Idaho Economic Forecast

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Division of Financial Management
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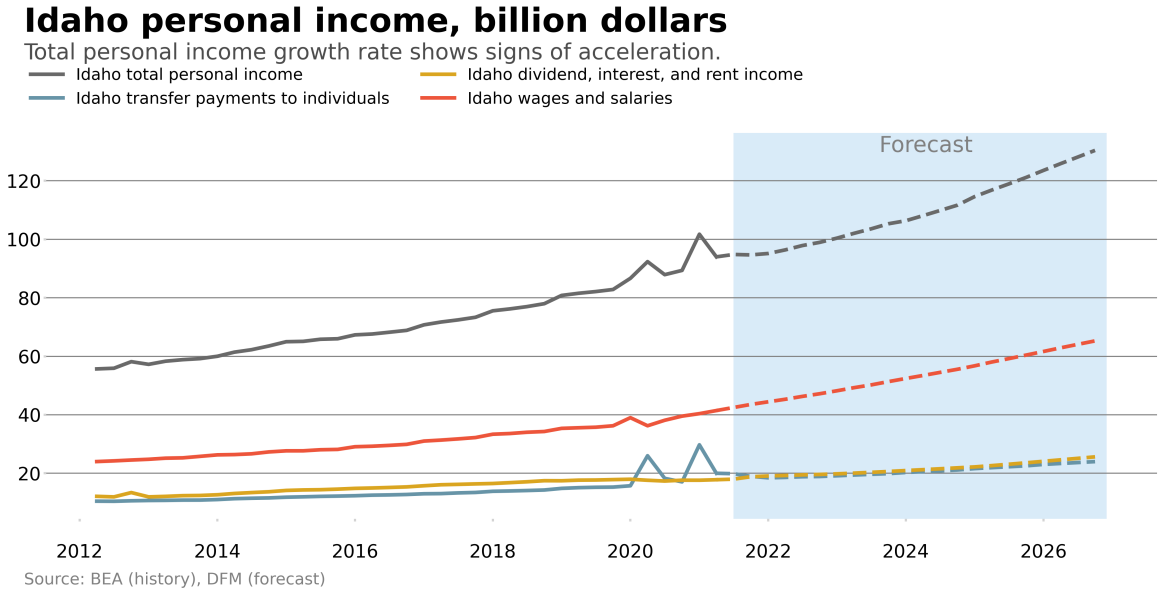
- **Forecast begins the fourth quarter of 2021**
- **Alternative forecasts**



Idaho Economic Forecast 2021–2026

State of Idaho
BRAD LITTLE
Governor

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Introduction

This document summarizes Idaho's economic forecast for 2021 third quarter through 2026. The primary national forecast in this report is the November 2021 IHS Markit (IHS) baseline forecast. The Idaho economic model takes this national forecast as an input.

Alternative assumptions concerning future movements of key economic variables can lead to major variations in national and/or regional outlooks. IHS examines the effects of different economic scenarios, including the potential impacts of global economic conditions, higher inflation, and future Federal Reserve Open Market Committee decisions. Alternative Idaho economic forecasts are developed under different policy and growth scenarios at the national level. Three of these forecasts are included in this report.

The Idaho Department of Labor provides monthly historical employment data that are then seasonally adjusted and converted to quarterly frequencies by DFM. For this report, historical employment data is complete through the second quarter of 2021.

Historical and forecast data for Idaho are available. These are now provided via link within this pdf document. We are appreciative of the State Controller's office for cooperation with posting the data through its Transparency Idaho website and will update as that link becomes available.

The Idaho economic forecast has typically included an article from one of the Federal Reserve Banks. In this edition we continue to suggest that as an educational resource to readers. The relevant link is https://www.frbsf.org/economic-research/publications/economic-letter/ for the Federal Reserve Bank of San Francisco. Recent research letters have addressed "Labor Productivity in a Pandemic" and "Effects of Asset Valuations on U.S. Wealth Distribution", among other interesting topics.

Readers with any questions should contact Greg Piepmeyer or Saruul Khasar at (208) 334-3900 or via email using greg.piepmeyer@dfm.idaho.gov or saruul.khasar@dfm.idaho.gov.

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This Idaho economic forecast uses the November 2021 edition of the IHS forecast of the US economy. DFM runs the Idaho economic model based upon this national forecast to produce Idaho's economic forecast.

Summary

Near term. The US Congress has avoided a debt default, a partial governmental shutdown, and funded the Infrastructure Investment and Jobs Act.

Inflation, which had been consistently below the Federal Reserve's 2 percent target since the prior recession, continued to be so through 2020, but 2021 brought higher inflation, with figures above any recorded since the mid-to-early 1980s. The Federal Reserve pivoted from its November meeting to its December meeting. The former indicated a gradual unwinding of active support for the bond market. The latter indicated an accelerated unwinding, and that subsequent short-term rate hikes are now likely in 2022, rather than late in 2023, which had been the anticipation this past autumn. IHS continued to presume that the first rate hike would be in March 2023 in its November US economic outlook, largely following the forward guidance from the Federal Reserve in November.

Freddie Mac[1] has found that the monetary accommodation in effect across much of the pandemic has had benefits at lower income levels: "The median income of refinance borrowers in 2021 has declined relative to 2020, indicating that lower-income households are increasingly taking advantage of low interest rates and reducing their payments by refinancing their mortgages."

The Omicron variant of the coronavirus was discovered, and it has now become the dominant strain in several countries, replacing the Delta variant. The same is true within parts of the US, though, not yet within Idaho, at least via the data provided on coronavirus.idaho.gov.[2]

Indications from Mastercard are that US consumers resumed their holiday buying habits, including the pre-pandemic habit of shopping in person.[3] In person spending increased 8.1 percent over the 2020 level, online shopping increased 11 percent, and overall spending increased 8.5 percent.

The US stock market indices most commonly cited closed 2021 near record levels, having risen by 22–29 percent. Mortgage rates (30-year, fixed) opened the year near 2.7 percent and closed the year near 3.1 percent. The US unemployment rate fell from the January 2021 reading of 6.3 to the December value for the nation of just 3.9 percent.

[1] Link provided later in this report where further details are discussed.
[2] National and international information continues to be provided by The Johns Hopkins University. coronavirus.jhu.edu/map.html
[3] mastercard

The most recent Idaho unemployment rate was 2.6 percent (in November), and the rate began the year at 3.5 percent. The BEA provided some new regional data indicating that Idaho remains one of the less expensive states, at least through 2020.[4]

Longer term. While the US remains below the employment level it had achieved before the pandemic induced shutdown, several states have reattained their pre-pandemic jobs numbers, notably Idaho and Utah. More states are hitting very low unemployment rates.[5] And the growth in employment is becoming broader based.[6]

So there are strong of recoveries. Is there for further improvement? Labor force structure and its relation to labor force participation are among the key indicators which influence the jobs trajectory which IHS forecasts for the US. The broad trend for US jobs figures is much flatter in IHS's forecast across the next handful of years.

Individual states can have different employment trajectories from the demographic constraints which are expected by IHS to be binding at the US level. It appears that Idaho is likely to be one state which will escape a labor-force growth tapering primarily through migration into the state. Population estimates from the US Census placed growth in Idaho first in the nation (by rate of growth).[7] This was a significant acceleration from other instances where Idaho has also lead the nation. The Census estimate is that Idaho added over 53,000 residents from July 2020 to July 2021.

Annual growth rates for the US and Idaho

	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026
US nonfarm jobs	1.57	1.57	1.35	-5.73	2.73	3.92	1.88	0.90	0.61	0.56
ID nonfarm jobs	3.06	3.28	2.95	-0.18	5.45	3.49	3.29	2.86	3.11	3.24
US personal income	4.68	5.08	4.06	6.53	6.51	0.96	4.98	5.26	5.34	5.28
ID personal income	5.97	6.40	6.72	8.85	8.12	0.81	5.92	5.99	8.17	7.71
US wage & salary	4.74	5.02	4.75	1.29	7.95	7.89	6.13	5.27	5.09	5.04
ID wage & salary	7.28	7.06	5.66	7.00	9.64	7.93	7.48	7.72	8.14	8.29
US population	0.69	0.57	0.49	0.34	0.14	0.35	0.46	0.50	0.53	0.54
ID population	2.12	1.88	2.11	2.12	2.34	2.20	2.11	1.74	1.56	1.55

[4] https://www.bea.gov/sites/default/files/2021-12/rpp1221.pdf

[5] https://www.bls.gov/opub/ted/2021/5-states-set-all-time-low-unemployment-rates-in-november-2021.htm

[6] https://www.bls.gov/opub/ted/2021/employment-up-over-the-year-in-47-states-and-district-of-columbia-september-2021.htm

[7] https://www.census.gov/newsroom/press-releases/2021/2021-population-estimates.html

Current economic conditions

Domestic conditions.

