

Idaho Economic Forecast

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- Forecast begins the first quarter of 2022
- Alternative forecasts



Average wages: Proportion of 2019q4

Idaho Economic Forecast 2022–2026

State of Idaho BRAD LITTLE Governor

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Introduction

This document summarizes Idaho's economic forecast for 2022 through 2026. The primary national forecast in this report is the April 2022 IHS Markit baseline forecast (IHS is now part of S&P Global). 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 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 (coordination is still in progress) and will update the report 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 resignations during rapid recoveries 2022-07 and US inflation in context 2022-08, among other interesting topics.

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

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Economic Analysis Bureau Greg Piepmeyer, Chief Economist (208) 334-3900 This Idaho economic forecast uses the April 2022 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. Inflation and subsequent Federal Reserve policy changes as well as the war in Ukraine are the major drivers of change in this forecast. The Federal Reserve initiated policy rate hikes in February, and subsequent rate hikes are now likely in 2022. Some may be 1/2-point changes. Ultimately the rate is now expected move above 2 percent before the end of the year, where it began the year near the 0 percent lower bound. IHS largely follows the forward guidance from the Federal Reserve, in particular the Federal Open Market Committee (FOMC), which publishes its summary of economic projections SOP.

Freddie Mac' Primary Mortgage Market Survey PMMS shows mortgage rates already responding to the more aggressive monetary policy. Rates have topped 5 percent for conventional 30-year mortgages. They had been below 3 percent during the middle of the pandemic.

The US unemployment rate fell from the January 2022 reading of 4.0 percent value for the nation of just 3.6 percent in March. A broader historical context is available via the BLS.

The most recent Idaho unemployment rate was 2.6 percent (in March), and the rate began the year at 3.5 percent.

Oil prices quickly escalated upon the Russian invasion of Ukraine. They have somewhat retreated since then. West Texas intermediate oil prices in Cushing, Oklahoma have followed the global pricing pressures, too. Oil prices are elevated within the forecast, with a medium-term projection towards the end of 5 years nearer to 80 dollars per barrel.

Longer term. As mentioned in prior forecasts, Idaho's employment reattained its pre-pandemic value, and has continued to expand. The US is nearing recovery from the pandemic losses. It remains to regain the jobs which otherwise would have been created in the past two years. IHS had been projecting a near-leveling of employment for the US, partly reflecting a demographic shift.

To give an indication of the scope of this, across 2016–2018, nonfarm employment grew from 143.4 million jobs to 149.6 million jobs, a difference of 6.2 million jobs in three full year's time. Alternatively, this represents a 4.2 percent increase in three years. Across 2022–2024, IHS is forecasting nonfarm jobs increasing from 150.4 million at the start of 2022 to 154.6 at the close of 2024, an increase of 4.2 million jobs. This represents a 2.8 percent increase in three years. Then across 2025–2026, the increase is 1 million jobs, representing a 0.6 percent increase in those two years. Even with the shorter duration, this is quite the step-down in growth.

This forecast, IHS has resumed assuming some substantial immigration into the US. Population growth lifts from 0.1 percent in 2021 to north of 0.5 percent per year by mid-decade, with the decomposition being 3/5 natural increase and 2/5 immigration. This would be slightly less weighting towards immigration than what occurred in 2019, prior to the pandemic. Idaho's population is expected to continue to expand, and it is highly dependent upon migration into the state. Most movers into Idaho are from other US states.

Idaho's jobs outlook is substantially similar to the recent (non-pandemic period's) behavior in terms of growth rates.

| | | Annual growth rates for the US and Idaho | | | | | | | | |
|--|----------------|--|----------------|----------------|-----------------|----------------|----------------|----------------|----------------|--|
| | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | 2023 | 2024 | 2025 | 2026 |
| US nonfarm jobs ID nonfarm jobs | $1.57 \\ 3.06$ | $1.56 \\ 3.28$ | $1.34 \\ 2.95$ | -5.80 -0.06 | $2.78 \\ 5.03$ | $4.00 \\ 3.12$ | $1.45 \\ 3.86$ | $0.60 \\ 3.61$ | $0.32 \\ 3.39$ | $\begin{array}{c} 0.35\\ 3.11 \end{array}$ |
| US personal income ID personal income | $4.68 \\ 5.97$ | $5.08 \\ 6.40$ | $4.06 \\ 6.72$ | $6.53 \\ 8.85$ | $7.39 \\ 9.64$ | $2.29 \\ 1.72$ | $5.56 \\ 7.03$ | $5.43 \\ 8.09$ | 5.10 7.96 | 4.79 7.38 |
| US wage & salary ID wage & salary | 4.74 7.28 | $5.02 \\ 7.06$ | $4.75 \\ 5.66$ | $1.29 \\ 7.00$ | $9.35 \\ 12.30$ | 9.17 8.28 | 6.18 9.14 | $5.05 \\ 8.52$ | $4.54 \\ 8.17$ | $4.34 \\ 7.51$ |
| US population ID population | $0.69 \\ 2.12$ | $0.57 \\ 1.88$ | $0.49 \\ 2.11$ | $0.34 \\ 3.28$ | $0.14 \\ 2.88$ | $0.35 \\ 2.71$ | $0.46 \\ 3.26$ | $0.50 \\ 2.44$ | $0.53 \\ 2.08$ | $0.54 \\ 1.94$ |

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Current economic conditions

Domestic conditions.

