Statistics Service, or NASS here in USDA, that shows a one percent increase in rent through September 2020. And we also look at trends in cropland cash rent, and we look at acres planted which was up in 2020, and we're also considering the change in crop cash receipts because a lot of farms that rent are crop farms and farms that have share rent agreements, the landlord would get a higher rent payment with the increase in crop cash receipts or potentially could. So, it's a number of factors contributing to that increase.

Thank you Carrie, next question. How would the median change for households or farm businesses if ad hoc payments were excluded?

Yeah, um well, without the ad hoc payments certainly income, even at the median, would be lower. I'm not sure if you're specifying, you know, the ad hoc payments that were to farm, like the CFAP – the Corona Food and Agriculture Program? Without those payments the income that they earned from the farm would decline, and if you're talking just about all payments to the household, you know without that economic impact payments, you know, those Covid payments that a lot of households received, their off-farm income would have dropped. I can't quantify it, I can't give you an exact number of what it would look like, but it would be lower.

Thank you Carrie, next question. Why is debt forecast to increase when income is rising?

Yeah, this is a question that I've thought some about, because as I mentioned, I think we're looking at four consecutive years of increasing net farm income, but we also get the same period that debt has been rising. But there is a separation between the balance sheet and the income statement. Farmers may not use additional income or government payments to pay down their debt, especially if interest rates are really low. That provides less of an incentive perhaps to pay down debt. They may put the additional income towards expanding or improving their operations, or they may also put it in the bank, or into other financial assets, or make financial investments. So, it's not a given that they'll use it to pay down debt, especially when interest rates are low.

Thanks Carrie, we have a comment from a viewer, they say thank you for the presentation. Their question is, did you make any specific adjustments for the Iowa derecho?

No specific adjustments, but our data uses...our forecasts are informed by production and price forecasts that come from the World Agricultural Supply and Demand Estimates report, the WASDE report. So, this is a monthly report that comes out. Those projections that are in the WASDE do consider the impact of the derecho on production and prices for the U.S. as a whole. So, there are being taken to consideration. Can we fully account for all the effects at this point? Perhaps not, but they are being considered.

All right someone is asking, what is the difference between ERS and BEA farm income numbers?

Right, that question is right up my alley right because I have worked at both places now, and I worked on the accounts at BEA as well. I think they have more similarities than differences, and the BEA data does rely significantly on the ERS forecasting estimates that I put out, that I've discussed today. The one thing though that BEA doesn't do is a forecast. They do quarterly and monthly stuff, but not forecast for the year. But some of the primary differences have to do with accounting principles, for instance, how do we treat the value that farmers get by living in a house on the farm? In the ERS accounts it's something that we call the gross imputed rental value of farm dwellings, and it's part of net farm income. In the BEA accounts, it's not part of a net farm income measure, but rather it's considered like rental income or housing income that is put in another sector of the accounts. And there are other differences with how the different techniques for measuring depreciation, but depreciation and farm housing are the two biggest. There have been a couple reports put out that go into more detail, and BEA puts out a table once a year that actually breaks down, puts into a table form, the dollar differences by item type between the two sets of numbers.

Thank you Carrie. Next question, what is the farm bankruptcy outlook for 2021?

I do not know; we actually do not forecast bankruptcy officially. I know I included it in a chart that I showed you today, and that chart just looked at what data we had so far through September, and then just kind of forecasted out the last quarter, but it's not an official data product that we produce. In February, in that release, we may have a projection for 2021 bankruptcies, but at this point I don't have one.

Thank you, Carrie. Next question, why is income in the heartland not expected to increase as much as other regions?

Yeah, so we're looking at this map, and we saw that, I believe the heartland has the second lowest percentage increase among the regions. Most of them are fairly closely clustered together so it's not a huge difference, but mostly what I think we're seeing here with the heartland is that they're not expected to have quite as much of an increase in government payments as say the other regions, and we're actually expecting to see cash expenses to increase just slightly in this region. Some of their bigger expense items are fertilizer and net rent, which I talked about earlier, are forecast to increase. So, this region may not benefit from, or may not see lower expenses like we're expecting for the rest of the country. And also, you know, there are a lot of hogs or large hog operations in

this region, and hog receipts have really declined in 2020. It's pulling down or expected to pull down average for that region.

Thanks Carrie, can you walk us through the changes in CFAP2 data in this forecast, versus the September forecast, and how these impact overall government payments?

In September, CFAP2 had not been announced yet. It wasn't even CFAP1 at that point, it was just CFAP. It wasn't announced yet that it was going to be extended, or there was going to be a new version of the program that was going to come out. In the September release we forecast CFAP payments at 16 billion dollars, that was the total amount that was expected or was authorized to be paid out in the original version of the program. Then with this release, CFAP2 was announced, and we saw that the payments under the first program, CFAP1, were less than 16 billion dollars. So, we looked at what has been paid out so far in CFAP1 and forecast that about 11 billion dollars is going to be paid out under CFAP1 in 2020, and then we're forecasting out 13.3 billion in CFAP2 in calendar year 2020. So, you add those together, you get about 23 billion in CFAP total, both programs, compared to what we were forecasting in September at 16 billion. So, if I did my math correctly, that's about a six-billion-dollar increase, more than that, eight billion. Not good at math as I thought in my head. So, we did have an overall increase because of the addition of CFAP2.

Thank you Carrie, our next question is, both net farm income and net cash farm income are important measures, do you consider one more important?

I think they both have their uses, and I don't think I could say one is more important than other. Sometimes people ask me which one to use, and I think it depends on what you're trying to do. Net farm income is the more comprehensive measure because it considers things that maybe there aren't a market transaction for, like it considers the economic depreciation of farm assets, and it and it considers changes in inventory. So, it's trying to get a measure of income from production in the current year only which can be useful. Net cash farm income on the other hand, gives us a good idea of maybe the cash flow that the farm sector or farmers are feeling. So, they're both good measures and I think they both have their uses.

Thank you, Carrie. We have a couple of minutes left so feel free to submit your final questions in the chat feature. Carrie, the next question is, what are intermediate farms?

Sure, I may have not defined them very clearly because I kind of group them with commercial farms, but an intermediate farm is a farm where the primary occupation of the farm operator is farming, but the farm has less than 350,000 dollars in gross cash farm income

It looks like we have time for one more question. You mentioned that direct government payments are a major contributor to rising net farm income, the person wants to clarify, are paycheck protection program loans counted as income towards NFI?

Yes, as of this point, they are, because the way the program was designed was that they were intended to be forgiven, meaning that farmers wouldn't have to pay them back if they met the program's requirements. If they are not, happen to be paid back, then that is equivalent to a direct government payment to the farm operation. If they do, we don't have data yet on what amount of

the loans might not be forgiven, we think it will be low, but when we do get that information then we would revise down um the payments under the PPP program, and then put any loans that weren't forgiven and put them on the balance sheet as debt.

Thank you Carrie and thank you all for joining us today for this webinar. As a reminder, when is the next Farm Income Forecast?

February 5<sup>th</sup>

Awesome, so February. Thank you everyone for joining, thank you Carrie.

Thank you