[Farm Income and Financial Forecasts, August 2023 Update Webinar - YouTube]

Good afternoon, everyone, and welcome to today's webinar *Farm Income and Financial Forecasts, August 2023 Update*. My name is Liz Hills, and I will be your host for today. As a reminder, this webinar is being recorded and will be posted on the ERS website next week. If you have any questions during the webinar, please enter them into the chat feature at the bottom left-hand corner of the screen for our questions and answers session at the end of today's presentation. Today, our presenter is Carrie Litkowski. Carrie is a senior Economist and farm income team leader in the 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. Thank you for joining us today, Carrie. The floor is yours.

Thank you, Liz, and thank you all for joining me today. I was watching the US Open the other night of tennis and there was a plaque, they showed a plaque in the U.S. tennis center with the quote from Billie Jean King. And it really resonated with me as I was doing my final preparations for today's farm income release. The quote is "*pressure is privilege*". So, with that in mind it is my privilege to present to you today the latest USDA forecast for 2023 farm sector income and wealth for the United States. I get the privilege or the pleasure of presenting this data to you on the behalf of an excellent team who put together the estimates and forecasts as well as many other people in the ERS who contributed to releasing the data today and preparing the webinar. So, thank you to all of them.

USDA's Economic Research Service the farm income and finance program measures forecasts and explains indicators of economic performance for the U.S. farm sector, which can be used to gauge the financial health of the sector. We release forecasts three times a year. With this release we've updated our U.S. level calendar year forecast for 2023 to include some new and revised data as it has become available since our last release in February, including some survey-based data on 2023 crop planting, production, and prices. We also including the latest projections from the August World Agricultural Supply and Demand Estimates report, the WADE report. We've also converted our 2022 forecast into an estimate and have now newly available- with this newly available data we're able to produce our first state level farm income estimates for 2022. The new and updated data is now live on the ERS website along with a written discussion of our main findings. So, what does our forecast cover? First, our data covers the farm sector as a whole, which is comprised of about 2 million farm operations which cover about 900 million acres of land. About half those farms are what we consider farm businesses, which are larger farms, and those farms are where the principal occupation of the operator is farming. These farms account for about 90 percent of the total value of agricultural production in the U.S. and we have some additional data and forecasts on their finances. Lastly, we'll look at the well-being of the nearly 5 million people who live in households that operate a farm.

Here's an overview of what we're forecasting for 2023 and what I'll be covering in today's webinar. First, farm sector income reached record highs in 2022 and is forecast to decrease in 2023. Net cash farm income for calendar year 2023 is forecast to fall nearly 27 percent relative to 2022. Net farm income is forecast to fall 23 percent. Driving, one of the drivers behind this decline in farm income are cash receipts, which are a major component of farm income. Cash receipts from both crop and animal and animal products sales are expected to decrease in total about four percent from the record high that they saw in 2022. Also contributing to the forecast decline in net income in 2023 are government payments and production expenses. Direct government payments are forecast to decrease about 19 percent, or almost 3 billion dollars. Total government expenses are forecast to increase about seven percent or almost 30 billion dollars. On the farm sector balance sheet, farm sector assets, debt, equity, are all forecasts to increase in 2023 with equity forecast to increase almost 7 percent. When we simulate how these changes in cash receipts, government payments, and expenses, might affect farm incomes on average, we forecast that average net cash form income for farm businesses, so these are these larger farms or where the occupation of the operator is farming, primarily, is forecast to decrease almost 20 percent to $87,300 in 2023. For those households that operate a farm, median total farm income is forecast to increase two and a half percent to just a little over $98,000 in 2023. Please note that on this chart all the values are nominal dollars so there's no inflation adjustment, but in some subsequent charts I will do inflation adjustments that we can do better historical comparisons over time.