GDP growth. IHS continues to revise downward its estimate for near-term real GDP growth, and to revise upwards its estimate for inflation.¹ The changes in these measures and the forecast are quite unusual. While the zig-zag of real GDP growth during 2020 is likely familiar by now,² the unwinding of the effects of inflation are different from recent inflation experience, and therefore likely different from everyday thoughts. Looking at the



accompanying table for the outlook for CPI inflation, it may seem remarkable that the value in 2023 is more than 4 percentage points below the value in 2021. The decline is expected to be swift, which can be seen in the accompanying graph. That graph also includes the expectation under the prior report for context.

As another point of context, the first Bureau of Economic Analysis (BEA) reading of first quarter real GDP growth was released April 28. It stood at -1.4 percent, in contrast with the low, but slightly positive value forecast by IHS as depicted in the solid blue line.

| | US in | flation | adjust | ted GD | P grov | vth, an | ıd infla | tion m | easure | s |
|------------------------|-------|---------|--------|--------|--------|---------|----------|--------|--------|------|
| | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | 2023 | 2024 | 2025 | 2026 |
| Consumer price index | 2.13 | 2.44 | 1.81 | 1.25 | 4.69 | 6.79 | 2.56 | 2.12 | 1.93 | 1.75 |
| Inflation adjusted GDP | 2.26 | 2.92 | 2.29 | -3.40 | 5.67 | 2.98 | 2.80 | 2.68 | 2.40 | 2.27 |
| PCE | 1.83 | 2.14 | 1.48 | 1.18 | 3.87 | 5.75 | 2.53 | 1.99 | 2.02 | 1.85 |

Consumers. The University of Michigan Consumer Sentiment $Index^3$ has recently read below the level recorded in April 2020, as the pandemic took hold.

Inflation, often measured by consumers through gas and food prices, has been weakening real incomes. Gasoline prices were near \$3.30 per gallon in late 2021. Upon the launch of war in Ukraine, they rose to above \$4 per gallon, and have tended to stay above that value since.⁴

Real disposable income, that is after tax, was up 6.2 percent in 2020. It was forecast in the prior edition of this report to rise by 1.7 percent in 2021; the current reading for 2021 of that is 2.2 percent. However, it is expected at -4.4 percent in 2022, largely reflecting erosion through inflation.

 $^{^1}$ The adjective real indicates that the data has been adjusted for inflation. GDP is typically reported in this inflation-adjusted manner.

² https://fred.stlouisfed.org/series/GDPC1/#0

³ https://fred.stlouisfed.org/series/UMCSENT/

⁴ https://www.gasbuddy.com/charts

The obligations ratio, which measures ongoing debt service to disposable income, includes long-term debt such as mortgages. It was expected to rise from 14.1 in 2020, to 14.2 in 2021, then 15.3 in 2022 and 15.4 in 2023 in the prior IHS forecast. The current forecast shows the obligations ratio at 13.6 in 2021, to 15.3 in 2022, then 16.0 in 2023, and 16.3 in 2024. Partly these higher values reflect additional debt service costs through higher interest. Partly it also reflects continued expansion of consumer credit, at (monthly measures of) rates often above 5 percent annually, and occasionally above the 10 percent annual rate.

It is often mentioned that the US economy is a service economy which is highly dependent upon (civil society) consumption. Here is one anecdote from IHS illustrating the scope of that. "Consumer credit outstanding rose at an annual rate of 6.5 percent in February, increasing by \$41.8 billion." The annual rate means that consumer credit expanded by 0.5 percent over the January level. Translating: \$41.8 billion is one-half of one percent of outstanding consumer credit in the US at the beginning of 2022, putting total consumer credit very near \$8 trillion.

Labor market. The U-3 unemployment rate, which is the one which makes headlines, continues to fall, almost achieving is record low prior to the pandemic, though it has been only two years since the record bounce in unemployment in April 2020.⁵

Other, broader measures of the labor market also continue to show a tight situation, including the U-6 measure, which captures more of the na-



tion's labor-force under-utilization. The Bureau of Labor Statistics, which measures unemployment, in table A-15 of the pdf, shows the recent trend in U-6 unemployment rate, with a substantial decline in under-utilization across the past year.

