

# Idaho Economic Forecast

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- Forecast begins the third quarter of 2021
- Alternative forecasts

#### Wages and salaries disbursement, billion dollars

Wages and salaries disrbursement recovering more faster in the second quarter of 2021.



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 October 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 (link updated Nov. 5) within this pdf document. We are appreciative of the State Controller's office for cooperation with posting the data through its Transparency Idaho website.

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.

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#### Summary

**Personal income:** Personal income remains strong, with wages increasing as transfer payments decline. Nationwide personal income rose 0.2 percent in August, and wage and salary income increased by the same rate.

Personal income in Idaho shows similar dynamics as wages increase. Wages are, under the forecast trajectory, going to make up a larger share of personal income. Personal income is projected at over \$95 billion this year; earlier it was projected over \$96 billion. In 2025, the current projection for personal income is 3.6 percent greater than what it was last projected (this past summer) to be by then.

**Employment:** The second quarter of 2021 brought job growth of 3.8 percent for the nation. Employment gains in the West surged in the second quarter. Central regions saw some of the largest employment drops. Idaho and Utah are the only two states to pass their pre-pandemic employment peaks. In the Northeast, most employment gains resulted from the leisure and hospitality sector.

In the second quarter of 2021, Idaho nonfarm employment grew by 9.5 percent compared to the same quarter last year. Employment in construction and leisure and hospitality is growing faster compared to retail and administrative services. Overall, employment in Idaho shows no signs of decline in the next couple of years.

**Unemployment:** National unemployment rate peaked at 13.0 percent in the second quarter of 2020 and declined to 5.9 percent in the second quarter of 2021. Idaho unemployment rate also peaked at 8.95 percent in the second quarter of 2020 and declined to 3.06 percent in the second quarter of 2021. The DFM economic model does not yet include a state unemployment forecast. The IHS forecast for the state unemployment rate is expected to be around 2.9 percent in the next 5 years. Its current value is 2.9 percent.

**Housing starts:** Once the pandemic hit, nationally the rate of housing starts fell to 1.1 million units annually. Activity has since rebounded to the 1.6 million units per year rate. Home builders have taken out 382 thousand multifamily permits this year through August, the highest year-to-date total since 1985. This numbers affects the national level housing starts forecast.

Idaho housing starts ran at 18-19 thousand housing units during the two quarter prior to the pandemic, with 17-18 thousand two quarters earlier. Idaho did not shut down construction activity. Among the challenges that strong migration into Idaho brings are matching newcomers with housing. Recent housing starts within the state have nearly reached the prior peak just before the housing-lead recession in 2008. This is expected to be a temporary peak. Housing starts are expected to grow from a slightly lower base across the next few years.

Home prices: With increased housing permits predictions, home prices on the national level are expected to grow moderately in the longer horizon. IHS expect a cooling in the home marketplace during the second half of 2021 as more homes are listed.

Median home prices in Idaho have been consistently growing in the past few years. The growth has tapered slightly last year, but in the second quarter of 2021 we observed more than

30 percent increase in median home prices. Such a dramatic change is partly due to a shift in the composition of which homes list. The lower-end of the market has been noticeably absent.

rates of change $(\%)$	2020	2021	2022	2023	2024	2025	2026
US employment ID employment	-5.73 -0.18	$2.63 \\ 5.82$	$3.60 \\ 4.40$	$1.94 \\ 3.66$	$0.96 \\ 2.98$	$0.59 \\ 3.04$	$0.48 \\ 3.13$
US personal income ID personal income	$6.53 \\ 8.85$	$\begin{array}{c} 6.44 \\ 6.97 \end{array}$	$\begin{array}{c} 0.56 \\ 0.66 \end{array}$	$5.11 \\ 6.77$	$5.34 \\ 6.23$	$5.30 \\ 8.22$	$5.23 \\ 7.79$
US GDP US real GDP US CPI inflation US PCE inflation	-2.24 -3.40 1.25 1.18	$9.55 \\ 5.44 \\ 4.31 \\ 3.63$	7.53 4.26 2.99 2.82	5.08 2.83 2.07 1.98	5.12 2.66 2.13 2.04	5.00 2.48 2.28 2.14	4.90 2.44 2.28 2.14

### Forecast description

#### The forecast period begins with the third quarter of 2021

This Idaho economic forecast uses the October 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.

The US economy is expected to continue to recover from the recession induced from the pandemic. Idaho's economy is expected to continue to outperform.

#### Near term

IHS, the provider of the US forecast upon which this Idaho publication is based, has been revising downward its 2021 real GDP growth forecast for the nation. It was set at 6.6 percent in July. In the intervening months, the firm has seen evidence that the third quarter of 2021 will record less growth, and this has in turn lead to a weaker annual figure. The current forecast has real US GDP growth at 5.4 percent for 2021.

