Alaska's Unemployment Insurance Rate

By Lennon P. Weller,
Economist

Seasonal adjustments to the insured unemployment rate and what they say

Whether it's retail sales, home purchases, demand for heating fuel, or unemployment rates, they all have a yearly pattern called seasonality. Seasonality is simply the observance of a reoccurring pattern in a data series year after year.

For example, retail sales are expected to increase at a certain time during the year: the weekend after Thanksgiving – the official start of the holiday shopping season – and December, when the shopping season is in full swing.

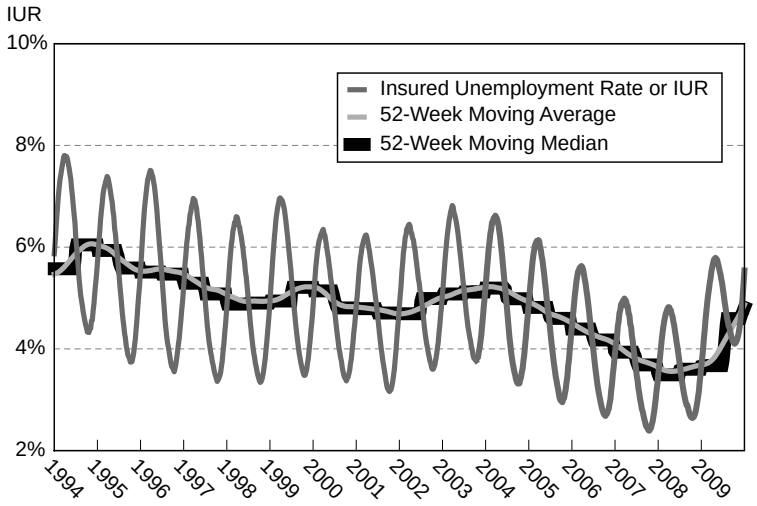
The seasonality – the reoccurring pattern, often driven by one or more periods a year or by the seasons – is usually quite visible in time series data. The objective of identifying seasonality is to differentiate between a typical response to a reoccurring change in the seasons (the expected change) versus underlying changes in the demand (unexpected change).

Unemployment rates are notably subject to seasonal fluctuations, and the insured unemployment rate, or the IUR, is no exception. Much as the standard unemployment rate is used to count individuals who are out of work and looking for work, as a percentage of the labor force, the IUR is simply a narrower measure of the unemployed that focuses solely on those filing for unemployment insurance benefits as a percentage of those covered under the unemployment insurance system.

Alaska's IUR has clear high and low points that repeat themselves year after year. Usually it peaks around the 13th week of the year and hits its low point around the 41st week. (See Exhibit 1.)

The driving force of that seasonality in the rate[1] is due to a large number of seasonal workers filing claims as their period of employment during the year comes to a close. Whether it's seafood processing employees working during fishing openings or construction workers during the construction season, their employment will naturally ebb and flow within these annual cycles. For Alaska, the winter months are the hardest on employment, and that leads to an increased number of people filing claims for unemployment insurance benefits in winter.

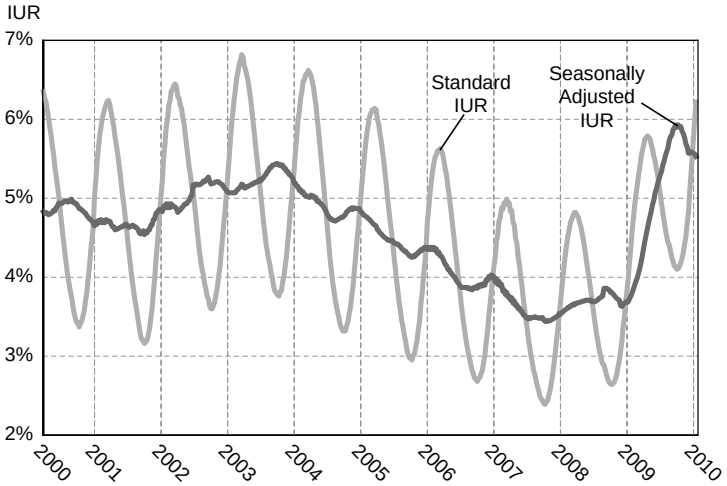
1 The Insured Unemployment Rate[1]
Alaska, 1994 to 2009[2]



Note: All Alaska's claimants are shown – in-state claimants and claimants who file from out of state.
[1] The IUR shown in this exhibit is not seasonally adjusted.
[2] Beginning with the first week of 1994 and ending with the 52nd week of 2009
Source: Alaska Department of Labor and Workforce Development, Research and Analysis Section

[1] All references to "the rate" throughout this article are to the IUR.

