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# Measuring the Impact of Wyoming's Workforce Development Training Fund: Part Two

***by: Mark A. Harris, Sociologist, Ph.D.***

**"There is good reason to believe the differences we observe between the matched and participant samples are due to program effects."**

The Wyoming Workforce Development Council (WWDC), created by Executive Order 1998-1, is responsible for coordinating a workforce development system that serves the needs of all Wyoming residents, students, and employers by integrating economic development, training, education, and employment opportunities. The Council also has oversight responsibilities for the workforce programs within the workforce development system such as Workforce Investment Act (WIA) youth, adult, and dislocated worker programs, Adult Education, and Vocational Rehabilitation. A strategy the WWDC proposes for reaching its goal of increasing economic opportunity for Wyoming workers[1] is to support programs that demonstrate success in wage progression.[2]

A major training program for Wyoming workers supported by the WWDC is the Workforce Development Training Fund (WDTF). The May 2002 issue of ***Wyoming Labor Force Trends*** contained part one of this article, which described the wage experience of WDTF completers. Part two examines the wage experience of WDTF completers within the context of a matched control group and multi-variate statistical analysis. Such a strategy allows us to compare wage progression of program participants with individuals who did not participate in WDTF training. Results indicate that WDTF participants have higher wages after training than those who did not participate.

## Goals

The goal of the quasi-experimental research presented here is to determine whether program participation has a net effect on wages above what happens to a

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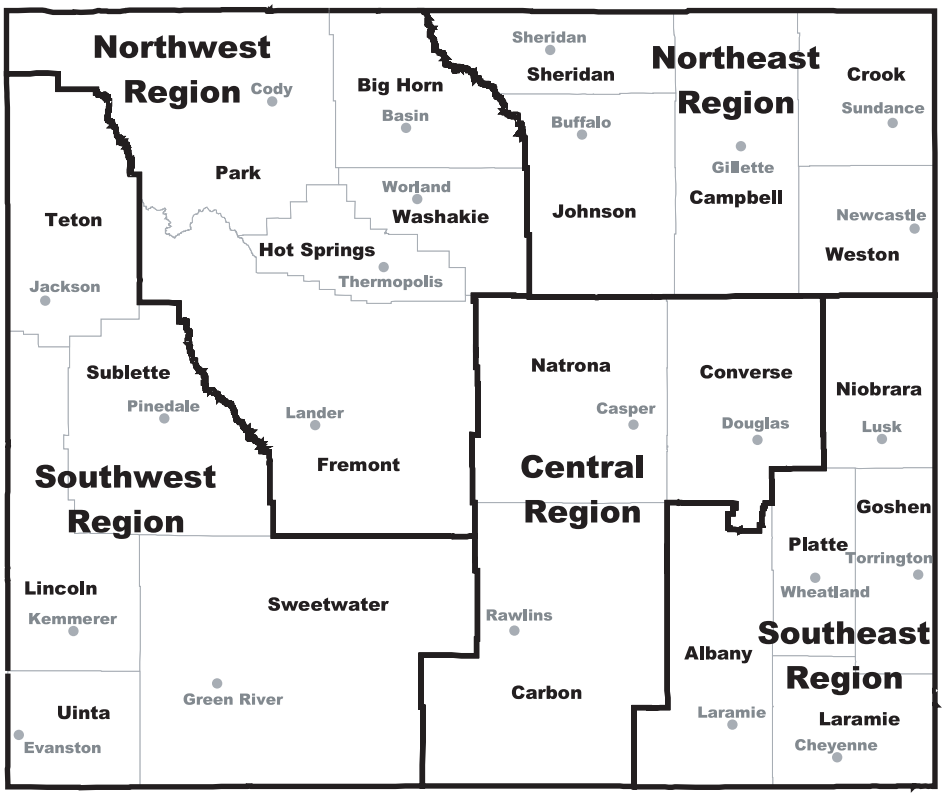


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matched control group. As such, Research & Planning (R&P) constructed matched control groups for the WDTF participant groups. This was done by stratifying the participant groups on relevant theoretical characteristics and then selecting control groups with identical (or matched) characteristics. In principle, having matched control groups allows us to determine whether the outcome variables (i.e., wages) are different between the control and participant groups. Equivalence between the two groups is not assured; however, in the absence of random assignment to control and experimental groups, the proposed strategy is superior to non-experimental design, especially if employed longitudinally.