Inflation plays a part in that revision. Inflation has been revised upwards both for 2021 and 2022. *Real* GDP adjusts for inflation. A higher anticipated rate of price increases in turn lowers real GDP. The July forecast had consumer prices increasing at 3.7 percent in 2021 and 2.4 percent in 2022. The current October forecast sees those prices increasing at 4.3 percent and 3.0 percent this year and next.

In response to inflation being more pronounced, the US Federal Reserve is expected to taper its bond purchases. In the forecast, this begins in November and the Fed is anticipated to cease such purchases by mid-summer 2022. Further, IHS sees that the Fed has advanced its lift-off from the effective zero-lower-bound for short term interest rates by around half of a year. IHS sees this as occurring in March 2023. Finally, the firm follows the guidance from the Federal Reserve's Open Market Committee, and accordingly accelerates the ensuing climb back to a neutral interest rate environment. This neutral interest rate environment is expected to be 2.5–2.75 percent.

The resumption of active monetary policy through interest rate rises brings with it expected increases in longer term interest rates, notably in the 30-year mortgage rate. These averaged 3.1 percent in 2020, are expected to average 2.9 percent in 2021, and then to climb to 3.4 percent in 2022 and 3.9 percent in 2023. House price appreciation has been a notable development during the pandemic, and lower interest rates have aided this from the perspective that a given mortgage payment amount translates into larger mortgage values at lower interest rates. The reverse holds as interest rates rise, so home purchasers either must have larger down payments, afford higher mortgage payments, or else shop for less expensive homes when interest rates rise. In the IHS forecast for national home starts, single-family starts are cooler than the 2020 pace. Multi-family starts are expected to remain strong.

US 2021 nonfarm employment growth was forecast at 2.8 percent by IHS in July. Following that was 3.7 percent growth in 2022. Corresponding Idaho numbers from DFM were 4.5 percent and 3.3 percent. The US forecast has been revised downward while the Idaho forecast has been revised upward. In the October release, IHS sees the US having job growth of 2.6 percent in 2021 followed by 3.6 percent in 2022. These are revisions downward by 0.2 and 0.1 percentage points, respectively. Meanwhile, the outlook in Idaho has improved. Nonfarm job growth is now seen coming in at 5.8 percent in 2021 and 4.4 percent in 2022. These are revisions upward by 1.3 and 1.1 percentage points, respectively.

The extra strength already seen within the job market in Idaho bolsters the case for these increases. Looking at quarterly figures measured at annual rates, the fourth quarter of 2020 through the second quarter of 2021, which are the three most recent quarters of data available, show annual growth rates well north of 6 percent in each quarter. In fact, these rates were 6.3 percent, 7.0 percent, and 7.1 percent, respectively.

The accompanying graph shows the trajectories forecast for some of the largest, private employment categories in Idaho. Notable in this graph is that healthcare is separate from private education in this depiction. Similarly, administrative work is separate from other professional business employment. Finally, the abruptness of the most recent, pandemic induced recession is quite visible, most



notably for leisure and hospitality, which is still recovering.

#### Longer term

Forces shaping the economy across the remainder of the forecast include macroeconomic measures which may have seemed further off prior to the pandemic. Partly this reflects the elapse of nearly two year's of time during the pandemic. Some of this reflects changes induced by the pandemic and ensuing shutdowns.

Demographic change are among these. US labor force participation had ran at 63.3 percent prior to the pandemic declaration. In September, the participation rate was 61.6 percent. IHS notes that applying that participation rate differential to the September working-age population yields a decrease of 4.5 million persons who are available to work. For context, there are 145 million nonfarm jobs in the US across the second quarter 2021.

IHS sees it taking two more years for the participation rate to approach its pre-pandemic measure. The current reading of the participation rate is little changed from over a year ago, in particular the July 2020 reading. Overcoming that inertia is expected to take some time, two year's in IHS's estimation. If that forecast proves accurate, the resulting peak is then soon eroded



via demographic structure of the US population. Aging workers drop out of the labor force.<sup>1</sup>

In the second half of 2023, the participation rate is expected to cross above 63 percent, and the peak is projected for the middle of 2025 when 63.2 percent is expected. Idaho's labor-force participation has been stronger than the nation's. The last three readings of this, July through September, show values already at 62.4–62.5 percent, roughly 0.8 percentage points above the national reading. Stronger readings in this metric are supportive of the more robust growth forecast for jobs in Idaho than for jobs across the nation.

Within the Idaho economic model, net migration is a consequence of job growth (which drives population growth) in conjunction with births and deaths.<sup>2</sup> Recently migration has greatly augmented Idaho's population and workforce.