So, this is the first chart that is in inflation-adjusted dollars. So, we're taking two- we're putting prior years we're adjusting them for inflation in order to be consistent with 2023. After strong growth in 2021 and 2022 farm income is forecast to fall in 2023. We have two primary measures of farm sector income, or profits. First, net cash farm income, which is the top yellow line, it includes cash receipts from farming or the sales of farm commodities. As well as cash farm related income and government payments to farm operators. Less cash expenses, or the expenses that farmers incur to produce their agricultural commodities. By cash, I just mean there's a market transaction. In 2022, net cash farm income increased nearly 27 percent from 2021. Putting it at its highest level on record in the inflation-adjusted series which goes back to 1929. In 2023, net cash farm income was forecast to decrease nearly 29 percent or almost 61 billion dollars. Net farm income is the blue line. It's a broader measure of income that also incorporates non-cash items like economic depreciation and it accounts for changes in inventories. Net farm income increased 22 percent in 2022 to its highest level on record. In 2023, net farm income was forecast to fall 25 percent or 48 billion dollars. Despite these expected declines, both measures in 2023 are forecast to remain above their 20-year average. So, their average across 2003 to 2022.

To forecast net farm income, we first forecast its component parts, or we forecast it from the bottom up. Which allows us to identify what is driving the change in income from 2023 uh- from 2022. This chart I'm going back to nominal dollars, so no inflation adjustment, and several factors are contributing to the forecasted decline in income in 2023. So, in this chart, we have on the far left the net farm income estimate for 2022 at 183 billion dollars. On the far right, we have the net farm income forecast for 2023 at 141.3 billion dollars. The bars in red indicate which components are pulling down income in 2023, while the blue ones indicate what would be pushing income up. So, if we work left to right crop cash receipts are forecast to fall 11.2 billion dollars. When combined with the change in inventory adjustment for crops, the value of crop production is forecast to decrease 0.8 billion dollars, that's less than a one percent decline. Now in the net farm income measure we remove sales from inventories as net farm income represents income from current production only. In 2022, about 13 billion dollars in crop receipts or sales were from inventories and in 2023 we're forecasting sales from inventories to be much lower at about- almost three billion dollars. Thus, resulting in a higher, or a positive, inventory adjustment relative to 2022. Animal and animal product receipts which I refer to as livestock receipts are forecast to fall 11.9 billion dollars with just a small adjustment for changes in inventories. Production expenses are forecast to increase two points or 29.5 billion dollars in 2023 which would lower net farm income because we subtract out expenses in the calculation of net income. Additionally, government payments are forecast to fall 2.9 billion dollars and all other changes represents the forecast increase in farm related income of 2.3 billion dollars. So, in total, in nominal farm- net farm income is forecast to fall 41.7 billion dollars in 2023. We can- the primary factor behind the expected decline in cash receipts in 2023 is lower prices received by farmers for their commodity production. 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. Starting from the left, in 2023 total cash receipts are forecast to fall 20 billion dollars just due to lower prices, that's the blue bar. With a smaller change due to lower quantities sold on net, and that's the red bar. In total, cash receipts are forecasted to decrease 23 billion dollars, which is the green bar. Most of the decline in quantity sold is from animal and animal product receipts in 2023 but still most of the decline in livestock receipts is due to lower prices. For crops, nearly all the decline is due to prices.

We can also look at cash receipts by commodity. Note these are calendar year forecasts, not crop year marketing year forecasts, and the data is an inflation-adjusted dollars. We forecast receipts for about 25 different crop commodities or commodity groupings and estimate even more. This chart focuses on some of the major crops. Total crop cash receipts are forecast to decrease seven percent in 2023. Receipts for corn, soybeans, cotton, fruits and nuts, and wheat are all forecast to fall in 2023 relative to 2022. The largest percent decline is forecast for cotton at nearly 21 percent, following lower forecasted prices and quantities sold for cotton. Receipts for vegetables and melons are forecast to increase 12 percent as quantities sold and prices are forecast to increase in 2023.