Theoretically, we expect the WDTF group will have higher subsequent wages than its matched control group. If this is the case, our assumption is that the training programs had a net effect on wages beyond what took place in the control group. However, if the control and participant groups are not adequately matched (i.e., if there are theoretically important differences between the two groups), the differences, rather than the explanatory variable of interest (i.e., program participation), may have caused the variation in the outcome variables. For example, if program participants are highly motivated workers, but members of the control group are not, differences in outcome variables could be attributed to this personality characteristic rather than participation in training. In other words, highly motivated workers would likely have better wages with or without participating in training.

We only have a limited number of theoretical variables with which to stratify our sample and select a control group with similar characteristics. If the stratification variables we have selected are theoretically relevant, then there is good reason to believe the differences we observe between the matched and participant samples are due to program effects.

## Methods

Participant groups for this study consist of WDTF participants who finished their training in fiscal years 1999 (FY99) and 2000 (FY00). To be included in the study, participants had to have wages in R&P's Wage Records[3] database for at least two quarters in the year prior to the year training ended. The WDTF group was stratified by gender, five age categories, and wage quintiles[4] for the average quarterly wage in the year prior to the year training ended. Wage Records for this study included data from Wyoming, Colorado, Idaho, Nebraska, New Mexico, South Dakota, Texas, and Utah. Using regional wage data increases the likelihood of capturing wages for participants both before and after training (i.e., it increases sample size). Regional data are also theoretically relevant because skills gained from training should be related to a wage increase regardless of whether or not the participant remains in Wyoming.

A matched control group of individuals who did not participate in WDTF training (during the period of interest) was then selected from Wage Records. The selection was accomplished by constructing strata with the same age, gender, and prior wage characteristics as the participant groups, then randomly selecting a proportionate sample from the different strata.

## Quasi-Experimental Results

Figure 1 (see page 4) presents average quarterly wages by year for the FY99 WDTF participant group. As can be seen in Figure 1, the FY99 participant group experienced an increase in wages subsequent to training. We pose the question “How does the earnings capacity of the participant group

**Figure 1: Average Quarterly Wages for Workforce Development Training Fund (WDTF) Fiscal Year 1999 (FY99) Participant Group**

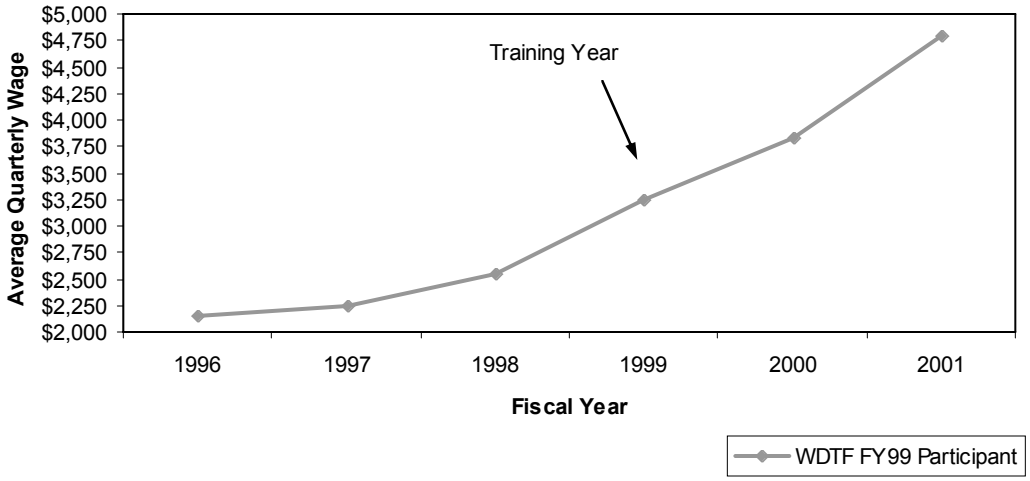
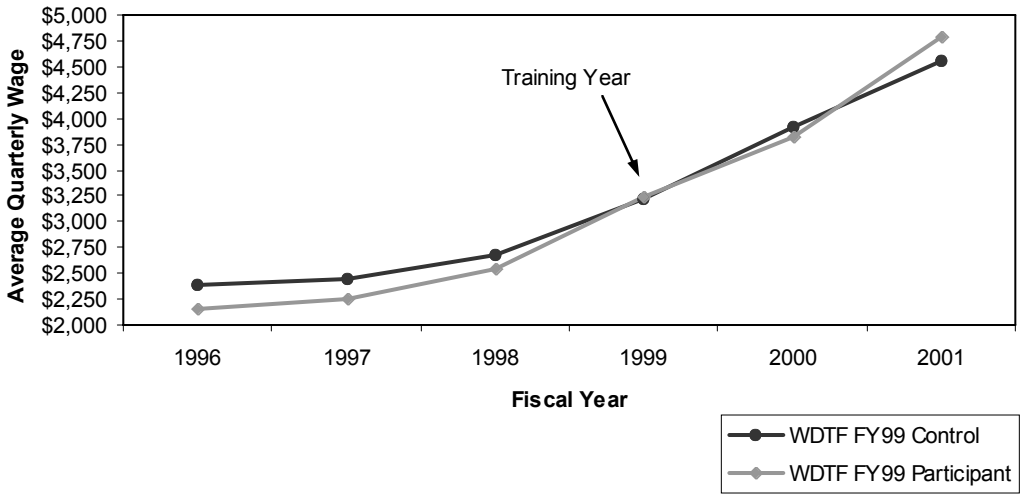