Migration rates into Idaho in early 2015 were below 9 thousand people coming to the state annually. By the close of 2017, the rates were north of 27 thousand people annually. Recent readings, which are inferred from the 2020 Census figures and Idaho birth and death figures for 2020 put migration into the state at an annual rate above 32 thousand people per year. The Idaho economic model predicts that net migration into the state will stay elevated above the 30 thousand annual rate through the close of 2023, and above 24 thousand per year through 2026 at least.

For context, Idaho births have ran at the 21–22 thousand annual rate for the last several years, and they are predicted to hold fairly steady near the 22 thousand annual rate across the forecast through 2026. Deaths have increased from near the 14 thousand annual rate in 2017 to

<sup>&</sup>lt;sup>1</sup> An aging workforce is also affecting US competitors. *The Economist* noted in one of its October publications that Germany is also facing a demographic driven erosion in its working-age population, a factor the publication cited with regard to wage-growth pressures facing Europe's largest economy.

 $<sup>^{2}</sup>$  (Im)migration at the national level means international immigration. Migration at the state level primarily means movement into or out of the state of Idaho from or to another US state.

near the 16 thousand annual rate in 2020.<sup>3</sup> In particular, this includes the effect of part of the pandemic. The Idaho economic model otherwise was predicting that type of rate for 2026.

Juxtaposing the birth and death rates, it is clear that migration into the state has contributed the lion's share (four or more times the rate of natural increase, which is births minus deaths) to Idaho's population growth in recent years, and it is expected to do so through the close of this forecast in 2026.

Among the challenges that higher net migration into Idaho brings are matching newcomers with housing. Recent housing starts within the state have nearly reached the prior peak just before the housing-lead recession in 2008. At the close of 2005, Idaho housing starts reached 24 thousand units at an annual rate. They bottomed out near 4 thousand in 2010. The first quarter of 2021 saw housing start activity above the rate of 23 thousand starts annually.

In mid-2019, the rate was near 17 thousand starts per year. At the onset of the pandemic, the rate fell below 16 thousand per year. The forecast sees starts a bit lower than the most recent quarter's readings, but sustaining and building upon the 2019 rate across the forecast.

With in the US forecast, IHS sees the current elevated rate of housing starts persisting a bit longer than the Idaho economic model sees for this state, but that persistence then fades into a gradual decline towards the mid-2019 level through 2026. In contrast, with a smaller industry, and hence greater potential for variability in each measurement, the Idaho outlook pulls back more quickly towards the 2019 level, but builds upon that level going forward towards 2026.

With these discussions of demographics and housing, some local context is provided for the jobs outlook locally. The other obvious context is what is occurring nationally. At the US level, nonfarm jobs are expected to follow the 2021–2026 annual growth path detailed in the accompanying chart. Personal income and wage data is also given, primarily for context when considering Idaho's expected trajectory. Monies are in nominal terms, as well as in annual growth rates. Note that transfer payments revert towards normal after this year. Their quieting is largely the force slowing personal income growth early in 2022. IHS does not anticipate additional stimulus measures.

US growth rates	2021	2022	2023	2024	2025	2026
Nonfarm jobs Personal income	$2.63 \\ 6.44$	$\begin{array}{c} 3.60\\ 0.56\end{array}$	$1.94 \\ 5.11$	$0.96 \\ 5.34$	$0.59 \\ 5.30$	$0.48 \\ 5.23$
Wages	7.54	7.04	5.68	5.06	4.89	4.81
ID growth rates	2021	2022	2023	2024	2025	2026
Nonfarm jobs Personal income Wages	$     5.82 \\     6.97 \\     10.83   $	$4.40 \\ 0.66 \\ 9.92$	$3.66 \\ 6.77 \\ 7.88$	$2.98 \\ 6.23 \\ 7.61$	$3.04 \\ 8.22 \\ 7.99$	$3.13 \\ 7.79 \\ 8.22$

 $<sup>^{3}</sup>$  The most recent birth and death counts for Idaho are the 2020 annual figures. As pregnancy generally takes 9 months, no official figures are yet available regarding conceptions in Idaho subsequent to the pandemic declaration. Higher frequency data is not available — only annual figures are given to DFM.

Upon the jobs and income forecasts for the nation, the state forecast is supported. The discussion already given supports the additional strength shown in the Idaho forecast in comparison with the national forecast.

#### Fiscal policy and government employment

Within the national forecast, IHS assumes the continued implementation of the tariffs on imports, including on Canadian softwood lumber and on many Chinese products. The firm's forecast also includes the effects of the several stimulus measures passed in response to the pandemic. In particular, this includes the next payments through the American Rescue Plan (ARP) to the states in the second quarter of 2022. The first payment of ARP came in the second quarter of 2021.