GDP growth. IHS had been revising downward its 2021 real GDP growth forecast for the nation. It was set at 6.6 percent in July. The firm had seen that the third quarter of 2021 would record less growth, and this has in turn lead to a weaker annual figure, as we reported in the October *Idaho Economic Forecast* based upon that same month's IHS US forecast. That weaker third quarter was borne out by the first readings for real GDP. In the time after the October IHS forecast (October 12), the Bureau of Economic analysis (BEA) released advance third quarter real GDP growth at 2.0 percent (October 28 release) and and first revision to that at 2.1 percent (November 24). The final revision was release on December 22 and it read the value at 2.3 percent. Revisions are often due to more complete data being available.

US inflation adjusted Gross Domestic Product growth

	2018	2019	2020	2021	2022	2023	2024	2025	2026
current	2.92	2.29	-3.40	5.48	4.31	2.85	2.71	2.59	2.56
one year ago	3.00	2.16	-3.55	3.09	2.54	2.47	2.92	2.99	2.72
two years ago	2.93	2.27	2.08	1.99	1.61	1.50	1.91	2.20	2.18

Labor market. US unemployment rate fell from 4.6 percent in October to 4.2 percent in November.[8] While this figure was not available at the time of IHS's forecast preparation, it does support the November IHS forecast having real US GDP growth at 5.5 percent for 2021, just slightly higher than the 5.4 percent the firm saw as of October. This represents a minor upgrade to the US economic outlook, not dissimilar to the revision coming from the BEA. Idaho's unemployment rate was 2.8 percent in October and 2.6 percent in November.[9]

Idaho employment growth

	2018	2019	2020	2021	2022	2023	2024	2025	2026
current	3.28	2.95	-0.18	5.45	3.49	3.29	2.86	3.11	3.24
one year ago	3.28	2.95	-0.99	4.04	2.88	2.52	2.72	2.86	2.94
two years ago	3.28	2.89	2.71	2.05	2.02	1.96	2.07	2.10	2.16

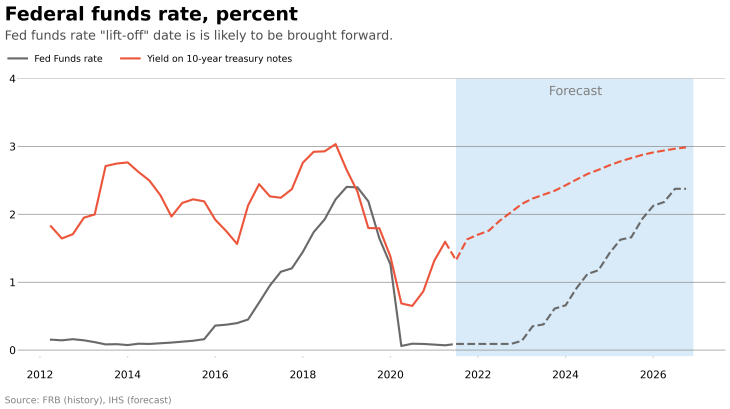
Monetary policy. This October, the inflation measured by 12 month change has been the highest since 1990 mainly caused by elevated food and energy prices. The November reading surpassed that, and brought the comparison all the way back to 1982. At that time, the (Alan) Volker lead Federal Reserve was fighting inflation from the late 1970s. Headline consumer price index (CPI) inflation has now reached to 6.8 percent. Excluding the two most volatile categories, food and energy, core CPI was 4.3 percent in July, 4 percent in August and September. Core inflation

[8] https://data.bls.gov/timeseries/LNS14000000

[9] A local source for this information is https://lmi.idaho.gov/.

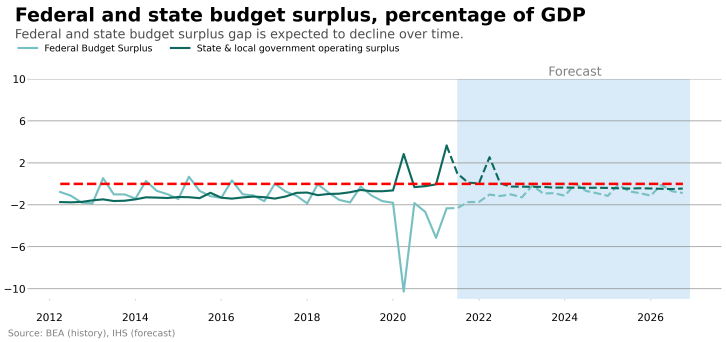
in October was 4.6 percent, the highest the US had had since 1990. November saw core CPI at 4.9 percent. Main contributors to core inflation were vehicles, from used cars to new trucks. In its November meeting, the Federal Open Market Committee (FOMC) noted the inflation is mainly caused by transitory or temporary factors.

At the December 14–15 meeting of the FOMC, the Federal Reserve updated its guidance to reflect the changing economic situation. The committee determined that the tapering of bond purchases needed to accelerate, and there is guidance that rate hikes are more likely earlier in 2022. Pages 1–4 of the transcript[10] are the prepared remarks by the Federal Reserve Chair, and the "dot plot" on page 4 of their summary of economic projections[11] is the guidance that rate hikes are now likely in 2022. Both of these developments indicate a quicker removal (than anticipated in the IHS November US economic forecast) of a portion of the accommodative monetary policy which has been in place throughout the pandemic.



Fiscal policy. The US House passed the Infrastructure Investment and Jobs Act (IIJA, it had already passed the Senate) and the President signed it into law on 15 November. By this bill, the government will rebuild roads and bridges nationwide, address climate change, improve access to high-speed internet, and invest in public transit. Congress also raised the debt ceiling by $480 billion, to a total of $28.9 trillion.

Housing market. Freddie Mac, the quasi-governmental mortgage lender, published a note[12] on refinance activity in the first half of 2021. Across the US, $1.6 trillion in refinance activity took place in the US housing market. For context, the last stimulus bill, the American Rescue Plan Act of March 2021 cost $1.9 trillion, and the $1,400 stimulus checks to individuals were estimated by the Joint Tax Committee[13] to cost



[10] https://www.federalreserve.gov/mediacenter/files/FOMCpresconf20211215.pdf
[11] https://www.federalreserve.gov/monetarypolicy/files/fomcprojtabl20211215.pdf
[12] http://www.freddiemac.com/research/insight/20211029_refinance_trends.page
[13] March 09, 2021 https://www.jct.gov/publications/2021/jcx-14-21/

about $394 billion in 2021. Average refinancing savings per each year through reduced mortgage payments are $2,800.

Monetary policy, fiscal policy, and personal income in Idaho. One context for an additional $2,800 in disposable cash per year per refinance is that it is as if couples who refinance would continue to receive the stimulus checks from March 2021 each year. The Census puts out detailed estimates, among which is that there are now over 284,000 households in Idaho with a mortgage. If 40 percent of those households refinanced with the annual savings discussed by Freddie Mac, that would be equivalent to a $317 million increase in disposable income for the state. The effect would be similar to a 2 percent raise for all homeowners with mortgages across the state. With price appreciation often leading the nation, it is likely that Idaho households may have disproportionately benefited from refinancing, and may continue to do so for years, and perhaps even a decade or more, to come.

PDF page 14 of the link BEA shows the estimates for federal stimulus/economic recovery efforts during the pandemic on the Idaho economy. The numbers there are at annual rates. That means, for example, that the 6.36 billion dollars recorded for the economic stimulus payments in the second quarter of 2020 represents about $6.36/4 = 1.59$ billion dollars in cash transfer that quarter.

Line five of that report indicates that per capita personal income in the third quarter of 2021 was roughly the same as it was in the second quarter of 2020, the quarter just highlighted above for its large stimulus payments. This is indicative of how Idaho's economy is recovering from the pandemic's effects. Line 29 of that report shows aggregate wages paid in Idaho have increased over 11 percent in those five quarters.