Idaho's unemployment situation is close to if not as tight as it has ever been.⁶ Without additional sectors of workers entering the labor force, revisions up to the trajectory of total nonfarm jobs in the state may be rarer. Generally there is room for additional employment in the younger cohorts. Also, ages for retirement may shift again. Finally, there may be greater participation by those left out of the workforce due to unusual child care situations the past few years.

Monetary policy. This avenue of influencing the economy is likely to be much more active in novel ways across 2022 and 2023. Interest rates have already risen for consumers. They are likely to be pushed higher in order to cool inflation within the economy. Measured by the consumer

⁵ https://data.bls.gov/timeseries/LNS14000000

⁶ A local source for this information is https://lmi.idaho.gov/.

| | | | | Idaho | employ | vment g | growth | | | |
|----------------------|------|------|------|-------|--------|---------|--------|------|------|------|
| | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | 2023 | 2024 | 2025 | 2026 |
| ID nonfarm jobs | 3.06 | 3.28 | 2.95 | -0.06 | 5.03 | 3.12 | 3.86 | 3.61 | 3.39 | 3.11 |
| Service economy jobs | 3.65 | 3.87 | 3.73 | -0.34 | 6.12 | 3.75 | 5.25 | 4.28 | 3.69 | 3.28 |
| Manufacturing jobs | 2.90 | 2.94 | 0.92 | -1.32 | 3.79 | 2.27 | -1.37 | 0.74 | 1.77 | 1.59 |
| Government jobs | 0.70 | 1.67 | 0.62 | -1.03 | -1.06 | 1.94 | 1.08 | 1.29 | 1.55 | 1.53 |

price index (CPI), nationwide inflation has reached 8.5 percent in March over the prior March. In the Intermountain West, that local measure is even higher, at 10.4 percent⁷

The situation with inflation has upended the Federal Reserve's take on the economy; this is visible in new graphs in 3.A,C-E of their summary of economic projections.⁸ The upshot of these revised views is that expected rate hikes are now concentrated within 2022. IHS has largely adopted this view in its outlook.

Fiscal policy. The new budget does represent about 2.8 percent greater budget

authority than in prior Congressional Budget Office forecasts (and hence IHS forecasts). Consequently, there is a mild fiscal stimulus with the current forecast above that presented in January. The IHS forecast does not include any further federal stimulus legislation beyond that already enacted. The last headline generating round of that was the Infrastructure Investment and Jobs Act of late 2021, which is spread across much of the next decade. Consequently, the budget surplus/deficit to GDP ratios should remain milder than those in 2020 and 2021.

2073 2014

Personal income in Idaho. The federal government has again extended the payment moratorium on federal student loans, this time from May till August, so Idaho borrowers benefit again. Necessary payments have been postponed since early in 2020. Many Idahoans will also benefit from an income tax rebate on the tax year ending in May 2021, courteous of Idaho House Bill 436 of this past legislative session. From our prior



⁷ See https://www.bls.gov/news.release/pdf/cpi.pdf, table 4.



2022 2023

2027 2020

⁸ https://www.federalreserve.gov/monetarypolicy/files/fomcprojtabl20220316.pdf

edition, "wage payments are projected to increase going forward, continuing the recent experience." Indeed wage payments have increased, even more than had been understood. Bureau of Economic Analysis figures show Idaho wage payments growing more quickly in the nearterm than had been forecast in the past edition of this report. Local data corroborates this through withholding payments to the Idaho State Tax Commission. Withholding payments come primarily through regular jobs.

Data available for the prior edition of this publication covered only the first half of 2021. Data for this publication are complete through all of 2021. This leads the revision to personal income: upon stronger wage payments, so too is personal income projected to to be stronger across the forecast.

| | | | Millions of dollars in Idaho | | | | | | |
|---------|-----------------|-------------------|------------------------------|------------------|------------------|--------------------|--------------------|-------------------|--|
| January | | prior h | nistory | | | | | | |
| April | | | current | history | | | | | |
| | | 2021q1 | 2021q2 | 2021q3 | 2021q4 | 2022q1 | 2022q2 | 2022q3 | 2022q4 |
| January | wages income | 40,389 101,740 | $41,445 \\ 94,004$ | 42,492 94,821 | 43,336 94,664 | $44,101 \\ 95,151$ | $44,800 \\ 96,376$ | $45,649 \\97,863$ | $46,401 \\98,954$ |
| April | wages income | 41,258 102,636 | 42,298 94,814 | 43,587 95,604 | 44,594 97,617 | 44,843 97,386 | 45,940 98,912 | 47,033 100,539 | $\begin{array}{r} 48,\!150 \\ 102,\!454 \end{array}$ |

Housing starts and population in Idaho.