For additional historical perspective this chart looks at corn and soybean cash receipts since 2003. In 2022, soybean cash receipts reached a record high while corn cash receipts were just a bit below, three percent below, their record high in 2021. In 2023, soybean and corn receipts are expected to decline, yet remain well above their 20-year average. As I said before, our forecasts are for the calendar year. So, receipts or sales in 2023 for crops that can be sold- stored, like corn and soybeans, will come from crops harvested in 2022 but sold in 2023 and also crops harvested and sold in 2023. So, it's a mix of crop year production that's being sold in 2023.

Total animal and animal product cash receipts are forecast to decrease eight percent in 2023. On this chart, cash receipts for most of the animal and animal products are forecast to fall. Receipts for broilers are forecast to fall after reaching a record high in 2022. The largest decline is forecast for milk with a decline of 13 billion dollars or 24 percent from 2022. This is due to expected drop in milk prices in 2023. Receipts for cattle and calves are one of the bright spots in terms of cash receipts in 2023. They are forecast to increase almost 14 percent following projected higher prices received for cattle and calves in 2023.

Government payments are another source of income to farmers. We define them as payments made directly to farm operators by the federal government generally from farm programs. We record them in the year in which they were received by farmers. Government payments reached a record high in 2020 at 45.6 billion dollars in nominal dollars. This was largely due to COVID-19 related assistance, as shown by the purple bars, for USDA and non-USDA pandemic assistance. This includes payments from the Corona Food Assistance Programs and other USDA pandemic assistance pay directly to farm operators adversely affected by COVID-19. And it also includes non-USDA pandemic assistance in the form of the Small Business Administration's Paycheck Protection Program loans, which were largely forgiven. USDA pandemic assistance received in calendar year 2022 and in 2023 is expected to be minimal. In 2022, more than half of the government payments total was from other supplemental and ad hoc Disaster Assistance which is represented by the gray bar in this chart. This includes payments from programs such as the Emergency Relief Program, the Livestock Forge Program, and the Wildfire Hurricane Indemnity program. These supplemental ad hoc payments totaled about 11 billion dollars in 2022 and our forecast to decrease to nearly 8 billion dollars in 2023. Payments that are a function of commodity prices as represented by the orange bar segment are expected to remain low in 2023. In recent years this category largely represents payments from the Agriculture Risk Coverage Program, the Price Loss Coverage Program, and the Dairy Margin Coverage Programs. Conservation payments, that's the green bar, are forecast to increase 10 percent in 2023. The gray line in the chart shows inflation-adjusted total direct government payments in 2023 dollars. Payments across 2003 and 2022, so in the past 20 years, have averaged nearly 20 billion dollars, when inflation adjusted. In 2023, government payments would be below that average but near the levels that we saw before 2019.

This chart looks at government payments relative to the rest of net farm income. It also includes another source of income to farmers, Commodity Insurance Indemnities, so these are payments to farmers for losses that are covered by insurance, in this case particularly federal insurance. This chart is in inflation-adjusted dollars the top peach bar shows indemnity payments paid by the farmer- sorry indemnity payments received by the farmer less premiums paid by the farmers for federal commodity insurance. So, for short I'll call these net insurance payments. Net insurance payments are forecast to remain stable at 10 billion dollars in 2023. The darker orange line- orange bar segment shows direct government payments which I talked about in the previous slide. So, that's those are the same values there but in just for total. In 2023, uh well the gray bar, sorry, represents net farm income excluding that insurance and direct government payments. In 2023, net farm income less net insurance and government payments is forecast to fall 27 percent yet remain near its 2021 level.

Next, let's look at production expenses which are the cost incurred by farmers to produce their agricultural output or, you know, their input the production inputs. This includes items such as feed, fertilizer, and higher labor. This chart shows total expenditures, cash, and non-cash expense- expenses, in both nominal and inflation-adjusted dollars. In 2022, total production expenses increased 59 billion dollars or 15 percent relative to 2021, in nominal terms. In 2023, we're projecting that total expenses will increase another 29 billion dollars or 7 percent. When adjusted for inflation, expenses are forecast to increase three percent or about 15 billion dollars. Which would still have them below the record high that we saw in 2014.