Global conditions. Estimates by the International Monetary Fund (IMF) show the global economy is projected to grow 5.9 percent in 2021 and 4.9 percent in 2022.[14] These are adjusted for inflation. The 2021 estimate is downgraded by 0.1 percentage point due to lingering supply disruptions in advanced economies. Those have further feed inflation in many countries. Advanced economies are expected to regain the pre-pandemic growth trend by 2022 and exceed it by 2024; whereas the emerging and developing economies are expected to remain below the pre-pandemic growth pattern in 2024.[15] These economic divergences are a consequence of large disparities in vaccine access and in policy support. While almost 60 percent of population in advanced economies are fully vaccinated, 96 percent of the population in low-income countries remain un-vaccinated.

Another view on the global outlook is provided by the OECD (Organization for Economic Cooperation and Development), which the US is a member. Its December 2021 release[16] indicates that the world economy rebounded by 5.6 percent in 2021, and the organization expects growth of

[14] https://www.imf.org/en/Publications/WEO/Issues/2021/10/12/world-economic-outlook-october-2021

[15] For indications of advanced, emerging, and developing nations, see table 1.1 in the pdf available at the preceding link (pdf page 23, numbered page 5).

[16] https://www.oecd-ilibrary.org/economics/oecd-economic-outlook/volume-2021/issue-2_66c5ac2c-en

4.5 percent in 2022, with 3.2 percent in 2023. Immediately after stating these growth projections, the OECD lists three factors affecting the global economy, ones which are in agreement with what IHS and the IMF are seeing. Recovery is linked to health conditions. Labor shortages are present even though hours worked and jobs held are lower than prior to the pandemic. Price pressures come from supply and demand mis-matching, particularly from the volatile food and energy sectors.

In 2021, the real GDP growth projection from the IMF show Turkey in emerging and developing Europe, Hong Kong and Singapore in advanced Asia, and India and China in emerging and developing Asia as growing most quickly. The US and China are each expected to contribute about one quarter of global growth in 2021. Among low-income economies, vaccination has lagged, and this seems to be causing their economic expansion to deteriorate. Aside from 2020, the just completed 2021 might become the slowest pace of expansion in two decades for low-income economies.

CPI-style inflation has increased in both advanced and emerging economies, but it is expected to go down to pre-pandemic levels by mid-2022. By the IHS estimate, global consumer price inflation is projected to pick up from 2.2 percent in 2020 to 3.7 percent in 2021, its highest rate since a 5.0 percent advance in 2008. For the US, IHS places 2021 CPI inflation at 4.5 percent, with 3.3 percent to follow in 2022.

For the IMF's reading, it is 4.3 percent in 2021 and 3.5 percent in 2022 for the US. By contrast, the IMF has the weighted average for advanced economies showing 2.8 percent CPI inflation in 2021 and 2.3 percent in 2022. Similarly, emerging and developing economies are expected at 5.5 and 4.9 percent across the two years.

Higher than expected inflation rates diminish the real measure of global economic growth starting from 2022, and there can be real consequences of the inflation. Food prices are rising not just in advanced economies but also in low-income countries. There may be serious food insecurity concerns beyond those already present in Afghanistan, Syria, Yemen, and Ethiopia.

Global labor markets are recovering but employment is still below the pre-pandemic level. According to the International Labor Organization[17] the decline in hours worked in 2020 was equivalent to 255 million full-time jobs lost worldwide. The picture in the first half of 2021 smaller, but still substantial. For high-income countries like the US, the loss was 8.3 percent of hours in 2020, and between 5.1 and 7.2 percent in the first half of 2021. On average, emerging market and developing economies have been hit harder than advanced economies. Women's employment in those countries remains low compared to advanced economies where the differences by gender have largely disappeared.

[17] https://www.ilo.org/wcmsp5/groups/public/---dgreports/---dcomm/---publ/documents/publication/wcms_795453.pdf

Economic outlook

US growth rates	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026
nominal GDP	4.20	5.38	4.12	-2.24	9.62	7.87	5.15	5.25	5.12	5.01
inflation adjusted GDP	2.26	2.92	2.29	-3.40	5.48	4.31	2.85	2.71	2.59	2.56
personal income	4.68	5.08	4.06	6.53	6.51	0.96	4.98	5.26	5.34	5.28
. . . inflation adjusted . . .	2.80	2.88	2.54	5.29	2.76	-1.96	3.00	3.09	3.14	3.08
wage & salary payments	4.74	5.02	4.75	1.29	7.95	7.89	6.13	5.27	5.09	5.04
. . . average wage . . .	3.12	3.41	3.36	7.56	4.97	3.82	4.17	4.33	4.45	4.46

ID growth rates	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026
nonfarm jobs	3.06	3.28	2.95	-0.18	5.45	3.49	3.29	2.86	3.11	3.24
population	2.12	1.88	2.11	2.12	2.34	2.20	2.11	1.74	1.56	1.55
personal income	5.97	6.40	6.72	8.85	8.12	0.81	5.92	5.99	8.17	7.71
. . . inflation adjusted . . .	4.06	4.18	5.17	7.59	4.32	-2.11	3.91	3.81	5.91	5.46
wage & salary	7.28	7.06	5.66	7.00	9.64	7.93	7.48	7.72	8.14	8.29
average wage	4.03	3.82	3.35	6.85	4.32	4.24	4.15	4.83	4.99	5.01

Consumers. Consumer spending slowed as supply constraints and a worsening outlook (as measured by the University of Michigan Consumer Sentiment Index[18]) took effect in the autumn. IHS, though, retains within its forecast, several indications that consumers can continue the recovery, perhaps with less rebound and more steady climb. Real disposable income, that is after tax, was up 6.2 percent in 2020. It is forecast to rise again by 1.7 percent in 2021.

Real household net worth increased by 10.5 percent in 2020, and is expected to have matched that in 2021. Growth in 2022 and 2023 are much more subdued in the forecast, at 0.8 percent in both years. During 2020 the personal savings rate shot to 16.4 percent. It is expected to close 2021 at 11.6 percent. Then for the near future, IHS sees this at 6.0 percent and 6.5 percent across 2022–2023. The obligations ratio, which measures ongoing debt service to disposable income, and which included long-term debt such as mortgages, is expected to rise from 14.1 in 2020, to 14.2 in 2021, then 15.3 in 2022 and 15.4 in 2023.

Regarding the consumer sentiment index, IHS notes that the strata of consumer which reported the decline in sentiment was those households earning less than $100,000. The firm noted that for that strata, rising food and gasoline prices likely lead to the drop in sentiment. Gasoline prices have moderated a bit in the past few weeks, returning to near $3.30 per gallon.[19]

Assessing those household figures and forecast values in aggregate, IHS notes that

> . . . current high levels of inflation are a threat to real incomes and consumer sentiment, but the risks are roughly balanced by rising job and wage growth.

[18] Do read the notes just below the graph available at https://fred.stlouisfed.org/series/UMCSENT/.
[19] https://www.gasbuddy.com/charts

> Additionally, consumers have excess savings and ability to expand credit from the current low levels.

Wealth. Within IHS's model, consumers will spend their "excess savings", which is part of their wealth, gradually over their lifetimes. This means that there is expected to be a bit of a decline in the savings rate below what would otherwise have been expected going forward. The reporting of actual wealth increases, detailed below, shows considerable gains across little time. Sticking with the IHS contention that individuals will on average spend this excess savings slowly across time, these financial wealth gains will help to sustain consumer spending for quite some time.

To provide context for the gains in wealth, it may be good to begin with nonfarm compensation per hour. In IHS's accounting, this was found to have risen by 7.0 percent in 2020. IHS expects it to expand by 3.8 percent in 2021, and then to nearly repeat at 3.7 percent in 2022, before 4.5 percent growth in 2023.

Compared with 2019, the value for 2021 is 11.1 percent above the earlier per hour value. IHS's forecast then places 2023 at 20.4 percent above that 2019 level. By 2026, nonfarm compensation per hour is expected to be 37.1 percent above the 2019 level.

As for wealth, household holdings of financial assets, expanded by 12.5 percent in 2020, and are expected to increase by 14.2 percent in 2021. Household holdings of other assets, including real estate, expanded by 8.3 percent in 2020, and are projected to have increased by 14.7 percent in 2021.

Compared with 2019, IHS places these wealth values 28.4 and 24.2 greater for 2021, then further advances the gains to 26.3 and 46.4 percent above their 2019 levels by 2023. By the close of the forecast in 2026, these two measures of wealth are expected to be 31.1 percent and 64.3 percent above their 2019 levels. Thus across the pandemic, compensation per hour has advanced by over 5 percent per year, and yet wealth has tromped that by advancing well over 10 percent per year.