A frequent question in Idaho concerns the composition of those moving here, particularly the age distribution. Oftentimes this question arises in the context of housing starts, and whether starts are sufficient in quantity and quality not instantaneously, which the newspapers will confirm, but across a reasonable time-frame, which can be harder to tell.



There is recent data through 2019 which can give an indication of the age and sex distribution of those moving to Idaho *in net*. By this it is meant that if for the age 34 and female the data shows a positive value of 318, then that many more age 34 females were found to have moved into the state than had moved out of the state in the past year. Of course, likely some moved out, and even more moved in, creating that 318 balance.

This data can be projected forward to indicate a likely net change for each age and sex in the next few years based upon the expected net migration, which was the purpose of developing this dataset for DFM. Here is a snapshot of the distribution for 2019. Note that in the historical data, there are some abrupt turns in net migration into the state. The behavior near 18 years of age involves both college and church missions. For example, a net loss of 399 males is shown for 2019 at the age 18. Of course, this is the age of going to college as well as the age for males to go on missions.⁹ Other turns occur near retirement age. Note that the data indicates that there are substantial numbers of new Idahoans who are children of primary and secondary school ages.

Often the question is asked if everyone moving into the state is a retiree. Of course, the answer cannot be "just" yes, but without some quantitative context, it could be difficult to say to what extent new Idahoans are of retirement age. What appears to be the case is that most years a fairly even distribution of new residents occurs *in net*, with the exceptional ages being primarily those where students head to college or missionaries make their voyages. One consequence of this is that a broad swath of housing types is likely needed to meet demand, both single family and multi-family. Multi-family housing is often the entry point for new households, whether those forming within Idaho or those relocating to Idaho, but multi-family housing is also a continuing option for a substantial portion of Idaho's resident population. Multi-family housing has been expanding in Idaho in recent years. In the economic outlook section, we show the expected trajectory for that sector in a table.

Global conditions. China aims for 5.5 percent real GDP growth in 2022, but IHS has the country at 5.1 percent real growth in March. Shanghai and other cities shutting down for extended duration makes hitting the Chinese target difficult. Hong Kong is also straining under pandemic shutdowns. The IMF placed growth in 2022 at 4.4 percent for China, with the estimate current as of April. The first quarter growth rate was 4.8 percent according to the official Chinese measurement.

We pull the following from our January edition. The Organization for Economic Cooperation and Development's December 2021 forecast¹⁰ listed three factors affecting the global economy. We summarized:

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.

The war in Ukraine with its corollaries for food and energy prices, the shutdowns of cities in China as well as the continuing lag in vaccination campaigns in lower-income countries, and the continued labor shortage in the US despite filled jobs not yet attaining the level reached before the pandemic indicate that the OECD's reading of the near future was well constructed.

⁹ That is the traditional male age for the Church of Jesus Christ of Latter Day Saints missions, whereas the female age is traditionally 19. The slight offset in ages is visible in several years of data. Further, the abrupt migration out is soon replaced by an abrupt migration in, likely showing a return from such missions or schooling.

¹⁰ https://www.oecd-ilibrary.org/economics/oecd-economic-outlook/volume-2021/issue-2_ 66c5ac2c-en

Energy markets swung from pricing Brent crude oil under 20 dollars per barrel on the spot market in 2020 to above 120 dollars per barrel in early 2022. The outlook by IHS is for this market to gradually find prices heading towards 85 dollars per barrel by the close of 2024 from their current values near 100 dollars per barrel. That would bring a 70 cents per gallon reduction to the average



price of gasoline across 2022–2024. The price this year is expected to average just a bit above 4 dollars per gallon in the US. IHS notes that drilling activity for both oil and natural gas is recovering from the drop during the early days of the pandemic. As much as possible of the extra natural gas produced is expected to go towards LNG exports, since overseas prices for natural gas are higher than domestic prices. The limiting factor is the capacity of plants to compress the natural gas for shipping it across seas.

The IHS forecast places global growth at 3.2 percent in 2022 and 3.3 percent in 2023. Both are downgrades from their prior month's forecast, and that is largely due to the disruptions that the war in Ukraine has brought. For specific countries, IHS sees Canadian growth at 3.2 and then 2.8 percent. Japan reaches 2.4 then 1.8 percent, which is about the same as their forecast for the Eurozone. Mexico sees only 0.6 percent growth in 2022 but 2.2 percent in 2023, and China is set at 5.1 and 5.2 percent those two years. By 2024, the outlook for world growth is not appreciably differnt from that seen in 2014–2015 within the IHS forecast.