Most major categories of spending are forecast to increase in 2023, relative to 2022. This chart is in nominal dollars, and it compares expenditures by category for the last two years with those items above the dotted line expected to see increases and those below the line expected to decrease. Interest expenses are at the top of the list and are projected to see the largest dollar and percentage increase in 2023. We're expecting a nine billion dollar increase from 2022, which is about 38 percent. As interest rates and debt levels are expected to continue to increase in 2023- or increase in 2023. And I'm going to look a little more at that in the next slide. The next largest forecast increase is for livestock and poultry purchases at 22 percent. Feed is the single largest expense category and in nominal dollars is forecast to increase three percent which is about the same as the projected inflation rate. So, when adjusted for inflation, well when adjusted for inflation feed expenses were at a record high in 2022 and they're expected to remain at about that same level in 2023. Spending on fertilizer and fuels and oils are forecast to fall in 2023. Fuels and oils are expected to fall about 13 percent following the energy information agencies short run energy outlook for lower diesel and gasoline and natural gas prices in 2023.

Despite lower expected income in 2023, the farm sector balance sheet is forecast to improve or strengthen by some measures in 2023. The balance sheet provides information on the value of assets, both physical and financial, and the level of assets that are held by the sector over time. And it's another tool that we can use to measure or gauge the health of the farm sector. Farm sector equity, or the difference between assets and debt, is shown by the green area and has increased every year after 2019. It increased three percent in 2022 and is forecast to increase another three percent in 2023. Meaning that equity is forecast to have increased 15 percent since 2019 in inflation-adjusted dollars, which is what we have on this chart. This increase over time, and in 2023, largely reflects annual increases in the value of farm sector real estate assets which represents about 80 percent of total farm sector assets. The amount of debt held by the farm sector, which is shown by the blue area at the bottom of the chart, has grew every year from 2013 to 2021 in inflation-adjusted dollars. But it did fall two percent, or about 12 billion dollars, in 2023. It's a little hard to see that on the chart but that is a decline. In 2023, it is forecast to rise, that is total debt, a rise about one percent, or seven billion dollars, following higher real estate debt levels in 2023.

Changes in the balance sheet have implications for farm sector solvency and other measures of the financial performance and financial stress. This chart looks at debt relative to assets and equity, shown as a ratio or as a percentage. These are solvency ratios which provide a measure of the sector's ability to repay financial liabilities that's their debts or loans through the sale of assets. These ratios started to improve in 2021, as indicated by declining values, and are forecast to continue to improve in 2023. This would put them slightly below their average over the past 10 years and that's the first time they would be below their average since 2014. It is important to note that these solvency ratios are for the sector as a whole. There's a lot of variation in the amount of debt held by individual farms. There are additional financial ratios including liquidity measures and efficiency measures that are available on our website.

Two other indicators of financial stress in the sector are bankruptcy rates and the debt service ratio. First, the bankruptcy rate. After 2019, the farm bankruptcy rate has been trending down. In 2021, chapter 12 bankruptcies fell about 50 percent and then, so another 42 percent in 2022. According to data from the U.S. Courts. In 2023, we're projecting bankruptcies to be very near the 2022 level based on filings through June. Which means that the bankruptcy roommate- rate is expected to remain at less than one farm bankruptcy per 10,000 farms. The Debt Service ratio, as shown by the light on this chart, describes the share of production income or gross income needed for debt payments and is one measure of liquidity, or the amount of capital readily available as cash to farm operations. This ratio has been trending down and lower is better, suggesting improved liquidity. But it is forecast to rise in 2023 as the value of agricultural production, or production income, is forecast to decline in 2023 and interest expenses are forecast to rise. Meaning that more production income is going to go- need to be going towards making debt payments in 2023.