Astute readers will have noticed that financial asset holdings are up sharply above nonfarm compensation per hour across 2019–2021 in the IHS forecast, but that by 2026, nonfarm compensation outruns the financial asset gains. IHS posits that the total return on equities will average 3.4 percent through 2026. The firm attributes this to equity prices reflecting a decline in earnings as a percentage of GDP.

While the S&P500 is not the entire equity market, it is a large chunk of it, and it is widely held through index funds. The 2021q3 forecast from IHS released in March 2021 was for that index to be below 3900. The November commentary from IHS indicated the index was just over 4300 for the 2021q3 measurement. That last number is actual data.

On the opposite side of wealth sits debt. Short-term credit card debt has declined, having reached near nine-tenths of a trillion dollars going into 2020, it is now just eight-tenths of a trillion. For context, the total credit card debt has been between six-tenths and nine-tents of a trillion dollars since 2010. While auto debt and student loan debt began within that range in 2010, they have since grown to 1.4 and 1.6 trillion dollars since 2010.

Most wealth statistics are unavailable at the state level, and that includes to some extent the wealth effect that deferred student loans have provided during the pandemic. However, there is some Idaho data and since student loan repayment were set to begin in January for federal student loans (deferment was recently extended till May by the federal administration), it is worth considering the scope that the federal deferrals for loan payments across most of the pandemic have may have had for Idaho. The US Department of Education has some data available via state[20] where the values through June 2021 were available at the time of this writing.

While it is not possible to know what the payments are for these accounts, since some may have been paid down across considerable time and others may be on income-based repayment plans, were these to all be replaced with 10-year borrowing beginning now, using the rates available[21] the consequences would be monthly payments which fall within these summary statistics for Idaho student loan borrowers.

Federal student loans have been deferred since early within the pandemic. The federal administration recently extended this deferral beyond January 2022 to May 2022.

Idaho: Federal student debt

Strata in $ k	Total Debt in $ m	Count
< $5	100	35,700
$5–$10	250	35,200
$10–$20	620	42,800
$20–$40	1,320	45,900
$40–$60	1,080	22,000
$60–$80	960	13,900
$80–$100	590	6,700
$100–$200	1,260	9,200
> $200	910	3,100

Hypothetical: refinancing to ten-years, $ monthly payment

Rate	min	first quartile	median	mean	third quartile	max
3.73	28	142	491	766	880	2935
5.28	30	152	527	823	946	3154
6.28	31	159	552	961	990	3300

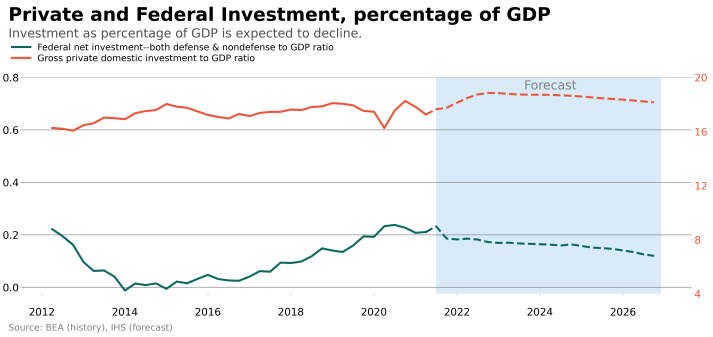
Business. Overall, change in annual business investment registered -5.3 percent in 2020, it is expected to bounce back by 7.6 percent in 2021, then to achieve 6.8 and 5.1 percentage point expansions in 2022 and 2023.

Avenues which are showing the greatest expansion are mining exploration (primarily drilling) which after a collapse of 37.5 percent in 2020 is expected to grow 13.3 percent in 2021, then 23.3 percent in 2022, before quieting to 8.5 percent expansion in 2023. Transportation equipment saw and is expected to see, a similar pattern: -35.2 percent, followed by 19.1, 18.7 and 7.1 percent across 2021–2023. For a more stable portion of investment, intellectual property products (think patents) grew 2.8 percent in 2020, but is rebounding from that slower pace with 10.7, 10.1 and 5.0 percent growth across those same three years of the forecast.

[20] See "Portfolio by Location and Debt Size" at https://studentaid.gov/data-center/student/portfolio
[21] https://studentaid.gov/understand-aid/types/loans/interest-rates

For oil drilling: the firm sees room for prices to fall in oil markets. The decline is only expected to be off of the high; further investment in the oil fields is expected to be supported by oil prices going forward. Indeed, the low prices prior to the pandemic are not forecast to return, which means that drilling should continue to expand.

Fixed (in place) investment is expected to grow 7.6 percent this year, 6.8 percent in 2022, and to average 4.5 percent across the subsequent three years. IHS sees this as partly driven by firms investing for greater capacity to meet demand. Thus far, most of the growth in manufacturer orders in 2021 came through price increases, not volume. IHS noted that real shipments have been flat since January 2020.



This means that there is at least a year's worth of volume growth to invest to meet. In fact, IHS elsewhere noted that nonfarm inventories fell across 2020. Manufactures are having difficulty restocking inventory, partly because final sales continue to climb. The capacity utilization rate for US factories is one measure of businesses attempts to restock depleted inventories. It hit 71.1 percent across 2020. In 2021 it is predicted to average 75.8 percent, with 78.8 percent the value expected in 2022, and 79.2 percent in 2023. Factory capacity is never near 100 percent because new lines are always developing to handle new, improved products. Another factor is maintenance of factories.

Shortage of materials or workers had not been an issue for most US manufacturing prior to the pandemic. IHS indicates that manufacturing forecasting "is now an estimate of possible production rather than demand or orders." Thus, perhaps the recovering capacity utilization numbers in the prior paragraph could expand further should some of the kinks in supply chains be straightened or should labor force participation expand further than envisioned.

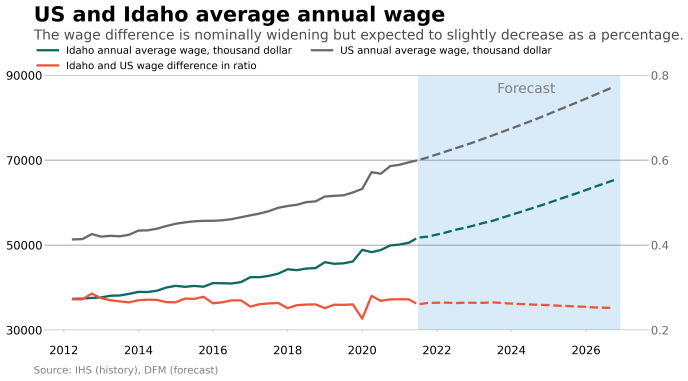
As for demand, it is expected to stay elevated. US fuel energy consumption is expected to increase from 92.9 qBtu to 97.8 qBtu from 2020 through 2021. The forecast for 2022 and 2023 are for 98.1 and 98.5 qBtu, respectively. That type of trajectory (a quick bounce-back followed by a few more years of more gradual expansion) is forecast by the firm for global oil markets as well: "Demand should slow as it approaches pre-pandemic levels, just as demand for gasoline has in the US." US producers are expected to meet substantial portions of that additional demand as wells drilled now will produce in 2022 and 2023.

The US Energy Information Administration (EIA) saw 2022 retail gasoline averaging just under $3/gallon in the US, world liquid petroleum product consumption between 100 and 105 million barrels of oil equivalent across each quarter of 2022, and production meeting or just slightly exceeding that demand. The EIA raised its estimates for Permian Basin and Federal

offshore Gulf of Mexico production slightly, with total US production averaging 11.9 million barrels of oil per day in 2022.