Economic outlook

| US growth rates | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | 2023 | 2024 | 2025 | 2026 |
|--|--|---|---|------------------------------|---|-------------------------------|--|---|------------------------------|------------------------------------|
| US nonfarm jobs | 1.57 | 1.56 | 1.34 | -5.80 | 2.78 | 4.00 | 1.45 | 0.60 | 0.32 | 0.35 |
| US population | 0.69 | 0.57 | 0.49 | 0.34 | 0.14 | 0.35 | 0.46 | 0.50 | 0.53 | 0.54 |
| Total personal income | 4.68 | 5.08 | 4.06 | 6.53 | 7.39 | 2.29 | 5.56 | 5.43 | 5.10 | 4.79 |
| \dots inflation adjusted \dots | 2.80 | 2.88 | 2.54 | 5.29 | 3.43 | -3.33 | 2.95 | 3.37 | 3.01 | 2.88 |
| Wage & salary payments | 4.74 | 5.02 | 4.75 | 1.29 | 9.35 | 9.17 | 6.18 | 5.05 | 4.54 | 4.34 |
| average US wage | 3.11 | 3.41 | 3.37 | 7.63 | 6.26 | 4.99 | 4.67 | 4.42 | 4.21 | 3.97 |
| | | | | | | | | | | |
| ID growth rates | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | 2023 | 2024 | 2025 | 2026 |
| ID nonfarm jobs | 3.06 | 3.28 | 2.95 | -0.06 | 5.03 | 3.12 | 3.86 | 3.61 | 3.39 | 3.11 |
| ID population | 2.12 | 1 00 | 0 1 1 | 2 00 | 0 00 | 0 11 | 0.00 | 0 1 1 | 0.00 | 1 0 4 |
| | 2.12 | 1.00 | 2.11 | 3.28 | 2.88 | 2.71 | 3.26 | 2.44 | 2.08 | 1.94 |
| ID personal income | $\frac{2.12}{5.97}$ | 6.40 | 6.72 | 3.28 8.85 | 2.88 9.64 | 2.71 | 3.26 7.37 | 2.44 8.17 | 2.08 7.98 | 7.38 |
| ID personal income inflation adjusted | $\frac{2.12}{5.97}$ 4.06 | $ \begin{array}{r} 1.88 \\ 6.40 \\ 4.18 \end{array} $ | 2.11 6.72 5.16 | 3.28 8.85 7.59 | $ \begin{array}{r} 2.88 \\ 9.64 \\ 5.61 \end{array} $ | 2.71 2.21 -3.42 | $ \begin{array}{r} 3.26 \\ \overline{} \\ 7.37 \\ 4.72 \\ \end{array} $ | $ \begin{array}{r} 2.44 \\ 8.17 \\ 6.06 \end{array} $ | 2.08 7.98 5.84 | 1.94 7.38 5.43 |
| ID personal income inflation adjusted Wage & salary payments | $ \frac{2.12}{5.97} \\ 4.06 \\ \overline{7.28} $ | 1.88 6.40 4.18 7.06 | $ \begin{array}{r} 2.11\\ 6.72\\ 5.16\\ 5.66\end{array} $ | 3.28 8.85 7.59 7.00 | $2.88 \\ 9.64 \\ 5.61 \\ 12.30$ | 2.71 2.21 -3.42 8.28 | $ \begin{array}{r} 3.26 \\ \overline{} \\ 7.37 \\ 4.72 \\ 9.14 \end{array} $ | $ 2.44 \\ 8.17 \\ 6.06 \\ 8.52 $ | 2.08 7.98 5.84 8.17 | 1.94 7.38 5.43 7.51 |

Housing market. The revised demographic view of IHS within this forecast works to expand the demand for housing. Countering that is the rising cost to service mortgage debt, as reflected in the 30-year mortgage rate. Also countering it is declining household formation across demographic groups by age. Overall, the competing forces of demography produce a household formation rate which has 1.3 million new house-



holds in 2023, but 0.9 million in 2032. Housing starts are expected to be 1.6 million in 2022, just as they were in 2021, with 1.5 million to follow in each year of 2023–2024. Note that housing starts are expected to exceed household formation. There is always a background level of removal of housing stock: this may be due to degradation and obsolescence. as well as conversion of housing stock into business addresses. Also, home which become secondary homes are a part of housing starts.