Up to this point, I've been discussing the forecast for the farm sector as a whole. Now let's look at farm businesses which are 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 dollars, or more, in gross cash farm income before. That's income before expenses. About half of all farms meet this definition and they're represented by the blue and orange segments here for commercial and intermediate farms. While residence farms are shown in gray are those farms where the operators retired or whose primary occupation is not farming and have low income on net gross income. But while these commercial and intermediate farms only make up about half of all farms they account for over 90 percent of all agricultural production and hold most of the sector’s assets in debt. Using farm level preliminary data from the 2022 ARMS, were able to do a microsimulation and project how average income levels in 2023 based on the forecast for the sector as a whole. And we can break down the forecast for farm business income by commodity specialization and geographic region. So, we're going to shift perspectives here a bit and look only at about 50 percent of all farms, farm businesses, and look at their average net cash farm income levels. So, let's start by looking at farm businesses that specialize in crops. Note these are in inflation-adjusted dollars. Using ARMS, we can categorize farms by commodity specialization, where ARMS is the Agricultural Resource Management Survey. And commodity specialization indicates that at least 50 percent of the value of production comes from a particular commodity. On average, farm businesses regardless of their specialization or geographic region are expected to see cash receipts decline and production expenses rise in 2023. And this is expected to result in lower net cash farm income in 2023 for all types of farm businesses specializing in crops in inflation-adjusted dollars. The largest decline is forecast for farm businesses specializing in cotton with cotton receipts forecast to see the largest percent decline in 2023, as we talked about earlier for the sector as a whole. While farm businesses specializing in specialty crops that's fruits, nuts, vegetables, melons, greenhouse, nursery, are forecast to see the smallest decline in average net cash farm income as growth and vegetable receipts should just somewhat offset lower cash receipts for other commodities, such as fruit, and higher production expenses.

For farm businesses specializing in animal or animal products, we project that farm businesses across most specializations will see average net cash farm income drop in 2023. Dairy farm businesses are forecast to see the largest decrease in average net cash farm income in 2023, after increasing in each of the prior four years. This reflects expectations that after increasing in 2022, milk prices will fall in 2023 because of lower prices for milk as received by farmers. One exception to declining income in 2023 is for farms that specialize in cattle and calves. Average net cash farm income for cattle and calf farm businesses is forecast to increase 32 percent in 2023. As prices received for cattle are expected to be higher in 2023 than in 2022.

We can now project how average net cash farm income for farm businesses can be expected to change in 2023 by resource region by looking at how agricultural production is distributed geographically. Across all farm businesses, average net cash farm income is forecast to decrease 20 percent from 2022, in nominal dollars, so this is this map is in nominal dollars. Farm businesses in the Northern Crescent are projected to see the largest decline at 38 percent. This region leads the nation in milk production, so the forecast decline in milk receipts would affect this region, or farms in this region, the most. In Eastern Uplands, average net cash farm income is forecast to increase slightly one percent in 2023, in nominal terms. Growth in cattle receipts are projected to offset declines in crop receipts and higher expenses, but just barely. This region has a lot of smaller farms and a lot of cattle farms, and it has the lowest- lowest average net cash farm income of all of the regions.

Up to this point we've discussed the financial performance of farm operations. But this may not give a complete picture of the well-being of farm households that own and operate farms. Farm profits are often shared with other stakeholders, like landlords or 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 generally coming from off the farm. So, in these next two slides we're going to look at family farms which accounted for about 98 percent of all farms in 2021 and the households of the farm operators of those farms. Nearly 5 million people live in household attached to a farm.

One measure of the wellbeing is household income. Farm households typically receive income, as I said, from both farm and off farm sources. This chart looks at median farm income, off-farm income, and total household income. Note that the median represents the income level with at- which about half of the households have lower incomes and half of have higher incomes. This chart is an inflation-adjusted dollars. At the median, income earned on the farm is low and it's forecast to fall to negative 880 dollars, at the median. Meaning that the median farm household operation is losing money from the farm or operating the farm at a loss. But recall that half of all farms are residential farms and residential farms, by definition, are small farms where the primary patient of the operator is not farming. So, this results in low and usually negative farm ingredients. Therefore, many farm households rely primarily on off farm income. Off farm income sources include off-farm wage income, non-farm business earnings, dividends, and transfers. Median off farm income is estimated to have decreased in 2022 and is forecast to remain relatively stable when inflation adjusted in 2023. Total farm household income, so that's the last set of bars on this chart, at the median is also forecast to remain relatively stable in 2023. Note, because farm and off-farm income are not distributed identically for every farm, median total income will generally not equal the sum of median off-farm income and medium farm income.