Thus far, the fiscal assumptions are uncontroversial as they have already been passed and are undergoing deployment. However, IHS also assumes passage of an infrastructure bill roughly along the lines of the existing Infrastructure Investment and Jobs Act (IIJA). This bill has yet to be passed by Congress. It is, however, a bit modest in comparison with the stimulus bills already passed. In IHS's understanding, which primarily comes from the Congressional Budget Office's (CBO's) scoring of the bill, the IIJA adds \$548 billion in new budget authority.<sup>4</sup> That is spread across five years. Peak outlays are \$293 billion in 2026, which is 0.3 percent of anticipated GDP at that point. The GDP growth impact estimate actually peaks at 0.19 percentage points in 2024. Total nonfarm jobs are three-quarters of a million positionss higher by 2025 under the assumption of the IIJA. At that point, nonfarm employment is expected to be 156–157 million.

IHS notes that the \$480 billion extension of the debt limit will expire within December. Though it is not a guaranteed, the firm does anticipate that the debt limit is again expanded. Similarly, the forecast does not include any shutdown of the federal government.

IHS does *not* assume passage of a bill along the lines of the Build Back Better (BBB) proposal. The firm does indicate that "the potential for passage of BBB is an upside fiscal risk to our forecast." The firm also acknowledges that the initial aim of a \$3.5 trillion dollar package is, if any bill is attained, likely to be reduced.

One feature of the ARP was an expanded Child Tax Credit. "Advance payments of the Child Tax Credit authorized under the American Rescue Plan are helping to partially offset the expiring UI payments; in August, CTC payments raised personal income by \$226 billion (annual rate)." The ARP authorizes these through 2021; they began in July 2021.

Federal government actions also impact local economies through employment. With 2020 now in the rear-view mirror, it is important to recognize that many temporary 2020 Census workers have exited government employment. This is visible even within Idaho's federal employment.

Government employment within Idaho for state and local entities have also seen large swings, though these are more related to the pandemic and resulting shifts in workforce and schooling than the 2020 Census. Across the nation, educational employment is one of the weaker sectors within the jobs universe. Educational employment includes bus drivers, cafeteria workers, and

 $<sup>\</sup>overline{4}$  So not all of the roughly \$1 trillion price tag for the bill is new spending authority.

maintenance and janitorial staff. These employees generally have high levels of contact with students, many of whom are un-vaccinated, and at least through the writing of this report, not able to be vaccinated because clearance of vaccines has been graduated by ages, with the youngest Americans still waiting for approval of vaccination programs. Idaho employment in the educational subsector of government employment has also lagged behind what the state's population growth would generally portend.

Federal employment in Idaho peaked near 14,200 in the third quarter of 2020 as the Census conducted its non-response follow-up program to get as complete of a count as possible. Current values are closer to 13,600 employees. Total state and local government employment reached almost 117 thousand employees in early 2020. It is currently



close to 111 thousand. Part of total state and local government employment, educational employment was in the high 59 thousand level late in 2019. Recently it is close to 56 thousand.

#### Monetary policy, inflation, and interest rates

The Federal Reserve Bank of Richmond reports current economic conditions. These are compiled in its "Beige Book" reports. In its October 2021 edition, several Federal Reserve districts noted slowing growth. They saw growth was constrained by supply chain disruptions, labor shortages, and uncertainty around the Delta variant of COVID-19. Most districts reported significantly elevated prices, fueled by rising demand for goods and raw materials. Price pressures also arose from increased transportation costs. Labor constraints were important as well, and commodity shortages also contributed to pricing pressures. Long-haul truck drivers are in short supply; semi-conductor chip shortages are causing firms to close factories temporarily, reducing supply of goods which use them.

The Federal Open Market Committee  $(FOMC)^5$  held its most recent meeting in September. The participants submitted their economic projections for each year from 2021 to 2024. From this meeting, the median projection for the federal funds rate<sup>6</sup> was lifted from 0.1 percent to the new level of 0.3 percent for 2022, and from 0.6 percent to 1 percent for 2023. Currently the federal funds rate is held between 0 and 0.25 percent, what is generally called the effective

 $<sup>^{5}</sup>$  This is the short-term interest rate setting committee of the Federal Reserve

 $<sup>^{6}</sup>$  The short-term interest rate that the Federal Reserve uses to implement monetary policy; it is akin to the (annualized) rate for an overnight loan.

zero lower-bound. Hence the new projections by the FOMC participants indicate that 2022 will see lift-off from the effective zero lower-bound, and 2023 is then expected to follow lift-off with another interest rate rise, possibly two, if the FOMC sticks with moving in increments of 0.25 percentage points.