The accompanying graph indicates the variability in mortgage rates (they are measured weekly in the Freddie Mac survey), in contrast with the quarterly average data used by to produce its quarterly forecast. The Freddie Mac data is complete through mid-April, and its last few darkgreen dots are clearly above the bright-green dashed line representing the IHS forecast. This suggests an upwards revision in mortgage costs in subsequent editions of the IHS forecast.

| The olive colored line nearest zero level are the average points needed to buy into the mortgage | ge |
|--|----|
| product. Points represent up-front payment of interest charges upon closing. Average poin | ts |
| have increased of late, with the shift upwards visible during the pandemic period. | |

| | | 2019 | 2020 | 2021 | 2022 | 2023 | 2024 | 2025 | 2026 |
|----|-----------------------------|-------------------|-----------------------|--------------------------------|-------------------|------------------------------|-------------------|-----------------------------|-----------------------|
| US | growth single units | 3.6 889,333 | 8.1 1,003,750 | $14.9 \\ 1,131,250 \\ 472,417$ | 0.9 1,133,885 | -6.8 1,045,348 462,552 | -1.2 1,025,524 | 0.4 1,026,685 470,668 | -2.8 1,004,206 |
| | growth | 402,833 | <u>392,833</u> 8.7 | 473,417 | 485,595 | 463,553 | 465,574 8.2 | 470,668 | $\frac{451,585}{3.3}$ |
| ID | single units multi units | $13,010 \\ 3,818$ | $14,578 \\ 3,722$ | $16,\!447 \\ 4,\!503$ | $16,395 \\ 3,907$ | $17,806 \\ 3,869$ | $19,191 \\ 4,256$ | $20,042 \\ 4,742$ | $20,445 \\ 5,149$ |

The outlook for housing within Idaho is more uniformly expansionist. Migration into the state is expected to continue to push Idaho's population up more quickly than the national expansion. Each year of the forecast is expected to see 30,000 or more new residents moving to the state.

Construction jobs within the Idaho are bolstered by the Idaho housing market, as the expected number of housing



starts are set to continue to climb to accommodate the demand for housing that the population growth will bring. Other drivers point towards expansion of the construction jobs in the state. The infrastructure funds from the federal government via the IIJA adds to the demand for construction work here in Idaho across the next decade. Infrastructure funds from the state also increase demand for construction work, including road projects brought about by increased transportation funding and water projects, such as improving reservoir storage. There are also large commercial projects like the Meta (Facebook) data facility in Kuna.

Wealth and its use. IHS indicates real household net worth is expected to fall in 2022. This partly reflects an expected decline of 6.7 percent in the S&P 500. House prices are expected to appreciate. Net wealth is dominated by financial assets and property assets. Readings of these values can be tricky as they fluctuate quickly.

For example, for the last forecast (prepared near the end of 2021), household holdings of financial assets were thought to have expanded by 12.5 percent in 2020 under the prior IHS forecast, but that has been revised to just above 13 percent, and they were expected to increase by 14.2 percent in 2021. The current measure according to IHS for 2021 turned out at 12 percent. Household holdings of other assets, including real estate, expanded by 8.3 (now revised to 8.8) percent in 2020, and were projected to have increased by 14.7 (now revised to 16.8) percent in 2021. The current forecast for financial and all other assets are for contraction of 1.6 percent

and growth of 7.9 percent, respectively, in 2022. Both are expected to grow in 2023, by 1.3 and 6.2 percent. Growth thereafter for each is 2.5–4.2 percent per year in the current forecast.

The net effect between these two drivers, financial and housing wealth of overall wealth, is then considered in light of inflation. Within the IHS forecast, the latter conspires to create a 2.4 percent fall in real net worth in 2022, with a 0.9 percent raise in 2023. Real wealth is expected to expand the remaining years of the forecast.

One aspect helping to augment wealth has been suspension of certain debt during the pandemic, eliminating one set of payments from being immediately necessary. For example, federal student loans have been deferred since early within the pandemic. The federal administration recently extended this deferral beyond May 2022 to August 2022. Other costs, though, have expanded. The past three weekly readings on credit and debit card spending show values 15 percent greater than the level recorded in January 2020. As mitigation of pandemic evolves, spending patterns are again readjusting. E-commerce sales represent about 13 percent of current total retail trade. They rose as hight as 15.7 percent during the pandemic. They are forecast to continue rising through 2026, but to remain below 20 percent.

Net wealth can still mask individual debts, some of which can be substantial. Inflation adjusted debt per household peaked in 2009 at a value near 163,000 in today's dollars. The current value is approaching 200,000 dollars, again in today's dollars. Total mortgages stand to cross \$11 trillion this year.

Behind wealth and debt, though both are great, is income — without it, credit would not be extended for new debts, and appreciation of assets would be far more happenstance. Nonfarm compensation per hour, in IHS's accounting, was found to have risen by 7.0 percent in 2020. IHS expected it to expand by 3.8 percent in 2021 within their prior forecast, but now it sees the 2021 value up by 5.3 percent. The prior forecast then



recorded 3.7 percent in 2022, before 4.5 percent growth in 2023. Those values are now seen at 5.7 percent and 4.7 percent. As we see, the IHS forecast sees compensation growing more quickly than it has recently envisioned.