Personal income. Wage payments are projected to increase going forward, continuing the recent experience. Much of this increase is due to expanding employment. Some of it is due to rising pay rates for individual jobs. Measured by average pay, Idaho's wages have lagged the nation. That is not expected to reverse, but the gap is expected to narrow on a percentage measure. The portions of personal income due to the next largest pieces in BEA accounting are expected to stay about as they have been, absent the quarters of the economic stimulus payments. Those large components are dividends, interest, and rent, which is primarily rent[22], supplements to wages and salaries,[23] and transfer payments[24]

IHS has a variable, minwage, within its economic model. It is not tied to the federal minimum wage, which remains at $7.25/hour for regular work; it rises significantly above that value across the forecast horizon. To understand why, consider the weighted average minimum wage coming from all of the local minimum wage laws in cities and states across the US, with the weight being determined by the working age population in those jurisdictions. That weighted average wage is now certainly above the $7.25 rate as some very populous states have higher minimum wages. The IHS variable may also take into account the portion of workers at several large employers, such as Amazon, Walmart, Target, Starbucks, and Costco, which pay above the federal minimum wage as their starting wage. Looking at Idaho's environment, which includes such employers, it also has two neighboring states, Oregon and Washington, which may be, by their legislation, influencing wage rates within Idaho towns and cities, just as those cited employers are doing. This minwage variable has been incorporated in the Idaho economic model. In the accompanying graph it is visible that the average wage trajectory in Idaho (blue) is similar to that in the US (gray). Medians would be a better measure to use, but such data are unfortunately not available. The discount, which is the lowest line in the graph, represents the percentage discount the average wage in Idaho is compared to the US. Likely this is an artifact of averages, which are pulled by extreme values. Wages, salaries, and especially bonuses, which are all part of what is simply called wages here, are likely skewed by occupations such as traders in financial hubs.



[22]BEA treats the value of one's home as a part of personal income, doing so by valuing the equivalent rent the home would command were it rented to a tenant

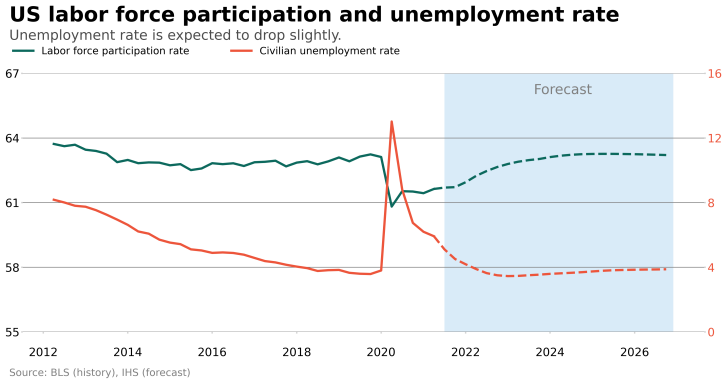
[23]Primarily health insurance and other insurance provided through employers.

[24]For example, Social Security payments; no additional stimulus payments are forecast by IHS in its November outlook for the US.

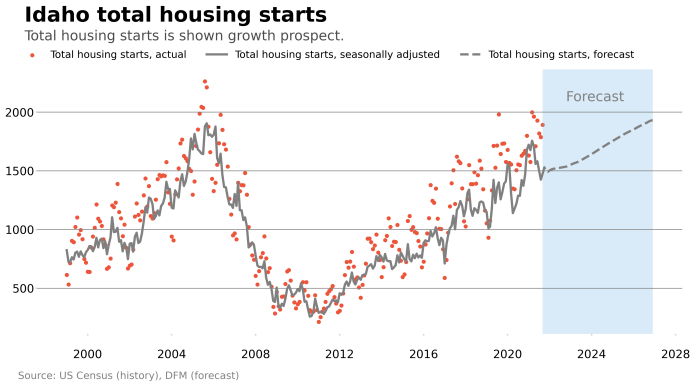
Labor market. Recent forecasts have seen that a slowly moving, but important, metric—the labor force participation rate— is stationary at the national level[25], and that it has declined a bit in Idaho[26].

The forecast from IHS is that labor force participation will increase gradually to 63 percent by 2024. The path of this forecast is only slightly different within the pessimistic case, taking one more year to reach that level, though 2024 would less than 0.1 percentage point away. The optimistic case from IHS is essentially indiscernible with regard to labor force participation when compared with the baseline case.

As to Idaho's measure, the current measurements are above the national rate, and even the national forecast for 2022 as the nation continues to its recovery from the pandemic induced shutdown. The bounce back from the 62.1 percent low mark in April 2020 to 64.2 percent in September 2020 was not sustained through the close of that year when 63.2 percent was found to be the December 2020 measure.



Housing. The accompanying graph shows monthly housing starts data (the dots) and the resulting seasonally adjusted values which are the input to the Idaho economic model (that seasonally adjusted line is the historical record, which is the jagged line in the plot). Also included is the monthly average housing starts expected by the model. This is one point where the forecast is tilting towards being conservative. In light of the recent pivot by the Federal Reserve towards raising interest rates, tilting in that direction is prudent. While housing starts are not predicted to be low, they are not placed at the upper range of possibilities given the historical record. One consequence of this is that construction job growth is predicted to be centered in a slower part of its growth distribution, still growing, but not necessarily at the fastest paces it has exhibited recently. All these forecasts could be characterized as cautious, not at all dour.



[25]The BLS provides a nice interface for this data at https://www.bls.gov/charts/employment-situation/civilian-labor-force-participation-rate.htm.

[26]Note that this by default shows a longer data history: https://fred.stlouisfed.org/series/LBSNSA16.

In the lender's forecast[27], house prices will appreciated 7 percent in 2022, after rising 11.3 percent in 2020 and 16.9 percent in 2021. Focusing on the median price of an existing home, IHS saw these rise 9.7 percent in 2020, 15.5 percent in 2021, and forecast that they will rise 1.8 percent in 2022 and 3.1 percent in 2023. IHS gave four views on home prices:

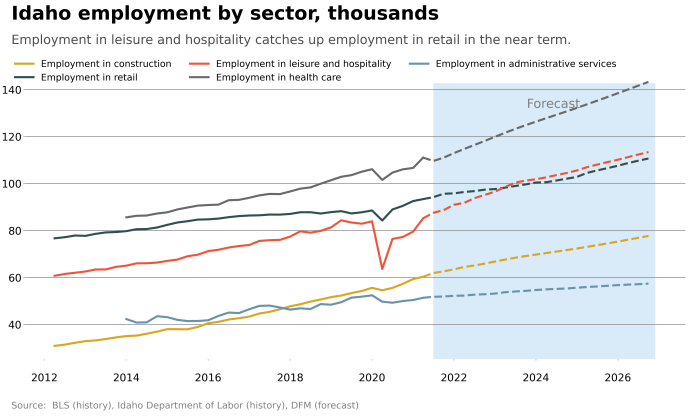
> Home price growth should begin slowing for multiple reasons: First, and expanding housing stock. Second, some homes protected by forbearance will be listed for sale. Third, more aspiring homeowners will be priced out of the single-family home market, remaining renters. Fourth, the feeding frenzy that has driven home prices up to unsustainable levels in some markets will end.

Projected US housing starts in 2021 by IHS are for 1.57 million units, with 1.43 million units in 2022, and 1.33 million units in 2023. Idaho housing starts are in the accompanying table.

ID housing	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026
total starts	14,006	16,076	16,828	18,282	20,532	18,301	19,072	20,330	21,614	22,737
single family	11,261	13,019	13,008	14,547	16,353	14,671	15,418	16,454	17,475	18,352
multi-family	2,746	3,057	3,819	3,735	4,179	3,630	3,654	3,876	4,139	4,385

Fiscal policy. IHS predicts the IIJA to raise GDP by half of a percent in 2025–26, at its peak. Funding and activity from that law is expected to boost employment by 750,000 by then. By IHS estimates, in 2031 and with the economy near full employment, the level of GDP is almost one-quarter of one percent higher than without the IIJA. The Congressional Budget Office (CBO) estimates the IIJA will cost $573 billion over ten years and add approximately $400 billion to the debt; the CBO finds that $173 billions of spending consists of offsets to otherwise authorized spending.