**Figure 2: Average Quarterly Wages for Workforce Development Training Fund (WDTF) Fiscal Year 1999 (FY99) Participant and Control Group**




compare to the experience of the matched control group?" Figure 2 adds the control group to the graph. As shown in Figure 2, the WDTF participant group's average quarterly wage was about $250 dollars more than the WDTF control group two years after the year training ended.[5]

Figures 3 and 4 (see page 5) present similar data for the FY00 group. The major difference between Figures 1 and 2, and Figures 3 and 4, is for the latter two we only have one year of wage data after training. As shown in Figure 4, the WDTF participant group had higher wages (approximately $400) than the matched control group in the year training ended and one year after training ended.

Taken together, Figures 2 and 4 (see page 5) indicate that, relative to their respective control groups, the FY00 participant group

**Figure 3: Average Quarterly Wages for Workforce Development Training Fund (WDTF) Fiscal Year 2000 (FY00) Participant Group**

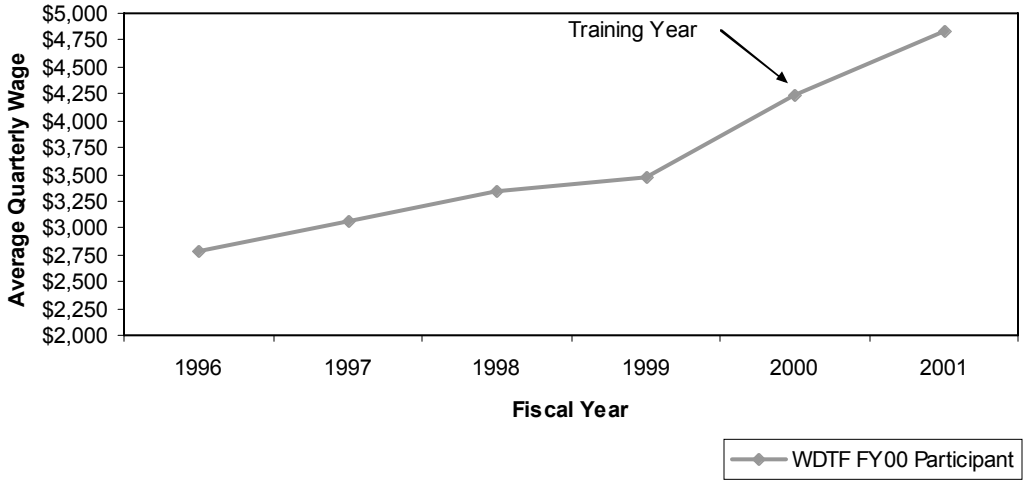
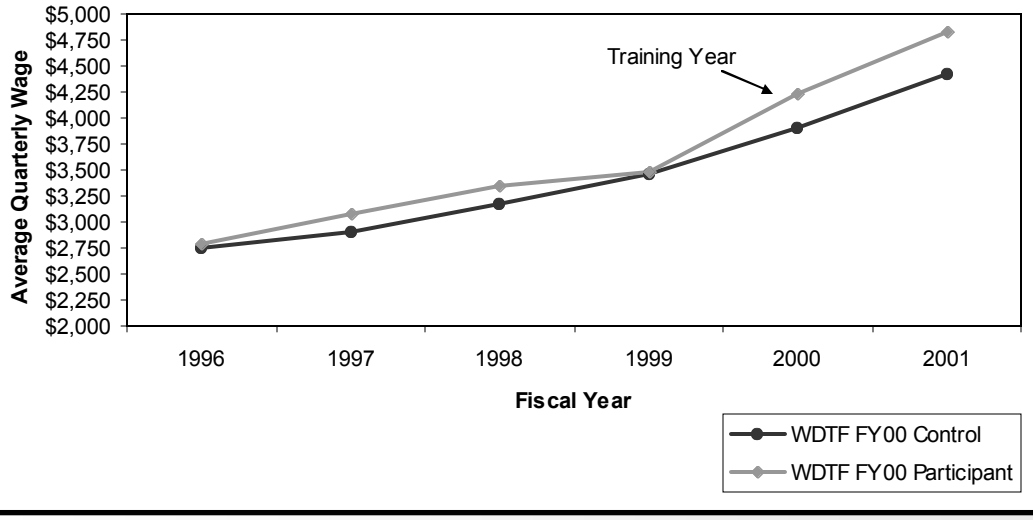