This chart looks at farm household income by type of farm that the household operates. For households attached to a residential and intermediate farm, median total household income is- tracks very closely with off-farm income. And off farm income accounts for essentially all of the household income, at the median. For households attached to commercial farms, on-farm income is more important, and it drives the trends in total household income at the median. On-farm income for commercial farms is expected to decrease about 21 percent in 2023 and is driving the forecast decline of 13 percent in total household income, at the median.

The information I presented today, and more, is all available on our website. We have data tables, charts, and maps, and a written summary of our findings. Also, please check out our website for our new state level estimates for 2022. A lot of this kind of information that I present be- presented today is available at the state level, at least through 2022. Our next release is scheduled for November 30th, at which time we will update our 2023 forecast again. So, with that, I am going to turn it back over to Liz for any questions.

Thanks, Carrie. Let's go ahead and open the floor up for questions now. As a reminder, questions can be submitted through the chat feature located at the bottom left-hand corner of your screen.

All right Carrie, for your first question: what led to record high net cash farm income and net farm income in 2022?

In short, it was largely record-high total cash receipts in 2023. Even after adjusting for inflation, they increased 23 percent or 100 billion dollars in 2022. This was greater, even though production expenses also grew in 2022, this increase in cash receipts was greater. In aggregate prices received for commodities, as reported in the NASS index for prices received, in 2022 we're at an all-time high and a lot of commodity prices were also in that corn were at record highs in 2022. Thus, contributing significantly to the record high that was that we saw in 2022.

Thanks, Carrie. For your next question: is the forecast for dairy farm businesses the lowest it's ever been? Why is that?

Yes. We have these average net cash farm income data by commodity specialization back to 2011 or 2012 on our website. So, we don't have a super long history of this data, but it is the lowest that we have on record and largely, you know, it really comes down to dairy receipts. You know, dairy receipts are forecast to fall to their lowest level since 2018. So, that's their lowest level in five years. And feed expenses are expense- are expected to remain elevated in 2023, or a record high in 2000- you know following their record high in 2022. So, both lower receipts you know still high expenses are you know narrowing their margins here. And that is, you know, primarily- you know, specifically to go just a little more detail. To project out dairy receipts we are looking at the WASDE price projections for milk and they're forecasting that milk prices will fall about 21 percent in 2023 from their average in 2022.

Thanks, Carrie. For your next question, this one is referring to the summary slide at the start of your presentation: but could you describe the difference between points number six and number seven on the summary slide.

Sure, I think I can click to that slide real quickly. So, six is looking at average net cash farm income for the farm operation. So, just the income earned, the net income on average earned, by the farm operation. And it's only looking at farm businesses, so it's only looking at farms where the primary occupation of the operator is farming, or they have 350,000 dollars or more in gross cash income. So, these are generally your larger Farms. Point seven on here is talking about household income. So, here we're looking at the- there's about 98 percent of all farms, or family farms, so we're looking at 98 percent of all farms that are run by a by a family. And we're looking at the total household income and they can get that household income from more than one source. They can get it from the farm, or they can get it from the off farm like from an off-farm job, or non-farm business, or you know transfer payments. So, there are two very yeah, and this one's also, number seven, it's also looking at the median whereas number six was looking at the average. So, the two different kinds of measures to try to get it what is- what is the typical so, first for the household income we're taking the median as prop as the representation of the typical farm household.

Thanks, Carrie. For your next question: could you provide more detail on the methodology for inventory adjustment calculations?