Reading a bit further into the FOMC's communication, IHS advanced liftoff of the federal funds rate from September to March of 2023. The FOMC generally does not set monthly timelines in its communication. IHS does, though, adjust its forecast based upon the most salient metrics for the FOMC's decisions. The IHS forecast for core per-



sonal consumption expenditure inflation (core PCE) is up from last month, with the annual figure now at 2.5 percent over the four quarters of 2022, rather than 2.1 percent. IHS noted two major factors for this revised upward trend: increased pessimism about automobile industry inflation and soaring price in rents. Core PCE is the preferred inflation measure that the Federal Reserve targets for 2 percent average inflation. In the near-term, the Federal Reserve is aiming for slightly above 2 percent inflation as the previous decade had generally seen slightly below 2 percent inflation.

Alongside the federal funds rate, the Federal Reserve's asset purchasing program is another significant policy tool of the Federal Reserve Bank. In its September meeting, the committee directed the Fed's operations to increase the holdings of Treasury securities by \$80 billion per month and to increase its holdings of agency mortgage-backed securities (MBS) by \$40 billion per month. These are continuations of the policy which has been in place across most of the pandemic. This decision allows the smooth functioning of markets for these securities. The FOMC next meets in November. It is anticipated in IHS's forecast that the FOMC will announce the tapering of this program of asset purchases at that meeting.

#### Housing and construction

At the national level, housing starts were running above 1.4 million units per year during the two quarters prior to the pandemic. This was up from the 1.3 million unit rate two quarters earlier. Once the pandemic hit, the rate fell to 1.1 million units. Recall that some states shut down construction activity in the first months of the pandemic. Activity has since rebounded to the 1.6 million units per year rate. IHS sees this pace fading to 1.4 million by the middle of 2022.

In contrast, Idaho housing starts ran at 18–19 thousand housing units during the two quarter prior to the pandemic, with 17–18 thousand two quarters earlier. Once the pandemic hit, housing starts fell to a rate of just below 16 thousand. By late 2020, they were above the 20 thousand unit rate, reaching 23 thousand in the first quarter of 2021 and above 21 thousand in the second quarter. Idaho did not shut down construction activity. It did require physical distancing. DFM sees the 17 thousand unit pace, which was achieved in the third quarter of 2019, as essentially the lowest value we are likely to see.



Looking at the composition of housing starts, nationally, the multi-family sector is threetenths of the production of units. Within Idaho there is greater variability of that sector's weight. It has been as high as above one-fourth just prior to the pandemic, but it has fallen to below one-sixth. The most recent reading is one-fifth. The forecast sees this as an upper-bound on the ratio for the state. Idaho's multi-family housing subsector is underweight relative to the national market.

IHS is more bullish for the multi-family subsector in housing than the single-family sector. The strength that IHS places within the multi-family sector is not replicated for Idaho housing. In the rising interest rate environment that IHS sees for the next few years, Idaho housing starts, though, hold up largely through strong wage growth and employment growth.

Accompanying this paragraph is a graph depicting the distribution of quarterly measurements of annualized growth rated for the construction industry in Idaho. As elsewhere, when looking at the distribution of growth rates, it is important to know the period of data as well as what, if any, data is excluded. The shutdown quarters of the pandemic are excluded here even though construction was deemed essential work within Idaho, hence not officially shutdown. Included in the graph are visual depictions via vertical lines of the median growth rates.

Note that even though the shutdown quarters were excluded, construction still shows a few historical quarters of contraction. The forecast shows no quarters of growth under 2 percent annually. Finally, the 2015 through 2019 data includes a the period 2015–2018 in which mortgage rates increased from near 3.7 percent to near 4.8 percent. It also includes 2018–2019 when rates plunged from that 4.8 percent rate to 2.8 percent. The forecast period shows mortgage rates only increasing from 2.9 percent to 4.7 percent.

#### Manufacturing

Total manufacturing employment in the state reached above 69 thousand in 2020. It advanced to 71.5 thousand in 2021. This forecast sees the expansion to above 72 thousand occurring in late-2023/early-2024. Durable manufacturing is roughly four-sevenths of all manufacturing in the state. Nondurable manufacturing,



which is largely associated with food production, is the remaining three-sevenths. Neither subsector saw annual declines due to the pandemic thus far. On the quarterly measurement level, durable manufacturing saw the steeper decline during the first quarter of the pandemic. By the close of 2020 it looked to have regained its pre-pandemic level. Nondurable manufacturing looks to have exceeded its pre-pandemic level by the same time.

The IHS commentary on industrial production and business activities focuses on weather related disruptions (Texas ice storm, hurricane Ida), supply chain disruptions (chips for automobiles), and drilling activity (and its relation to oil prices). Demand for chips, including memory chips, is quite high. Micron and ON Semiconductor, two Idaho companies, are benefiting from this. Recent news on food manufacturing has been muted compared with early in the pandemic, when plants were undergoing shutdowns due to outbreaks. Another factor which affected food manufacturing was that farm prices swung wildly as capacity to accept the product varied greatly due to shifts from restaurant dining to at-home or take-out dining. Recently, local weather has had impacts on Idaho crops, but Idaho facilities seem to be finding sufficient local supplies — of barley, of sugar beets, of dairy, of beef, of wheat, of hops.