**Figure 4: Average Quarterly Wages for Workforce Development Training Fund (WDTF) Fiscal Year 2000 (FY00) Participant and Control Group**




performed better than the FY99 participant group. Basic differences in the participant groups between the two fiscal years may account for this, or it may be that WDTF program effectiveness is increasing over time.

In sum, the results presented here seem to indicate that, as a group, WDTF participants experience wage progression relative to a matched control group. Assuming the stratification variables we have selected are the appropriate theoretical controls, the data show that training associated with the WDTF may be effective in increasing wages above and beyond the experience of a matched control group.

## Multi-Variate Tests

The following sections present Ordinary Least Squares (OLS) regression results for

the WDTF FY99 and FY00 groups. In an effort to stimulate comparison and replication, we present the results in tabular form (see Tabular Regression Results) for readers who are familiar with regression analysis. For readers unfamiliar with tabular regression results, we present the same data in graphical form (see Graphical Regression Results, page 8).

Matched control group designs are useful in examining group differences, but they have limitations. Specifically, it becomes impractical to build more than a few controls into the selection process when participant groups are small. The more variables one desires to stratify or control simultaneously (e.g., age, gender, wages), the larger the participant group required to have sufficient cell sizes. As such, matched control designs are inherently limited in the number of factors that can be controlled simultaneously. For instance, in our control group construction process we used five age categories, two gender categories, and five wage categories. Thus, we divided our participant group by all logical combinations of these three variables, and then created a matched control group based on this stratification. Including an additional variable (e.g., industry) adds additional categories. When doing so, the likelihood of having very small, or zero, cell sizes for any of the logical combinations of stratification variables increases and makes the stratification process unworkable.

One solution to the problem of small cell sizes is to employ multi-variate statistical tests that control for various characteristics statistically rather than building them into the control groups manually through the stratification process. This is a technique suggested by Rossi, Freeman, and Lipsey.[6]

To this end, we utilize Ordinary Least Squares (OLS) regression techniques. The basic logic behind OLS regression is to statistically control for relevant theoretical variables that could explain higher wages and then, after these factors have been accounted for, examine whether program participation is a significant predictor of wages subsequent to training. For instance, once we control for age, gender, and other factors, does program participation explain or account for variation in subsequent wages? This is substantively similar to the theory behind creating matched control groups. The advantage here is that it provides a measure of the "net" effect of program participation on subsequent wage outcomes and tells us whether this effect is statistically significant. Cell size problems are less of an issue for multi-variate techniques such as OLS than the stratification process in matched control group designs.

## Tabular Regression Results

Table 1 (see page 7) presents OLS unstandardized regression coefficients (b's)[7] for average quarterly wages subsequent to training regressed on age, age-squared,[8] a dummy variable[9] for gender (males compared to females), prior average quarterly wage, a dummy variable for industry (goods producing compared to services producing industries), and a dummy variable for program participation (participants compared to non-participants). With the exception of program participation, all independent variables are measured one year prior to the year training ended. Prior industry is an additional variable being controlled for that was not accounted for in the matched control group design presented earlier. Individuals employed in a goods producing industry prior to training may have a different level of wages subsequent to training relative to those employed in a services producing industry. The sample utilized for these regressions is the same as that used in the design presented earlier, with the additional criteria that those

**Table 1: Average Quarterly Wages After Training Regressed on Demographic, Industry, Prior Wage, and Program Participation Measures, Fiscal Years 1999 (FY99) and 2000 (FY00)**

| | FY99 Average Quarterly Wages Two Years after Training | FY00 Average Quarterly Wages One Year after Training |
|---|---|---|
| | b[1] (S.E.)[2] | b (S.E.) |
| **Male**[3] | 790.285*** (58.545) | 717.01*** (31.927) |
| **Age** | 124.872*** (19.506) | 53.370*** (7.011) |
| **Age-Squared** | -1.951*** (.285) | -.792*** .091 |
| **Goods Producing Industry**[4] | 101.698* (72.383) | 188.685*** (37.800) |
| **Prior Wage** | .871*** (.015) | .913*** (.007) |
| **WDTF**[5] **Participant** | 358.831* (276.849) | 391.492** (165.689) |
| **Constant** | 28.232 | 295.926 |
| **R-square** | .243(n=35,373) | .337(n=27,581) |