Sure. I'm gonna try not to get too in the weeds for this. So, I'm going to try to take my time a little bit, so I don't rush into an answer. But we do an inventory but- it's easier to talk about with crops because that's where we have most of the inventory change adjustment. So, I'll use that as an example and I'll use, let's say corn, as an example for the inventory adjustment because we calculate the inventory adjustment separately for each of the commodities that have an inventory adjustment. So, for corn what we do is we look at what was produced or what was harvested in every year and then NASS produces data on what on their monthly marketing patterns, or monthly marketing percentages. Which indicates how- of what was harvested in a given crop year, so say what was harvested in September of 2022, how much was sold each month, across the next 12 months after the harvest date. So, it's not a calendar it's a- it's a marketing calendar, not a calendar year. So, it looks at the 12 months and says you know how much was sold in each month. So, we take these production, you know, this production quantity for the marketing or for the harvesting allocate it to the months using these monthly marketing percentages and that gives us basically monthly cash receipts, or at least monthly cash receipt quantities for- for a given commodity. And then we can sum those quantities by calendar year. And then, to get the inventory change we look at the- what was left over at the end of each year, like for year what was- what was left over December at the end of December, December 31st from 2022 relative to December 31st of 2023, to give us the quantity inventory adjustment for 2023. But essentially what we're trying to do is figure out what percentage, this is probably an easier way of putting it, what percentage of, or what amount of the crops that were sold in a particular calendar year actually came from the prior year's harvest and not the current year's harvest. But feel free, I mean feel free to follow up with me offline with this question it is it can be rather complicated, but I hope that helps.

Great. Next question is: can you please talk about the broiler prices, excuse me let me start over Carrie. Can you please talk about why broiler prices are expected to decline?

Yeah, again, we saw record high broiler receipts in 2022 largely due to prices, I believe. And in 2023, in order to do our forecast, we looked at the WASDE projections for 2023 which were also that prices would fall. So, that's where that decline is coming from is largely from the WASDE projections of broiler prices in 2023.

Thanks Carrie, and our next question is: what is the driving force of cow calf, of the cow calf increase?

Okay, this probably can relate to two different slides, but I'll take it as we are forecasting cattle and calf cash receipts to increase in 2023 and we're also forecasting that farm businesses that specialize in cattle and calves will see an increase in average net cash farm income in 2023. And again, this is like- I'm going back to the WASDE projections because we do rely very heavily on those and this is the idea the WASDE data is for higher prices for cattle and calves in 2022, on average, relative to 2023. So, specifically WASDE projected that average steer prices would be 144 dollars per 100 weight in 2022 and therefore- they're projecting that in 2023 this will go up to 178, almost 179 dollars. And that's there's more than just steers in here too but that's just an example of some of the price expectations that we have. ERS recently released an outlook for cattle and calves and other meat animals which is available on our website that might provide more insight into what's really happening in this portion of the farm sector.

Thanks Carrie, and our next question is a clarifying question: but what is a cash receipt?

Yeah, I'd probably use that ruler word a little too casually maybe cash receipts are sales. So, they are cash sales of agricultural commodities and they're- they're they represent sales at the farm gate so that the point at which the commodity leaves the farm, in essence. So, there's sales. I think you can consider them equivalent to sales.

Thanks, Carrie. We've spoken a bit about the WASDE forecast, does this update use the July or August WASDE?

It used the August WASDE.

Thank you. Our next question is: which index do you use to adjust the expenses for inflation or receipts?

Okay, I'm going to assume this is referring to our overall inflation adjustment that I showed in a lot of the charts. So, yeah when we do inflation adjustment for the farm sector and income wealth statistics, we have one inflation adjustment series that we use. We use the GDP, the Gross Domestic Product price index from BEA for, you know, historical data to measure inflation and then you know you'll know I had, you know, I'm assuming we have to forecast out inflation for 2023 because we're not fully done with that year yet. So, our forecast for the 2023 GDP price index comes from Oxford Economics

Thanks, Carrie. Our next question is: On the government payment slide, does the gray all other bar include loan forgiveness?