Manufacturing wages have been quite volatile when measured at the average rate even before the pandemic. Like construction, manufacturing, particularly food manufacturing, was encouraged to continue operation throughout the pandemic. Still, manufacturing companies had employees grappling with the same conundrums: childcare and healthcare. The median annualized growth rate across half of a decade of history would sit on the horizontal axis. The median for the forecast is not displayed, as it would nearly coincide with the forecast. That median is 5.3 percent annualized growth.

The great variability in the historical measure likely reflects changes in the composition of the workforce or plant-wide changes in compensation. Plants coming online or going offline can change the average wages because so many jobs are immediately added or removed. Some plants also may shutdown for maintenance, which can affect quarterly measurements.

#### Agriculture

The national forecast for agriculture that DFM uses is produced by the Food and Agricultural Policy Research Institute, FAPRI, which is a collaboration of several universities.<sup>7</sup> Historical data comes from the US Department of Agriculture, which also produces a forecast for the current year. DFM averages the two forecasts where



they overlap. That US forecast then informs the Idaho forecast produced by the Idaho econometric model.

Manufacturing wage growth

The national forecast is typically revised once per year. October generally is the first publication under the revised forecast. To characterize the revisions this year, they are more pessimistic for agriculture. That has resulted in a downgrade to Idaho's agricultural outlook. News from around the state is indicative that 2021 is likely not the best year for agriculture in the state.

Low soil moisture content and little rain during the summer, extreme heat, and long-held smokey skies worked against farmers and ranchers this growing season. Potatoes, wheat, barley, and alfalfa have been impacted. Some preliminary results suggest a potato crop 20 percent below typical, with similar results for wheat. The outlook for the sugar beet and dry beans harvest is better as these crops do well in greater heat.

The Wood River Valley's drought has been severe. A short shutoff of water was implemented before a negotiated reopening. In the Treasure Valley, the dry spring affected the onion crop, with germination down 15–20 percent. Similarly, the hop crop is estimated down in the 20 percent vicinity. Next year's crop could also be affected as well. After harvest, vines are usually watered to prepare for next year. This has been impacted by early shutoff of irrigation. Likewise, forage in Valley County was reduced due to the dry spring, affecting cattle and sheep ranchers.

The Bureau of Economic Analysis provides farm proprietor's income measures for each state. The September release of data included not only the second quarter of 2021, but revised the data going back to the start of 1998. In Idaho's case, there was a substantial divergence with the revision beginning in 2018. Note that the FAPRI forecast includes policy revisions coming out of Washington, D.C. The behavior in 2024 is likely to see further revisions in the future.

#### Consumption

<sup>&</sup>lt;sup>7</sup>University of Missouri-Columbia, Texas A&M University, Texas Tech University, University of Arkansas, University of Nevada-Reno

Prior to the pandemic, the average household obligation ratio was running at 15.25 percent. This ratio measures the ongoing debt and reoccurring payments the household faces in comparison to the household's disposable income. In the second quarter of 2020, as stimulus payments began, this fell to 13.7 percent. It fell again in the first quarter of 2021 to 12.9



percent. IHS sees this rising back to 15.1 percent in the fourth quarter of 2021, with stable values near 15.4–15.6 percent across 2022–2023.

Consumer sentiment was running in the mid-90s as measured by the University of Michigan consumer sentiment index. It fell to 74.1 in the first quarter of the pandemic, rebounded to near 80 crossing from 2020 into 2021, reached above 85 during the second quarter of 2021, but is expected to have fallen to 75 during the third quarter, and to remain below 80 through the rest of 2021. IHS sees this measure resting at 79.3 measured on the annual level for 2021, 88 for 2022, and 94.5 for 2023. This is indicative of an improving consumer mood.

Credit card spending fell 30 percent during the early months of the pandemic. IHS also points out: "The five-quarter change in credit-card balances relative to before the pandemic was -15.1 percent," so not only was spending reduced, so was accumulated debt on credit cards. Spending regained its January 2020 level by early 2021, and it now is often reaching 20 percent above the January 2020 level. Some of this growth reflects the resumption of the shift from cash and check spending towards credit card spending, a shift which has been ongoing for decades.

The pandemic accelerated some spending patterns, particularly the shift to online shopping. Reservations for dining are running at 90 percent of pre-pandemic levels. Airport throughput is similarly at roughly 90 percent of the January 2020 level. IHS points out that the Delta variant's wave of the pandemic has likely reinforced shopping, business, and leisure habits characteristic of the pandemic, perhaps cementing them for longer than had been appreciated earlier.