[1]b is the statistical notation for an unstandardized regression coefficient. Unstandardized regression coefficients can be interpreted as increases or decreases in average quarterly wages (depending on a positive or negative sign) for a one-unit increase in the variable of interest. To illustrate, males in the WDTF FY99 group earn, on average, $790 more in average quarterly wages than females.

[2]S.E. = standard error.

[3]The effect of being male on subsequent average quarterly wages compared to being female.

[4]The effect of working in a goods producing industry prior to training on subsequent average quarterly wages compared to working in a services producing industry.

[5]WDTF = Workforce Development Training Fund. This variable represents the effect of participating in WDTF training on subsequent average quarterly wages compared to not participating in WDTF training.

*p < .10 (one-tailed).

**p < .05 (one-tailed).

***p < .01 (one-tailed).

included in the OLS model have at least two quarters worth of wages in the year after WDTF training ended. This additional criteria creates a more reliable estimate of average quarterly wages for individuals in the regression equations.

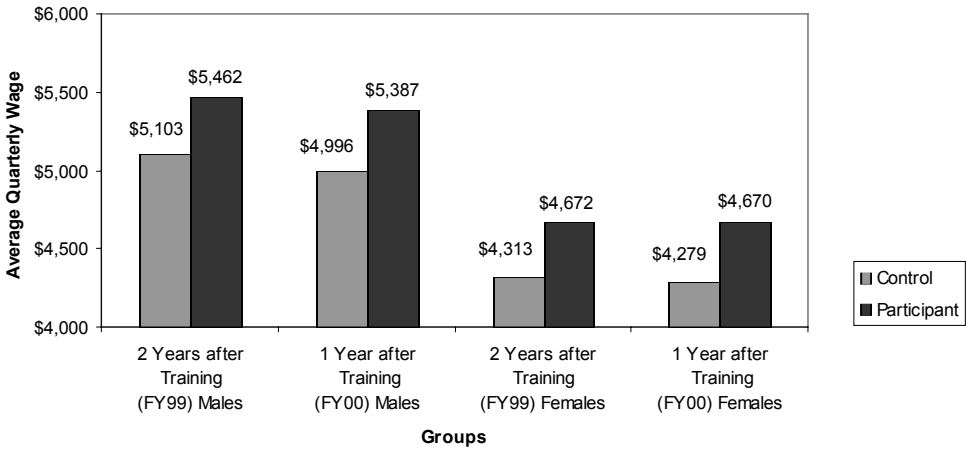
As shown in Table 1, being male is positively and significantly related to subsequent wages for all individuals under study. In other words, males have significantly higher quarterly wages than females (approximately $790 for FY99 and $717 for FY00). Age has a significant curvilinear effect for both FY99 and FY00 as noted by the significant age-squared term - indicating that wages peak near the middle of the age distribution and then decline. Working in a goods producing industry is also positively and significantly related to subsequent wages. Those who work in a goods producing industry, on average, have significantly higher wages (approximately $102 for FY99 and $189 for FY00) than those who work in a services producing industry. Prior wages are also positively and significantly related to subsequent wages - indicating that those with higher prior wages have higher ending wages.

Of central theoretical importance, the WDTF participant dummy variable is significant. As a group, WDTF participants have significantly higher average quarterly wages than non-participants subsequent to training (approximately $359 for FY99 and $391 for FY00). Thus, R&P cannot rule out the possibility that participation in the WDTF training, in fact, increased wages of WDTF participants above the wages of those who did not participate in the training when controlling for age, gender, industry, and prior wages. It appears that we have found a program effect for WDTF participants.

## Graphical Regression Results

We illustrate predicted average quarterly wage outcomes for WDTF participants in Figure 5 (see page 8). As an example, we present the results for a 24-year-old, in a services producing industry, with average

**Figure 5: Predicted Average Quarterly Wages* for Workforce Development Training Fund (WDTF) Fiscal Years 1999 (FY99) and 2000 (FY00) Male and Female Participants and Non-Participants**




*Predicted average quarterly wages are calculated for a 24-year-old, in a services producing industry, with average wages one year prior to training for their specific group (i.e., the average quarterly wages for the FY99 group were $2,769 and $3,459 for the FY00 group).

wages one year prior to training for their specific group (i.e., the average quarterly wages for the FY99 group were $2,769 and $3,459 for the FY00 group). Figure 5 shows results for males and females separately. As can be seen in Figure 5, WDTF male and female participants for both FY99 and FY00 have significantly higher wages than those who did not participate in training.