2 The Standard and Seasonal IUR
Alaska, 2000 to 2010[1]



Note: The IUR is the insured unemployment rate.
[1] Beginning with the 13th week of 2000 and ending with the fourth week of 2010
Source: Alaska Department of Labor and Workforce Development, Research and Analysis Section

Why seasonally adjust data sets?

Seasonal adjustments are made to time series data in an attempt to identify underlying trends. By identifying the pattern, as mentioned earlier, it's possible to differentiate changes that are expected from those that are not. We expect to see the IUR increase during the first part of the year and then fall as summer approaches. However, it can be difficult to distinguish that natural occurrence from a fundamental change in the labor force in the short-run. (By fundamental change, we mean a change in the value of some measure that isn't due to expected fluctuations or random shocks.)

When analyzing time series data, two main components will be present: a trend or cycle, and a seasonal component. The trend portion of the data set is what we're after, as the seasonality can cloud the picture when we're trying to pinpoint fundamental changes over short periods.

The seasonal adjustment to the IUR

In order to produce the individual components of the time series, unemployment insurance weeks claimed data from 2000 to 2009 were run through a seasonal decomposition in a statistical software package.[2] The seasonal decomposition first finds a statistical best-fit for the trend or cycle component and from there produces the seasonal factors that are used to produce the adjusted level of weeks claimed.

Once we have an adjusted level of weeks claimed for 2000 through 2009, calculating an adjusted rate is all that's left. The standard IUR is calculated by taking the average of the most recent 13 weeks of the weeks claimed and dividing that by the previous four quarters of covered employment. That's done to approximate a rate or percentage of those who are covered by the unemployment insurance system and are filing for benefits.

What does the new measure tell us about the Alaska economy?

Using the same formula and base so a comparison is sound, we calculated an adjusted IUR. (See Exhibit 2.) While the standard IUR follows its seasonal variation, the adjusted rate highlights the underlying demand for unemployment insurance benefits.

The recession of 2001 began a period of increasing insured unemployment rates until 2004. Between 2004 and mid-2007, the rate continually fell as covered employment grew substantially, especially in less-seasonal industries such as retail trade. And, in addition to an increasing covered work force over the period, the claimant population also steadily decreased, from 61,544 claimants in 2004 to 45,343 in 2008. (See Exhibit 3.) In other words, in terms of the IUR, the numerator was shrinking while the denominator was growing.

That brings us to the bust of 2008, when business and consumer confidence collapsed as a result of the financial crisis. That gave rise to a real increase in the demand for unemployment insurance benefits in the latter part of 2008 and virtually all of 2009 in the seasonally adjusted series.

Even though the recession officially began in December 2007 according to the National Bu-

[2] The statistical software package is the Statistical Package for the Social Sciences, or SPSS.

reau of Economic Research,[3] neither employment nor unemployment insurance claims were fully reflective of the change in direction until 2009. Between 2008 and 2009, the claimant population as a whole grew from 45,343 to 63,630, or slightly more than 40 percent.

Labor-intensive industries drive the IUR

The industries that employ a large number of workers – particularly in those industries that are seasonal – are the significant drivers of the IUR.

The construction, manufacturing and trade industries together had 25,110 workers who filed for unemployment benefits in 2009 – nearly 40 percent of the total claimants who filed for Alaska unemployment benefits that year. The current recession not only disproportionately impacted sectors like construction, but it also has worked to reduce individuals' discretionary purchases, and that impacts the trade sector as well.

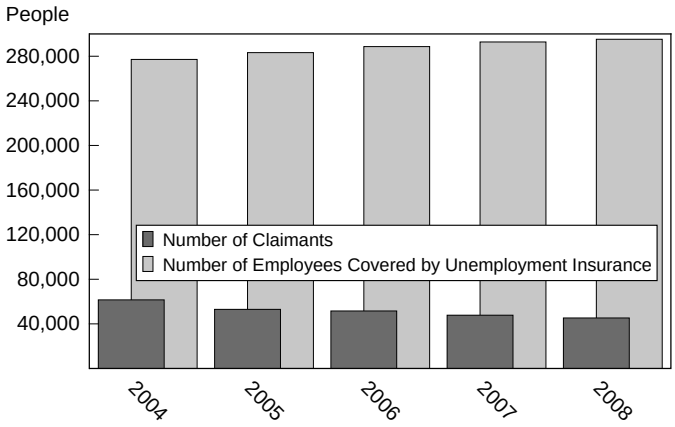
Construction was the industry that led the pack in 2009 with 10,780 claimants – 17 percent of the total claimant population. Claims from workers in the construction industry increased by 2,799, or 35 percent, from 2008. That's a clear reflection of the lack of work available in the off-season due to the downturn. And although construction's 35 percent increase was smaller than the 40 percent increase for all Alaska claimants, the sheer number of people in the construction industry filing for unemployment benefits makes that industry a driving force. (See Exhibit 4.)