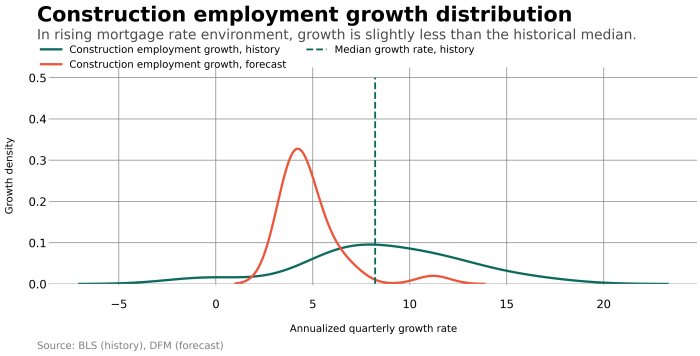
Sectors. While the IIJA federal legislation should aid construction activity in the medium-term outlook, the rise in interest rates is expected to impact construction activity in the other direction. The pivot away from pressuring longer-term bond yields lower through active purchases of treasury securities and mortgage-backed securities by the Federal Reserve towards no net purchases as soon as March could allow the 10-year yield more room to climb. This yield is the one which most directly influences 30-year mortgage rates. As indicated, average mortgage rates already rose in 2021, from 2.7 percent to 3.1 percent. While it is difficult to



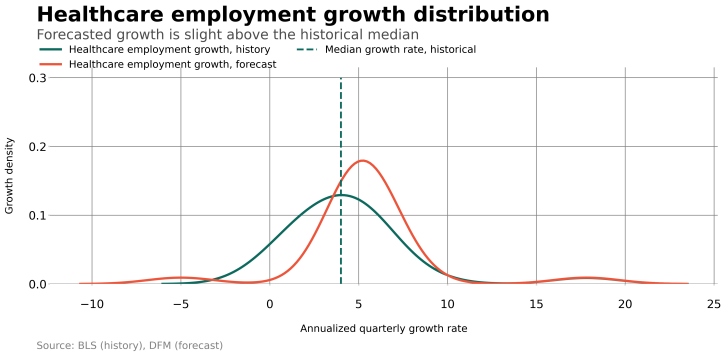
[27] http://www.freddiemac.com/research/forecast/20211015_quarterly_economic_forecast.page?

untangle the effect of that rise from the effects of the season, housing appreciation has paused its upward acceleration, and house transactions are less frenzied at the close of 2021 in most markets.

Should the Federal Reserve commence rises in its policy rate for short-term interest rates, the entire yield-curve of interest rates could follow. This would be another avenue which could eventually raise borrowing costs for the housing market. Due to these possibilities, the Idaho housing starts forecast is not at its most aggressive possibility. Countering that, though, the state continues to be a popular destination for other US residents, as the recently released 2021 population estimate from the Census Bureau indicates. Though official 2021 births and deaths for Idaho are not available until mid-to-late summer, typically the net natural increase of population in the state is around 7,000 people. That puts the 53,000 population increase from July 2020 to July 2021 as a remarkable measure. That would mean six times as many people moved to the state as the state itself provided as new residents.



Construction was notably an industry in the state which has had no breaks during the pandemic. Healthcare, by and large, is similar, though there has certainly been great variability in the delivery and availability of healthcare services. Some services have moved online. Tele-health has expanded. Other services have paused for routine matters, though less so for emergencies. Dental care would be such an example, though even that aspect of healthcare has certainly had great variability in its response to the pandemic. Major hospitals have seen the setting of "crisis standards of care", which provides greater flexibility in the delivery and expectations of the healthcare providers, as well as removal of that standard back to traditional medicine.



As indicated by the lengthy list of changes in healthcare, it is perhaps unsurprising that the pandemic has shown the industry one of the few times in the past two decades that healthcare employment did not expand. In fact, there was a contraction in the spring of 2020. However, healthcare employment seems to be generally expanding again, and since population is a primary driver of healthcare jobs, both in the so-to-speak real world as well as in the Idaho economic

model which produces the numeric forecast, this forecast sees sustained healthcare jobs expansion through the close of 2026. Growth is expected to be fairly robust, partly aided by the aging of the Idaho population. Healthcare needs are generally thinnest during the middle of life. With an expanding older cohort and fairly stable birth patterns, Idaho's need for healthcare providers is expected to draw upcoming employees to that sector, and to draw existing workers from outside of the state but already established within that sector to move to the state.

Forecast analysis

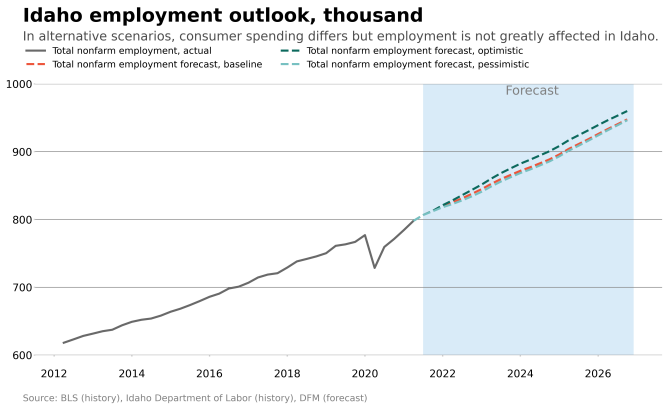
Forecast comparison. We repeat the next two sentences from our October report. The July forecast indicated that due to the strong readings for wages and personal income in 2020, the estimate for 2021 and 2022 had been raised. The July forecast saw over $42 billion in wages in 2021, and over $45 billion in 2022, both substantially above what had been forecast prior to the pandemic. The BEA's just released data indicates that third quarter 2021 saw wage payments at the $42.6 billion rate in Idaho. Growth in total wages is still substantial in this forecast, and much of that rests upon growth in jobs.

Population projections were up by 17 thousand in 2022 in the October forecast over the July forecast. Since the, the Census has raised the starting point for 2021 population to 1.9 million within the state. By 2026 the state's annual average population was expected to crest 2 million, that expectation being made in October. Even without the new Census estimate, the current forecast saw 2 million being reached during the first quarter of 2025, and 1.9 million being reached in mid-2022. Idaho population is primarily driven by the jobs forecast within the Idaho economic model. Were the causality to go in the reverse, the most recent Census estimate would indicate that an upward revision to the jobs trajectory could be expected in a subsequent *Idaho Economic Forecast*. However, that is not how the causality runs, though it does give some comfort, as there is room for a strong jobs forecast.

Total nonfarm job grow in the current forecast, though not quite a robustly as in the October forecast. In October, the 2022 projected value was for 833 thousand. They had been forecast at 819 thousand in July. Now they are seen at 828 thousand for 2022. Towards the end of the forecast, in 2026, the outlooks are as follows. In October the value for 2026 was at 951 thousand, rather than 895 thousand as seen in July. The current forecast sees 937 thousand.

July forecast		2021	2022	2023	2024	2025	2026
Personal income	$ m	96,793	97,848	102,801	107,965	113,558	119,947
Wages	$ m	42,304	45,187	47,776	50,142	52,534	55,355
Population	count	1,862,169	1,894,117	1,929,323	1,958,719	1,985,410	2,011,623
Nonfarm	jobs	793,265	819,390	841,963	860,054	876,840	895,196
October forecast		**2021**	**2022**	**2023**	**2024**	**2025**	**2026**
Personal income	$ m	95,290	95,917	102,411	108,795	117,742	126,919
Wages	$ m	42,370	46,573	50,241	54,066	58,388	63,188
Population	count	1,866,870	1,912,859	1,954,802	1,989,341	2,020,417	2,051,585
Nonfarm	jobs	803,207	838,543	869,216	895,090	922,289	951,166
January forecast		**2021**	**2022**	**2023**	**2024**	**2025**	**2026**
Personal income	$ m	96,307	97,086	102,835	108,993	117,897	126,991
Wages	$ m	41,915	45,238	48,622	52,374	56,640	61,336
Population	count	1,869,658	1,910,826	1,951,169	1,985,121	2,016,092	2,047,404
Nonfarm	jobs	800,393	828,332	855,603	880,072	907,471	936,876

IHS sets its baseline, pessimistic, and optimistic forecasts to indicate reasonably likely economic outcomes. Baseline assumes current economic and policy conditions. Pessimist takes into account some possible, negative shocks. Optimist takes into account some possible, positive shocks. IHS scenarios are not exhaustive, but rather indicative.



Alternative forecasts. As mentioned elsewhere in this report, the November edition of the IHS forecast for the US held that the guidance available in early November (when it releases its forecast) from the Federal Reserve Open Market Committee (FOMC) would hold, namely that the committee was unlikely to raise interest rates before ceasing its open-market bond purchases, which was in turn expected around mid-2022. Guidance from the FOMC changed in December. One consequence of using the November forecast is that the spread in anticipated housing activity in this report is not great through the three scenarios. Typically, the spread is greater, much more like that exhibited by the nonfarm jobs or the wage data shown in the accompanying table. Also as mentioned elsewhere, the forecast for housing starts was not set at the pinnacle of what is conceivable given the historical record, which was a bit of caution introduced within the forecast and informed by the evolving views within November itself.