## Conclusions and Directions for Future Research

Although the results presented here are supportive of the argument that WDTF participants experience wage progression relative to a matched control group, we can only speculate on the source of the difference. The addition of industry to the OLS model shows that this factor does not "explain away" the significant relationship between program participation and subsequent wages for those involved in WDTF. Some theoretical possibilities that are not controlled for in our matched control group or OLS designs include firm characteristics, such as size, geographic location, and progressive compensation packages. An additional step is to conduct further OLS analyses that measure and test important firm characteristics on wage progression. More variables could be added to the multi-variate models without the difficulty associated with adding variables to the matched control group design.

Beyond these steps, additional research is needed to determine long-term training effects. In particular, we would like to determine whether the WDTF group continues to experience higher wages. There is some indication of this as noted by the different lag times in the study results (i.e., one or two years after training completion). Even though unanswered questions remain, this article demonstrates the advantages of matched control and multi-variate design for exploring the effects of employment training programs. Without comparative control groups or multi-variate statistical controls, we have no context within which to place the wage experience of training participants.

[1]Alfrieda Gonzales, ***Strategic Plan Vision Statement***, Wyoming Workforce Development Council, June 2001.

[2]Alfrieda Gonzales, ***Goals of the Wyoming Workforce Development System***, Wyoming Workforce Development Council, June 2001.

[3]Wage Records is an administrative database. Each employer in the State that has employees covered under Unemployment Insurance, by law, must submit quarterly tax reports to the State showing each employee's Social Security Number and wages earned in the quarter. Wage Records has a two-quarter time lag (e.g., wage information for first quarter 2001 employees is not available until third quarter 2001). For more information, see Wayne M. Gosar, "Insurance Wage Record Summary: A New Way to Look at Wyoming," ***Wyoming Labor Force Trends***, May 1995, pp. 4-8.

[4]Outliers on the top and bottom of the wage distribution were removed before the groups were broken into wage quintiles.

[5]Statistical tests of program and control group differences are presented in the multi-variate tests.

[6]Peter H. Rossi, Howard E. Freeman, and Mark W. Lipsey, ***Evaluation: A Systematic Approach***, 2002.

[7]The coefficients can be interpreted as increases or decreases in average quarterly wages (depending on a positive or negative sign) for a one-unit increase in the variable of interest. To illustrate, males in the Workforce Development Training Fund Fiscal Year 1999 group earn, on average, approximately $790 more in average quarterly wages than females in the same group.

[8]We also include an age-squared term due to the strong possibility that wages peak near middle age and then decrease with time. If this is the case, then the appropriate functional form for age is curvilinear. A significant age-squared term in OLS regression models indicates the relationship is curvilinear.

[9]The term **dummy variable** is a standard statistical term in which the members of the group of interest are coded as 1 and the members of the comparison or "dummy" group are coded 0.

# Compared to What? Purpose and Method of Control Group Selection

***by: Tony Glover, Senior Research Analyst***

**"Without a comparative context, it is difficult to accurately evaluate program outcomes."**

This article provides an overview of the purpose and selection of control groups. The methodology developed here was also used in this month's feature article, "Measuring the Impact of Wyoming's Workforce Development Training Fund: Part Two." We offer a few examples of why it is important to use control groups in program evaluations, followed by a brief introduction to the concepts of true experimental and quasi-experimental designs. We also suggest a method for selecting control groups based on our understanding of the participants in the context of available data. With this goal in mind, we follow the road a researcher would take in conducting an investigation.

## The Importance of Control Groups

The first step in program evaluation is generally initiated by someone other than the researcher. For example, perhaps Congress or the State Legislature wants to determine if a job training program/service is actually achieving its goals. The second step is to clearly define the outcomes that determine the performance of the program.

The recent trend in addressing issues of program performance is to define quantifiable outcomes as part of the legislation that governs the program. In accordance with this trend, the Workforce

Investment Act (WIA) specifies a few core indicators of performance. These are the "entered employment rate," "retention in employment rate," and "earnings gained from employment."[1] State-managed programs are required to track and report the measures to the Federal Government on a quarterly and annual basis. Further, WIA suggests the use of control groups for future research (see excerpts below).