The manufacturing industry, which is made up mostly of seafood processing workers, represented the second-highest level in 2009 with 7,268 claimants, or 11.4 percent of Alaska's total claimants. That's an increase of 1,459 claimants, or 25 percent, from 2008. Similar to construction, the 25 percent increase is smaller than the increase for all Alaska's claimants. But because seafood processing is both seasonal and extremely labor-intensive, it also has a significant impact on the rate.

[3] The National Bureau of Economic Research is a private group of economists charged with dating the start and end of national economic downturns.

Claimants vs. Covered Employment
Alaska, 2004 to 2008

3



Source: Alaska Department of Labor and Workforce Development, Research and Analysis Section

The trade industry came in a close third after manufacturing in terms of its share of total claimants, with an increase of 2,394 claimants, a 51 percent increase, from 2008. That brought the total number of claimants from trade in 2009 to 7,062.

Another category to keep an eye on is accommodations and food services. It had 5,866 claimants in 2009, an increase of 1,845, or nearly 46 percent, from 2008.

As Alaska's economy recovers, look for changes in both trade, and accommodations and food services, as the number of consumers and the amount they buy will have a big influence on unemployment claims in those consumer-driven sectors.

No analysis of Alaska's claimants would be complete without mentioning the mining industry. Oil and gas support activities, a subcategory of the mining industry, did see a significant increase in both the number of claims and percentage change. There were 2,345 claimants from oil and gas support activities in 2009, which was up 100 percent from 2008. The 2,345 represented 66 percent of the total mining industry.

In addition, claimants from the mining industry accounted for 5.6 percent of all Alaska claimants in 2009, up from 3.9 percent in 2008.

4 Claimants by Industry
Unemployment insurance benefits,[1] 2009

	Claimants[2] in 2009	Change in Number from 2008 to 2009	Percent Change from 2008 to 2009
Agriculture, Forestry, Fishing and Hunting[3]	398	29	7.9%
Mining, Quarrying and Oil and Gas Extraction	3,555	1,797	102.2%
Support Activities for Oil and Gas Operations	2,345	1,183	101.8%
Utilities	245	26	11.9%
Construction	10,780	2,799	35.1%
Manufacturing	7,268	1,459	25.1%
Food Manufacturing[4]	6,364	1,147	22.0%
Wood Products Manufacturing	205	100	95.2%
Wholesale Trade (and) Retail Trade	7,062	2,394	51.3%
Transportation and Warehousing	4,066	1,205	42.1%
Information	785	311	65.6%
Finance and Insurance	990	256	34.9%
Real Estate and Rental and Leasing	1,186	289	32.2%
Professional, Scientific and Technical Services	1,984	841	73.6%
Management of Companies and Enterprises	54	26	92.9%
Administrative and Support and Waste Management and Remediation Services	3,345	1,205	56.3%
Educational Services[5]	1,418	307	27.6%
Health Care and Social Assistance	4,787	960	25.1%
Arts, Entertainment and Recreation	819	248	43.4%
Accommodations and Food Services	5,866	1,845	45.9%
Other Services (except Public Administration)	1,859	515	38.3%
Public Administration[6]	5,455	995	22.3%
All Industries[7]	63,630	18,287	40.3%

Notes:
The industry categories are according to the North American Industry Classification, or NAICS. The categories are at the broadest level (the two-digit level), with the exception of Support Activities for Oil and Gas Operations (the six-digit level), and Food Manufacturing and Wood Product Manufacturing (the three-digit level). For more information, on the Web go to www.census.gov/naics.

[1] The majority of Alaska workers who are paid wages are covered by the state's unemployment insurance laws. Those who aren't covered include the self-employed, business owners, fishermen, unpaid volunteers or family workers and private household workers. Federal workers are also not covered.

[2] Claimants represent a count of individuals who had just worked for employers classified in the particular industry category, and who collected at least one week of unemployment insurance benefits during the year. All Alaska's claimants are shown – in-state claimants and claimants who file from out of state. No individual is counted twice within a year.

[3] This category tends to be mostly loggers.

[4] Includes seafood processing

[5] Includes public and private education

[6] Local (except teachers), state and federal government

[7] The All Industries total may not equal the sum of individual industries as unclassified claimants aren't included in the industry breakouts.

Source: Alaska Department of Labor and Workforce Development, Research and Analysis Section

In short, all industries are showing an increase in the number of claimants, which is indication of a softening in the labor market across the board. The seasonally adjusted IUR highlights that dramatic change in direction, beginning in 2008 and turning up significantly in 2009.

However, it's important to point out that toward the end of 2009 and in the first few weeks of 2010, the adjusted rate turned down while the standard rate continued to rise. (See Exhibit 2.) The fact that the two rates have diverged recently is reflective of a less-than-expected increase in the weeks claimed. This should be viewed as good news as it indicates that things are settling down. That is, they aren't getting worse.