		2021	2022	2023	2024	2025	2026
Nonfarm jobs	baseline	800,393	828,332	855,603	880,072	907,471	936,876
	optimistic	800,442	832,076	863,774	891,378	920,306	949,618
	pessimistic	800,305	825,738	851,925	876,886	904,943	935,215
Housing starts	baseline	20,532	18,301	19,072	20,330	21,614	22,737
	optimistic	20,532	18,301	19,104	20,405	21,714	22,829
	pessimistic	20,532	18,301	19,040	20,185	21,359	22,427
Wages, m $	baseline	41,915	45,238	48,622	52,374	56,640	61,336
	optimistic	41,967	45,805	49,760	53,979	58,605	63,475
	pessimistic	41,887	44,714	47,383	50,495	54,211	58,482

Looking at the spread between the optimistic and pessimist nonfarm jobs expectations towards the end of the forecast, and comparing that with the spread between those two scenarios in terms of wages, it becomes apparent that the average wage trajectories are fairly different. For

context, in early 2018, average wages were just above $44,000 in Idaho. By mid-2021, they were almost $52,000. In the three scenarios, the average wages diverge from just above $58,000 in the optimistic case to just above $57,000 in the baseline case, to the mid-$55,000 area in the pessimistic case. By the close of the forecast, in late 2026, the divergence is wider: high-$66,000 in the optimistic case, mid-$65,000 in the baseline case, and low-$62,000 in the pessimistic case.

Appendix

i. US Economic Model by The IHS Markit

IHS Markit (IHS) Macroeconomic Model is a multiple-equation model of the US economy. Consisting of over 1,200 equations, the model is solved in an iterative manner to generate the results of different policy and forecast scenarios. The model incorporates the best insights of many theoretical schools of thought to depict the economic decision processes and interactions of households, businesses, and governments.
The IHS model is divided into the following eight major sectors:

(1) **Private domestic spending**
(2) **Production and Income**
(3) **Taxes**
(4) **International**
(5) **Financial**
(6) **Inflation**
(7) **Supply**
(8) **Expectations**

(1) **Private Domestic Spending.** Major aggregate demand components include consumption, investment, and government. Consumer purchases are divided among three categories: durable goods, nondurable goods, and services. In nearly all cases, real expenditures are influenced by real income and the relative price of consumer goods. Durable and semi-durable goods are also sensitive to household net worth, current finance costs, and consumer sentiment.

IHS divides investment into two general categories: fixed investment and inventories. The former is driven by utilization rates, capital stock, relative prices, financial market conditions, financial balance sheet conditions, and government policies. Inventory investment is heavily influenced by such factors as past and present sales levels, vendor performance, and utilization rates.

The government sector is divided into federal government and state and local government. Most of the federal expenditure side is exogenous. Federal receipts are endogenous and divided into personal taxes, corporate taxes, indirect business taxes, and contributions for social insurance. State and local sector receipts depend primarily on federal grants and various tax rates and bases. State and local government spending is driven by legal requirements (i.e., balanced budgets), the level of federal grants (due to the matching requirements of many programs), population growth, and trend increases in personal income.

(2) **Production and Income.** The industrial production sector includes 74 standard industrial classifications. Production is a function of various cyclical and trend variables

and a generated output term, i.e., the input-output (I-O) relationship between the producing industry and both intermediate industries and final demand. The cyclical and trend variables correct for changes in I-O coefficients that are implied by the changing relationship between buyers and sellers.

Pre-tax income categories include private and government wages, corporate profits, interest rate, and entrepreneurial returns. Each of these categories, except corporate profits, is determined by some combination of wages, prices, interest rates, debt levels, capacity utilization rate, and unemployment rate. Corporate profits are calculated as the residual of total national income less the nonprofit components of income mentioned above.

(3) **Taxes.** The model tracks personal, corporate, payroll, and excise taxes separately. Tax revenues are simultaneously forecast as the product of the rate and the associated pre-tax income components. The model automatically adjusts the effective average personal tax rate for variations in inflation and income per household, and the effective average corporate rate for credits earned on equipment, utility structures, and R&D. State taxes are fully endogenous, except for corporate profits and social insurance tax rates.

(4) **International.** The international sector can either add or divert strength from the central flow of domestic income and spending. Imports' ability to capture varying shares of domestic demand depends on the prices of foreign output, the US exchange rate, and competing domestic prices. Exports' portion of domestic spending depends on similar variables and the level of world gross domestic product. The exchange rate itself responds to international differences in inflation, interest rates, trade deficits, and capital flows between the US and its competitors. Investment income flows are also explicitly modeled.

(5) **Financial.** The IHS model includes a highly detailed financial sector. Several short- and long-term interest rates are covered in this model, and they are the key output of this sector. The short-term rates depend upon the balance between the demand and supply of reserves in the banking system. The supply of reserves is the primary exogenous monetary policy lever within the model, reflecting the Federal Reserve's open market purchases or sales of Treasury securities. Longer-term interest rates are driven by shorter-term rates as well as factors affecting the slope of the yield curve. These factors include inflation expectations, government borrowing requirements, and corporate finance needs.

(6) **Inflation.** Inflation is modeled as a controlled, interactive process involving wages, prices, and market conditions. The principal domestic cost influences are labor compensation, nonfarm productivity, and foreign input costs that later are driven by the exchange rate, the price of oil, and foreign wholesale price inflation. This set of cost influences drives each of the industry-specific producer price indexes, in combination with a demand pressure indicator and appropriately weighted composites of the other producer price indexes.

(7) **Supply.** In this model, aggregate supply (or potential GNP), is estimated by a Cobb-Douglas production function that combines factor input growth and improvements to

total factor productivity. Factor input equals a weighted average of labor, business fixed capital, and energy. Factor supplies are defined by estimates of the full employment labor force, the full employment capital stock net of pollution abatement equipment, the domestic production of petroleum and natural gas, and the stock of infrastructure. Total factor productivity depends upon the stock of research and development capital and trend technological change.

(8) **Expectations.** Expectations impact several expenditure categories in the model, but the principal nuance relates to the entire spectrum of interest rates. Shifts in price expectations or the expected government capital needs influences are captured directly in this model through price expectations and budget deficit terms. The former impacts all interest rates and the latter impacts intermediate- and long-term rates. On the expenditure side, inflationary expectations impact consumption via consumer sentiment, while growth expectations affect business investment.

ii. Idaho Economic Model

The Idaho Economic Model (IEM) is an income and employment-based model of Idaho's economy. The Model consists of a simultaneous system of linear regression equations, which are estimated using quarterly data. The primary exogenous variables are obtained from the IHS Markit US Macroeconomic Model. Endogenous variables are forecast at the statewide level of aggregation.

The focal point of the IEM is Idaho personal income, which is given by the identity:

> **personal income = wage and salary payments + other labor income + farm proprietors' income + nonfarm proprietors' income + property income + transfer payments - contributions for social insurance + residence adjustment.**

Except for farm proprietors' income and wage and salary payments, each of the components of personal income is estimated stochastically by a single equation. Farm proprietors' income and wage and salary payments each comprise sub-models containing a system of stochastic equations and identities.

The farm proprietor sector is estimated using a sub-model consisting of equations for crop marketing receipts, livestock marketing receipts, production expenses, inventory changes, imputed rent income, corporate farm income, and government payments to farmers. Farm proprietors' income includes inventory changes and imputed rent, but this component is netted out of the tax base.

At the heart of the IEM is the wage and salary sector, which includes stochastic employment equations for 23 North American Industry Classification System employment categories. Conceptually, the employment equations are divided into basic and domestic activities. The basic employment equations are specified primarily as functions of national demand and supply variables. Domestic employment equations are specified primarily as functions of state-specific demand variables. Average annual wages are estimated for several broad employment categories and are combined with employment to arrive at aggregate wage and salary payments.

The demographic component of the model is used to forecast components of population change and housing starts. Resident population, births, and deaths are modeled stochastically. Net migration is calculated residually from the estimates for those variables. Housing starts are divided into single and multiple units. Each equation is functionally related to economic and population variables.

The output of the IEM (i.e., the forecast values of the endogenous variables) is determined by the parameters of the equations and the values of exogenous variables over the forecast period. The values of equation parameters are determined by the historic values of both the exogenous and endogenous variables. IEM equation parameters are estimated using the technique of ordinary least squares. Model equations are occasionally re-specified in response to the dynamic nature of the Idaho and national economies. Parameter values for a particular equation (given the same specification) may change as a result of revisions in the historic data or a change in the

time interval of the estimation. In general, parameter values should remain relatively constant over time, with changes reflecting changing structural relationships.

While the equation parameters are determined by structural relationships and remain relatively fixed, the forecast period exogenous variable values are more volatile determinants of the forecast values of endogenous variables. They are more often subject to change as expectations regarding future economic behavior change, and they are more likely to give rise to debate over appropriate values. As mentioned above, the forecast period values of exogenous variables are primarily obtained from the IHS US macroeconomic model.