> DESIGN- The evaluation studies conducted under this subsection shall be designed in conjunction with the State board and local boards and shall include analysis of customer feedback and outcome and process measures in the statewide workforce investment system. The studies may include use of control groups.[2]
>
> TECHNIQUES- Evaluations conducted under this section shall utilize appropriate methodology and research designs, including the use of control groups chosen by scientific random assignment methodologies. The Secretary shall conduct at least one multi-site control group evaluation under this section by the end of fiscal year 2005.[3]

While currently it is not a requirement for the states to produce analysis of the core indicators using control groups, Research & Planning (R&P) has endeavored to explore this avenue in detail.

The first question asked by consumers of information is "Why?" We introduce the concept of using control groups with a conversation between a father-in-law and his son-in-law's prospective employer. The employer asked the father-in-law, "Is he a good son-in-law?" To which the father-in-law replied, "Compared to what?" and followed up, hoping to do his son-in-law some justice, by saying, "He's my favorite son-in-law." What the father-in-law failed to say to this interviewer was that he had only one son-in-law.

"Compared to what?" We must apply this question to the core indicator of earnings gained, assuming for the sake of argument that a participant of WIA training had an earnings gain. Was this earnings gain due to participation in the program or fluctuations in the economy? For example, suppose the average earnings of participants ($12,500) in the year following the program were 25 percent higher than their wages in the year prior to training ($10,000). The questions that arise are "Was this good?" and "Compared to what?" Let us assume that Wyoming had an energy boom during the time the participants were in the program, and all the people having the same characteristics (gender, age, prior earnings) as our participants experienced a 50 percent increase in wages (from $10,000 to $15,000). In light of this example, we might conclude that the program was actually detrimental to the participants by separating them from a booming economy.

The current performance measurement system established by WIA assesses the core indicators relative to the past performance of the program. For example, assume the program had a retention in employment rate of 75 percent last year. Due to the WIA requirement of showing continued improvement, the program is expected to have a retention in employment rate of greater than 75 percent this year. But what happens if, instead of an energy boom, Wyoming experiences an economic slump and the retention in employment rate falls from 75 percent to 70 percent? Was this decline in performance a result of WIA program management or the economy in which the program operates? Control groups are used to ascertain the extent of the

various circumstances, outside the realm of program management, which influence performance. Without a comparative context, it is difficult to accurately evaluate program outcomes.

**True Experimental and Quasi-Experimental Designs**

The primary difference between experimental and quasi-experimental designs lies in the assignment of individuals to the participant and control groups. True experimental design would dictate a random assignment of individuals to the participant and control groups. However, random assignment in most cases is not practicable due to ethical issues. It is often inappropriate to deny need-based services simply to satisfy random assignment for research. Research goals are obviously secondary to the purpose of the training program. The second issue that arises is that most of the time, the desire to assess a program's performance comes after the participants have already been selected and participated in the program.

Because random assignment of individuals is not practicable, and therefore a true experimental design is rarely achieved, quasi-experimental design must make the best possible use of available resources. The most important step in control group selection for quasi-experimental designs is to describe and understand the participant group, in conjunction with the available data, and determine the shared characteristics that the control group should have. Two items that immediately stand out are age and gender, which are both factors that influence earnings. Generally, as a group, men earn more than women, and older workers earn more than younger workers. Age is often used as a proxy for experience. Suffice it to say, we would not want to compare a participant group of predominantly 18- to 21-year-old females to a control group of 35- to 44-year-old males, as these represent the opposite ends of the labor force activity spectrum.

An additional factor to consider is that, in general, participants of workforce related training meet a criteria of need for the service. These criteria are generally related to low earnings or difficulty maintaining a stable relationship with employers. This introduces another set of factors that should be described for the participants and used to select the control groups, namely some criteria related to prior work activity.

The foundation of this process is built on the administrative databases maintained by R&P. The primary database, Wage Records, is collected for Unemployment Insurance purposes by year and quarter and identifies by employer the wages of most of Wyoming's labor force. Additionally, through an agreement with the Wyoming Department of Transportation, each quarter we download the Wyoming Driver's License database. The combination of these two databases enables us to tie the characteristics (demographics and historical work activity) to a large number of records. For demonstration purposes, this article uses the actual procedure and factors deemed relevant for this month's feature article but populates the discussion tables with mock data to insure confidentiality.