Business and wages. With inflation making headlines, IHS remarks the following:

Compensation per hour in the nonfarm business sector increased at a 7.5 percent annual rate in the fourth quarter of 2021 following an annualized increase of 6.2 percent in the third quarter. Compensation per hour is up 5.5 percent over the last four quarters. We estimate compensation per hour will edge down from 5.5 percent growth in 2021 to 4.7 percent growth over 2022 and to 4.5 percent growth in 2023. We expect compensation per hour to then average 3.9 percent growth over 2024–2026.

Allowing for the deceleration of inflation given the compensation story just detailed is the trajectory of productivity in the IHS forecast. Output per hour is expected to decline by 0.1 percent in 2022, but to climb by 1.7 percent in 2023, 2.5 percent in 2024 and 2.2 percent in 2025. For context, the change in 2021 was an increase of 1.8 percent.

The accompanying graph indicates how Idaho wages compare with national counterparts since the pandemic. These are in nominal figures, i.e., in "today's dollars." The cover gives another view of the same data. While the graph here shows that Idaho wages trail those in the nation, at least measured on an average basis, the cover graph shows how these somewhat parallel lines in the graph here are really representing quite similar growth trajectories across recent history and into the near future.

Sectors. For three Idaho sectors, we display historical and forecast distributions of annualized growth measured at quarterly rates. History is given in red, and forecast is in blue. Generally history shows greater dispersion in growth rates, and forecasts are more concentrated in their predictions of growth rates. This is reflected in the red curves being broader and the blue curves being more pointy. The peaks of these curves indicate the most likely quarterly rate of change. The heights (of the peaks) represent roughly how often that type of measurement is expected. Generally, the left-right extent of the portion of the blue forecast graph above the horizontal axis is entirely contained within the extent of the post. We include this description in order to assist you with this type of graph.

As already discussed, construction jobs have several forces propelling them upwards. The context, though, is a sector which has for recent years been expanding at the forefront of Idaho's workforce in terms of rate of growth. This forecast takes a slightly conservative view on the sector. This is consistent with the housing outlook, where there is continued expansion, but not from the highest of all possible place-



ments given recent, though volatile, data. The other reason for a bit of a cautious outlook is that there is at least one headwind beyond the tight labor market working against this industry, and that is the rising interest rates expected in the IHS forecast.

Healthcare has generally been one of the strongest sectors within Idaho across the past two decades. The pandemic did place a couple of quarters of unusual behavior in terms of aggregate jobs. That data is not used for the accompanying graph; a swing one way was largely counteracted then next quarter by a swing the other way. Overall, this depiction shows again a sector reliant upon Idaho's growing population. Here there is less need for a conservative approach, partly because there is much less volatility in this sector, and partly because healthcare is not as dependent upon interest rates in terms of demand.

In the US, manufacturing is not expected to greatly expand its footprint through new facilities in the IHS forecast. Growth in such structures is expected to be 0.8 percent in 2022 and 0.7 percent in 2023. It is, however, expected to expand within structures through additional or updated equipment. Growth in industrial equipment is expected at 8.5 percent in 2022. Transportation equipment is expected to expand by 8.2



percent this year, and 11 percent next year. The one bright spot in structures is related to mining and drilling, which IHS places at 43 percent growth in 2022 and almost 20 percent in 2023. There is some indication that the Permian Basin, where much of this activity has recently been concentrated, is running into both supply and labor constraints already, though. Overall, IHS's position seems well summarized by their statement: "we expect the broad economic expansion to continue apace, motivating businesses to expand productive capacity to keep pace with demand, even as borrowing costs rise."

Manufacturing in Idaho includes semi-conductor work (memory chips and chips for automotive applications), metal fabrication (often for food production lines in the food processing industry, as well as, and unrelatedly, ammunition manufacturing), an building material manufacturing. The diversity of the state's manufacturing is generally viewed as a stabilizing influence on employment. In this forecast, despite there



being strong demand for semi-conductors, the industrial production indicies from IHS are indicating a slowing of employment according to the equation for that sector within the Idaho economic model. We have countered that to some degree, keeping the trajectory for the sector with similar patterns to recent data. It is, though, much of the reason for some mid-forecast weakness within the broader manufacturing job market in the Idaho forecast.

Forecast analysis

Forecast comparison. In our prior edition of this report, we indicated that new data on total wages were indicating a revision up to the forecast. The same holds this time. Last time we attributed that to growth in jobs above what had been expected. This time, the jobs outlook is not substantially different from what was seen in January. However, wages are rising, and that is lifting the outlook for total wage payments.