Federal Reserve data indicates that \$3 trillion in excess savings has accumulated since the onset of the pandemic. This is partly coming from saving stimulus payments, partly coming from postponed or canceled spending. IHS believes that these savings will be spent slowly across the owners' lifetimes. It sees a consequence of this: future savings rates are likely to be slightly reduced compared to what they would have been otherwise.



DFM does not have access to Idaho data of similar metrics. The office does monitor sales tax collections, including online purchases through marketplace facilitators. From the data available it appears that the patterns seen at the national level could well be applicable at the Idaho level. In particular, there is not yet evidence for any contradictory view.

#### Healthcare

Prior to the pandemic, healthcare held about 105 thousand jobs in Idaho. It fell to below 102 thousand jobs, but has since recovered and expanded, to above 107 thousand jobs. The view in the forecast sees healthcare above 115 thousand in mid-2022, and above 120 thousand by early 2023. Closing the forecast, more than 144 thousand healthcare jobs are expected in the state.

While Idaho healthcare jobs contracted to 96.5 percent of the pre-pandemic level, the national contraction was to 90.5 percent. By the close of 2020, Idaho's industry was back to 100 percent of its pre-pandemic level, whereas the nation was at 95.0 percent. The most recent quarter shows Idaho at 102.2 percent of the its first-quarter 2020 level, but the national figure at 95.9 percent. It takes until the third quarter of 2023 under IHS's forecast for the national healthcare sector to expand its employment back to the pre-pandemic level.

By then, Idaho is expected to be at 111 percent of is pre-pandemic level. Nationally, the figure then holds near 100 percent through mid-2024, whereas Idaho's healthcare employment is expected to continue to expand.

Looking at the last half of the prior decade, healthcare grew at a median annual rate of 3.6 percent. The forecast has growth at 4.9 percent.



This higher forecast is concentrated in the right half of the distribution of that historical data. In the accompanying graph, the distribution of healthcare is fairly symmetric, with the peak (mode value) near 4 percent annual growth. The distribution of healthcare forecast is concentrated between 4–8 percent growth. The history part of this graph does not include the outlying quarters for the pandemic shutdown.

#### Global

The International Monetary Fund (IMF) projection for the global growth for 2021 has been revised down to 5.9 percent but is unchanged for 2022 at 4.9 percent compared to the July forecast. While supply disruptions led to downward revisions in advanced economies' growth, commodity-exporting emerging economies have stronger outlooks. The outlook for the lowincome developing economies is weaker due to worsening pandemic dynamics. By the IMF estimates, advanced economies are likely to grow at 5.2 percent in 2021 and 4.9 percent in 2022; emerging markets and developing economies are likely to grow at 6.4 percent in 2021 and 5.1 percent in 2022.

Some emerging economies and the Unites States have shown rapidly increasing inflation. It appears to mostly be caused by mismatches in supply and demand due to pandemic-related disruptions. Another cause is higher commodity prices. Consumer prices in advanced economies are likely to be up by 2.8 percent in 2022 and 2.3 percent in 2022. In emerging market and developing economies, consumer prices are expected to increase by 5.5 percent in 2021 and 4.9 percent in 2022.

Employment around the world remains below pre-pandemic level. Youth and lower-skilled workers' employment remains weaker. According to the IMF, all advanced economies are expected to regain pre-pandemic output levels by the end of 2022, but only two-thirds are projected to regain their earlier employment. Emerging market and developing economies show a similar pattern. The IMF says this differential between output and employment recoveries suggests pandemic induced structural changes in economies which may lead to larger inequality in countries. According to the IMF, women's employment in emerging market and developing economies remains more adversely impacted than men's, while in advanced economies, earlier differences by gender have largely subsided.

Another multi-lateral research institution, the Organization for Economic Cooperation and Development (OECD), which is a cooperative of 35 advanced economies, also produces outlooks. Its view is that higher commodity prices and elevated costs to ship goods have contributed 1.5 percentage points to inflation in the top 20 global economies. It sees inflation averaging 4.5 percent for those economies at the close of 2021, and 3.5 percent through 2022. For the US wich is a member of the cooperative, the OECD research sees 3.6 percent CPI inflation in 2021, and 3.1 percent CPI inflation in 2022.

IHS places US CPI inflation at 4.1 percent in 2021, 3.0 percent in 2022, and 2.1 percent in 2023. The firm does expect that core inflation will exceed headline inflation. This means that food and energy costs are expected to temper inflation in the near future, according to IHS's outlook.

IHS's outlook for real world growth is for 5.6 percent in 2021, 4.5 percent in 2022, and 3.4 percent in 2023. The OECD sees 5.7 percent in 2021 and 4.5 percent in 2022, so the firm and the cooperative are largely in agreement. The IMF sees growth at 5.9 percent and 4.9 percent, so its forecast is a bit more optimistic than that of IHS.