Yes, I'm going to double check- triple check that. Yes, it does. So, and the loan forgiveness which was authorized by the Inflation Reduction Act that is included in the gray bar for all other.

Great thanks for clarifying. So, this question is about slide six and it is: is the slide inflation adjusted or nominal?

This slide is nominal because we didn't want the inflation adjustment to kind of mess up with the story, so this is just looking at, you know, changes in nominal or unadjusted dollars.

Got it, thank you. Our next question is: so, if you're saying that cash receipts are down does that just mean that prices are down?

In aggregate, that's largely the story. That it's, you know, we're on the right side for that question. That, you know, cash receipts are forecast to fall 23 percent. We, you know, through our simulation we estimate that the prices alone are accounting for 20 billion dollars of that decrease. So, it is largely a price story, but prices have fallen in aggregate in 2023. Of course, there are always exceptions there's some commodities where prices did increase, I believe, but for the most part the prices fell in 2023. And that was largely at the quantities there was some drop in quantity sold, or production, but in net, again, but not nearly as notable as the price and drop the decline in prices.

Thanks Carrie. Our next question is: when will you have a forecast for 2024?

Great question. These we do just do short run forecasts; we're not doing any long-term forecasts. So, our first forecast from the farm income and wealth statistics will be in early February of 2024, that's when we'll have that first one. Also, we're going to continue to update our 2023 forecast with that release.

Thanks Carrie. Our next question is: your summary showed a decrease in government payments, does your forecast include Inflation Reduction Act payments and if so, how much is included forever date, excuse me, for Inflation Reduction Act and for conservation.

Right, we do. Any Inflation Adjustment Act one that, I think we talked about this in a previous question, there was money authorized, or spending authorized to for loan forgiveness for distressed borrowers. That is included in total direct government payments, specifically it's in the gray bar for all other. I couldn't tell you off the top of my head, we don't have it itemized though, we have that all other category for- for supplemental and ad hoc disaster assistance. It's an aggregate, we don't have it itemized but that total is available on our website in our government payments table. We do have conservation payments itemized on our table and those are included as well in total direct government payments. Again, I can't tell you off the top of my head what we're what the forecast for 2023 conservation is, but we are forecasting that conservation payments will increase 10 percent in 2023. But if you're interested in government payments, I do recommend you- you see our government payments table which has more detail than what you see on this chart, it gives a bit more of- a little more detailed breakout of the different types of government payments.

Thanks Carrie. We have just one or two more questions for you today. The next one is: how has high inflation impacted Farmers. Are input prices high?

Yes. Generally, some input prices do remain high or are expected to remain high in 2023. For instance, feed, livestock and poultry purchases. In aggregates, the price is paid by farmers for production inputs increased dramatically in 2021 and 2022 but, they have since stabilized. Yet they remain high I think in part because inflation remains high. The forecast increase in interest expenses, which I talked about, which had the largest increase in 2023 reflects to some degree the impacts of continued inflation through 2023. I do think it's interesting that price is received by farmers so how much, you know, have followed a similar trend. But so far, through 2023, they have been lower the prices that they received lower than what they had got on average in 2022. So, inflation is still affecting farmers. This is the short answer. Which is which is reflected in the high production expenses for 2023.

Thanks Carrie. Thank you for that response and that's all we have time for in regard to questions today. Thank you again for your presentation on the *Farm Income and Financial Forecasts, August 2023 Update* and thank you to all of our listeners who took time out of your day to join us, we hope that this has been helpful.

If you enjoyed this webinar or interested in learning more about ERS research we have another upcoming webinar next week on our *International Food Security Assessment*, *2023-2033* report. This webinar is scheduled for next Thursday September 7th at 1 p.m. and you can register by going to www.ers.usda.gov/conferences.

Before closing, I'd like to share a few ways to stay up to date on ERS research. In addition to our website, we also have our chart of note mobile app which delivers digital snapshots of ERS research delivered straight to your mobile device. ERS is also on social media, and you can follow our account on LinkedIn and X, formerly known as Twitter. Thank you all for joining us today and this concludes our webinar.