As total wages are the largest part of personal income, the forecast for that is also revised upwards in this forecast. There are no significant transfer payment alterations in this forecast. The outlook for dividends, interest, and rent is also substantially the same, though up slightly in the higher inflation environment. Supplementary income does move upwards a bit with total wage payments as the value of benefits are somewhat tied to wages and salaries.

| 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 | $907,\!471$ | $936,\!876$ |
| April forecast | | 2021 | 2022 | 2023 | 2024 | 2025 | 2026 |
| Personal income | m | $97,\!668$ | 99,823 | 107,181 | 115,941 | $125,\!189$ | $134,\!433$ |
| Wages | m | 42,934 | 46,491 | 50,743 | 55,063 | 59,561 | 64,034 |
| Population | count | $1,\!900,\!923$ | $1,\!952,\!361$ | $2,\!016,\!049$ | $2,\!065,\!301$ | $2,\!108,\!180$ | $2,\!149,\!072$ |
| Nonfarm | jobs | $798,\!167$ | 823,097 | 854,902 | 885,787 | $915,\!854$ | $944,\!297$ |

Labor market. In the prior edition, we looked at labor force participation rates. These are important markers for the health of the labor economy. Revision by the BLS has altered the story somewhat. Those revisions largely reflect new population estimates, and Idaho's population estimates continue to climb. Since labor force participation is a ratio of jobs to total people, the denominator for Idaho's measurement is growing substantially.

Contrast that with the national population figures. The US has just had some of the slowest growth in US history going back to WWII. Thus, for national labor force participation, the denominator is also growing, but much less substantially.

The upshot of these considerations is that Idaho's labor force participation appeared to be better than the nation given the data available in January. That appearance is diminished. We provide links to charts on this data in the footnotes.¹¹

The forecast from IHS is that labor force participation will increase gradually to 62.8 percent by the close of 2022, a half point increase from its current measure of 62.3. Prior to the pandemic it was 63.2. In the optimistic case, the outlook in 2022 is the same. In the pessimistic it rises

 $^{^{11}}$ US

https://www.bls.gov/charts/employment-situation/civilian-labor-force-participation-rate.htm.

¹² Idaho https://fred.stlouisfed.org/series/LBSNSA16.

just by 0.4 points. The setup is similar at the close of 2026, when 62.7 is forecast both for the baseline and the optimistic case, but 62.0 for the pessimistic case.

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. The pessimistic alternative in the forecast does not presume a recession, but growth does "stumble" according to IHS's description. The optimistic case assumes a quicker resolution to the Russia/Ukraine and it assumes that the US responds to the IIJA stimulus already enacted to a greater degree than the baseline. Overall, IHS tilts the odds to 35 percent for the pessimistic case, 15 percent for the



optimistic, and the remaining 50 percent for the baseline.

| Idaho | | 2021 | 2022 | 2023 | 2024 | 2025 | 2026 |
|----------------|---------------------------------------|--|---|-------------------------------|-------------------------------|-------------------------------|-------------------------------|
| Nonfarm jobs | baseline optimistic pessimistic | 798,167 798,167 798,167 798,167 | 823,097 827,043 822,149 | 854,902 861,868 842,763 | 885,787 893,470 865,479 | 915,854 923,796 893,663 | 944,297 951,382 925,025 |
| Housing starts | baseline optimistic pessimistic | 20,950 20,950 20,950 | 20,302 20,303 20,303 | 21,676 21,687 21,699 | 23,447 23,507 23,459 | 24,785 24,865 24,593 | 25,593 25,670 25,246 |
| Wages, m \$ | baseline optimistic pessimistic | 42,934 42,934 42,934 | $\begin{array}{c} 46,\!491 \\ 46,\!758 \\ 46,\!523 \end{array}$ | 50,743 51,673 50,122 | 55,063 56,335 53,477 | $59,561 \\ 61,104 \\ 57,132$ | 64,034 65,726 60,993 |

The spread on average Idaho wage within these three forecasts is fairly narrow in this set of alternatives in the next couple of years. Partly this may reflect that the triggers for these scenarios are somewhat mild in the IHS outlook. As time progresses, though, the divergence grows to almost \$5,000 per year at the close of the forecast.

For the pessimistic case, a less auspicious outlook for the Russian/Ukranian war keeps energy prices and fuel prices elevated, which drains some of the vigor from consumer spending. To counter inflation, rates still rise, though to a lesser degree. Still, unemployment reaches 5.9 percent in 2024 before declining to 5.2 percent in 2026.

For the optimistic case, a more auspicious outlook for the Russian/Ukranian war is the trigger, but the main conduit is through consumer confidence, not directly through energy prices, which are very similar to the baseline case. There is a little less need to sustain the top expected federal funds rate, so monetary policy is marginally more accommodative. Unemployment falls to 3.1 percent in this scenario in 2022, but the unemployment then gradually raises to the neutral unemployment rate, which is estimated to be in the low-4 percent vicinity, to close the forecast in 2026.

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 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.
- (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 |
| 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 |

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 |
| | |