### A previous forecast and the current forecast: a comparison

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. This October forecast sees 2021 personal income at nearly identical to that early projection of over \$42 billion, but now wage payments in 2022 are projected to be substantially above \$46 billion. Wage growth is projected to be up by over 7 percent each year of the forecast. In the prior forecast, the growth rates headed towards 5 percent. Wages are, under that trajectory, going to make up a larger share of personal income. Personal income is projected at over \$95 billion this year; earlier it was projected over \$96 billion.

The projections, October and July, are quite similar by 2023. However, the current projection then stays above the earlier projection. In 2025, the current projection for personal income is 3.6 percent greater than what was projected in July.

Population projections are up by 17 thousand in 2022 in this forecast over the July forecast. By 2026 the state's annual average population is expected to crest 2 million.



Under the current projection, growth through 2025 brings Idaho's population within 3 thousand of what was expected only through 2026 in the July forecast.

Total nonfarm jobs are strong in the current forecast. Next year they are projected at 833 thousand. They had been forecast at 819 thousand. The discrepancy grows a little by 2024 when 17 thousand more jobs are now seen. For 2026, the placement is now at 951 thousand, rather than 895 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

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.

In Idaho, total jobs grow each year in each of the three scenarios. By the close of the forecast in 2026, jobs figures are higher in the two alternatives than in the baseline. For the optimistic case, this is quite typical of such a scenario. For the pessimistic case, one of the major influences which augments jobs is that lower interest rates persist for longer. In the IHS pessimistic scenario, the federal funds rate does not "lift-



off" from the effective zero lower bound until 2026. This is in contrast with rates rising in 2023 in the baseline and in 2022 in the optimistic case. By 2025, both of the rosier scenarios have these short-term interest rates above 1.5 percent.

Total Idaho wages are forecast just above \$50 billion in 2023 under the baseline. In the optimistic case, this rises to above \$51 billion, while it falls to under \$49 billion in the pessimistic case. By 2026, the difference grows to \$2 billion in the upside, and almost \$3 billion in the downside.

Put together with the jobs figures already discussed, Idaho wages are stronger in the optimistic case, and substantially weaker in the pessimistic case.

Idaho's housing starts are predicted above 20 thousand in each of the cases this year. In 2024, both of the rosier cases see starts above 20 thousand again, but the gloomier scenario sees them just shy of 20 thousand. At the close of the forecast in 2026, starts are beyond halfway to 23 thousand, save in the pessimistic case, where they are not yet a third of the way above 22 thousand to the next thousands marker.

		2021	2022	2023	2024	2025	2026
Wages \$ m	baseline optimistic pessimistic	$   \begin{array}{r}     42,370 \\     42,440 \\     42,302   \end{array} $	$\begin{array}{r} 46,573 \\ 47,217 \\ 45,918 \end{array}$	50,241 51,450 48,836	54,066 55,736 52,046	58,388 60,362 55,861	$\begin{array}{c} 63,\!188\\ 65,\!300\\ 60,\!214\end{array}$
Housing starts	baseline optimistic pessimistic	$     \begin{array}{r}         \hline             20,527 \\             20,527 \\             20,527 \\             20,527 \\             \end{array}     $	18,056 18,056 18,056	18,822 18,856 18,790	$20,162 \\ 20,240 \\ 19,980$	$21,499 \\ 21,597 \\ 21,220$	22,639 22,724 22,318

#### The IHS Markit US Macroeconomic Model

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:

- (I) Private domestic spending
- (II) Production and Income
- (III) Taxes
- (IV) International
- (V) **Financial**
- (VI) Inflation
- (VII) Supply
- (VIII) Expectations
  - (I) 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.

(II) 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.

- (III) **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 pretax 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.
- (IV) 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.
- (V) 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.
- (VI) 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.
- (VII) 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.

(VIII) **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.

### 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.

## National 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
Ν	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

#### Idaho 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 Employment in wholesale trade EEA ID 4200 EEA ID 44 45 Employment in retail trade EEA ID 48 49 22 Employment transportation, warehousing, and utilities Employment in information EEA ID 5100 EEA\_ID\_52\_53 Employment in finance, insurance, and real estate Employment in professional, scientific, and technical services EEA ID 54 55 56 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 Employment in government EEA ID GV EEA\_ID\_GVF Employment in federal government Employment in state and local government EEA ID GVSL Employment in state and local government, administration EEA\_ID\_GVSLAD EEA ID GVSLED Employment in state and local government, education EEA ID MANU Employment in manufacturing EEA\_ID\_MFDNEC Employment in other durable manufacturing Employment in other nondurable manufacturing EEA ID MFNNEC 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