Since the output of the IEM depends in large part upon the output of the IHS model, an understanding of the IHS model, its input assumptions, and its output is useful in evaluating the results of the IEM's forecast. The assumptions and output of the IHS model are discussed in the National Forecast section.

iii. Exogenous And Endogenous Variables

Exogenous variables:

CPI	Consumer price index, all-urban, $1982 - 84 = 1.00$
CRCATCVS	Cash receipts, US cattle and calves
CRCROP	Cash receipts, US crops
CRDAIRY	Cash receipts, US dairy
CSVOR	Real Consumer Spending – Other services, billion 2012 dollars
CENSUS	Value 1 when Census operations are in place, 0 otherwise.
ECON	Employment in construction
EDRIPS	Economic depreciation rate software
EEA	National Nonfarm Payrolls
EMD321	Employment in wood products
EMN311	Employment in food manufacturing
EMN323	Employment in printing and related support activities
ENRM21	Employment in mining
EOTS	Employment–Other Services, millions
EPBS54	Employment–Professional, Scientific & Technical, millions
EPBS55	Employment–Management of Companies & Enterprises, millions
EPBS56	Employment–Administrative, Support, Waste Management, Remediation, millions
EXPUS$	Non-agricultural production expenses
GDPR	Real gross domestic product, billions of chained 2012 dollars, annual rate
GF	Federal purchases of goods and services
GFGIIPRDR	Real federal investment in research and development, billions of chained 2012 dollars, annual rate
GFML	Federal defense purchases of goods and services
GFMLCWSS	Federal government defense personnel outlays
GFOCWSS	Federal government nondefense personnel outlays
HHAF	Household financial assets
HHAO	Household holdings of real estate and other nonfinancial assets
ID0IP2122_2123	Industrial production index, metal& nonmetal ore mining, $2012 = 100$
IPSG311	Industrial production index, food, $2012 = 100$
IPSG321	Industrial production index, wood products, $2012 = 100$
IPSG322	Industrial production index, paper, $2012 = 100$
IPSG323	Industrial production index, printing, $2012 = 100$
IPSG3253	Industrial production index, agricultural chemicals, $2012 = 100$
IPSG332	Industrial production index, fabricated metal products, $2012 = 100$

IPSG3332	Industrial production index, industrial machinery, 2012 = 100
IPSG334	Industrial production index, computer & electronic products, 2012 = 100
IPSG3342	Industrial production communications equipment,2012 = 100
IPSG335	Industrial production index, electrical equipment, appliances, and components, 2012 = 100
IPSG339	Industrial production index, miscellaneous manufacturers, 2012 = 100
IPSG51111	Industrial production index, newspaper publishing, 2012 = 100
IPSN32732T9	Industrial production index, concrete and cement products, 2012 = 100
JECIWSP	Employment cost index—private sector wages and salaries, December 2012 = 100
JEXCHBROAD	Broad U.S. trade-wtd. value of the dollar, index, 2012 = 100
JEXCHMTPREAL	Real US trade-weighted exchange rate with major currency trading partners, 2012 = 100
JEXCHOITPREAL	Real US trade-weighted exchange rate with other important trading partners, 2012 = 100
JPC	Implicit price deflator, personal consumption, 2012 = 100, chain weighted
MINWAGE	Minimum wage, dollars, hourly rate
N	Population, US
N16A	Population, US, aged 16 and older
RMMTG30CON	Commitment rate on conventional 30-year mortgage
RUC	Civilian unemployment rate, percent
TRF$US	Government payments to US farms
TXSIDOM	Domestic social security tax receipts
WPI01	Producer price index, farm products, 1982 = 1.0
WPI02	Producer price index, processed foods and feeds, 1982 = 1.0
WPI08	Producer price index, lumber and wood products, 1982 = 1.0
WPI10	Producer price index, metals and metal products, 1982 = 1.0
YP	Personal income
YPAINT	Personal interest income
YPCOMPSUPPAI	Other labor income, US
YPCOMPWSD	Wage and salary disbursements
YPPROPADJF	Farm proprietors' income (with inventory valuation and capital consumption adjustments)
YPPROPADJNF	Nonfarm proprietors' income (with inventory valuation and capital consumption adjustments)
YPRENTADJ	Rental income of persons with capital consumption adjustment
YPTRFGF	Federal transfer payments to individuals
YPTRFGSL	State and local transfer payments to individuals
ZADIV	Dividend payments, billons of dollars, annual rate

Endogenous Variables:

EEA_ID	Employment on nonagricultural payrolls, total
EEA_ID_2100	Employment in mining
EEA_ID_2300	Employment in construction
EEA_ID_3110	Employment in food processing
EEA_ID_3230	Employment in printing
EEA_ID_3250	Employment in chemicals
EEA_ID_3320	Employment in fabricated metal products
EEA_ID_3330	Employment in machinery
EEA_ID_3340	Employment in computers and electronic products
EEA_ID_4200	Employment in wholesale trade
EEA_ID 44_45	Employment in retail trade
EEA_ID_48_49_22	Employment transportation, warehousing, and utilities
EEA_ID_5100	Employment in information
EEA_ID_52_53	Employment in finance, insurance, and real estate
EEA_ID_54_55_56	Employment in professional, scientific, and technical services
EEA_ID_61_62	Employment in health care and educational services
EEA_ID_71_72	Employment in leisure and hospitality
EEA_ID_8100	Employment in other services
EEA_ID_DMANU	Employment in durable goods manufacturing
EEA_ID_GOODS	Employment in goods producing
EEA_ID_GV	Employment in government
EEA_ID_GVF	Employment in federal government
EEA_ID_GVSL	Employment in state and local government
EEA_ID_GVSLAD	Employment in state and local government, administration
EEA_ID_GVSLED	Employment in state and local government, education
EEA_ID_MANU	Employment in manufacturing
EEA_ID_MFDNEC	Employment in other durable manufacturing
EEA_ID_MFNNEC	Employment in other nondurable manufacturing
EEA_ID_NMANU	Employment in nondurable manufacturing
EEA_ID_NONGOODS	Employment in nongoods producing
EEA_ID_SV	Employment in services
EEA_ID_WOOD	Employment in wood products and logging
ID0CRCROP	Cash receipts, crops
ID0CRLVSTK	Cash receipts, livestock
ID0EXFP	Farm production expenses
ID0HSPR	Housing starts, total
ID0HSPRS1_A	Housing starts, single units
ID0HSPRS2A_A	Housing starts, multiple units
ID0KHU	Housing stock, total

ID0KHU1	Housing stock, single units
ID0KHU2A	Housing stock, multiple units
ID0NB	Number of births
ID0ND	Number of deaths
ID0NMG	Net in-migration of persons
ID0NPT	Resident population
ID0WBB$	Wage and salary disbursements
ID0WBBCC$	Wage and salary disbursements, construction
ID0WBBF$	Wage and salary disbursements, farm
ID0WBBMF$	Wage and salary disbursements, manufacturing
ID0WBBMIL$	Wage and salary disbursements, military
ID0WBBOTH$	Wage and salary disbursements, except farm, manufacturing, military, and construction
ID0WRWCC$	Average annual wage, construction
ID0WRWMF$	Average annual wage, manufacturing
ID0WRWOTH$	Average annual wage, except farm, manufacturing, military, and construction
ID0YDIR$	Dividend, interest, and rent income
ID0YFC$	Corporate farm income
ID0YINV_R$	Farm inventory value changes, imputed rent, and income
ID0YP	Total real personal income, 2005 dollars
ID0YP$	Total personal income
ID0YP$PC	Per capita personal income
ID0YPNF	Nonfarm personal income, 2005 dollars
ID0YPNF$	Nonfarm personal income
ID0YPNFPC	Per capita nonfarm income, 2005 dollars
ID0YPPC	Real per capita personal income, 2005 dollars
ID0YPRF$	Net farm proprietors' income
ID0YPRNF$	Nonfarm proprietors' income
ID0YPTXB	Tax base, 2005 dollars
ID0YRA$	Residence adjustment, personal income
ID0YSI$	Contributions for social insurance
ID0YSUP$	Other labor income
ID0YTR$	Transfer payments to individuals
ID0YTRF$	Government payments to Idaho farmers
IDWAGE	Idaho average annual wage
YPADJ_ID	Adjusted total personal income