Age and gender are easily incorporated into the stratification process. However, incorporating some measure of workforce experience is more difficult. We begin by setting a few conditions for individuals to be included in either the participant or control group. First, if we are trying to use prior work experience as a factor, the individual had to have some level of attachment to Wyoming's labor force. As an operational definition, to be included in the participant or control group, an individual must have at

least two quarters of wages in the prior program year and one quarter of wages from the year training ended. Then, to match the individuals on earnings prior to program participation, it is necessary to determine relevant wage groups for the participants and identify outliers, defined as those earning significantly more or less than the rest of the participants in the prior program year. After the outliers are eliminated, the average quarterly wages of the participants are calculated and divided into wage groups (see Table 1).

The variables in Table 1 were assigned to every record in our database. An additional field identified whether the individual was a participant or a candidate for the control pool. All records of individuals not working during the predetermined quarters or those whose wages were outside of the acceptable wage ranges (earned less than $239 or more than $7,510 per quarter the previous year) were excluded. The remaining records constituted the control pool. Subsequent aggregation of the remaining data, on the variables defined in Table 1, gives us the distribution of participants and the control pool members for each of these variables (see Table 2, page 13).

Reviewing the data presented in Table 2, it is apparent that the distribution on the defined characteristics of the participants is different than that of the control pool. To further demonstrate these differences, refer to Figure 1 (see page 14), which is a graph of the age group distribution of our participants relative to the control pool. What stands out is the large proportion of participants who are in the 24 and Under age group (47.9% compared to 21.4% for the same age group of the control pool). Our goal is to select a control group that is characteristically similar to the participant group; therefore, another step is required to achieve this goal.

**Table 1: Stratification Variables Developed from the Participant Group**

| Variables | Categories |
|---|---|
| **Gender** | Male |
| | Female |
| **Age Groups** | 24 and Under |
| | 25 to 34 |
| | 35 to 44 |
| | 45 to 54 |
| | 55 and Over |
| **Wage Groups (Average Quarterly Wage in Prior Program Year)** | $239 to 765 |
| | $766 to 1,163 |
| | $1,164 to 1,744 |
| | $1,745 to 3,150 |
| | $3,151 to 7,510 |

The next step in control group selection involves creating the same distribution of characteristics for the control group (a subset of the control pool) while maximizing its size. Using Table 2 (see page 13), we know that Females, 24 and Under, who earn an average quarterly wage of $3,151 to $7,510 comprise 0.9 percent of our participant group. We also know that 2,727 individuals in the control pool meet these criteria. The formula to calculate a percentage is the number of individuals in the cell divided by the total N. To determine the total number (N) of records needed to create a control group with Females, 24 and Under, who earn an average quarterly wage of $3,151 to $7,510 corresponding to 0.9 percent (defined by our participant distribution) of our control group, we solve the percent formula for N. N is therefore equal to the number of individuals in the cell (2,727) divided by the percent of the distribution it should represent (0.9 percent). The result of this calculation dictates that we would need a total N for the control pool of 312,242 individuals. This principle is applied to each stratification cell in Table 2 and the results are found under the column titled “Total N to Fit Participant Distribution” in Table 3 (see page 15).

**Table 2: Hypothetical Example of the Number of Participants and Control Pool**

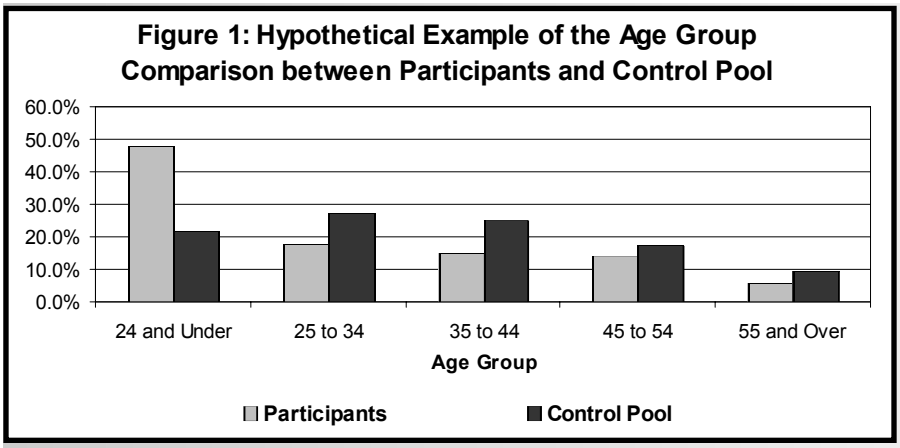
| Variable | | | Participants | | Control Pool | |
|---|---|---|---|---|---|---|
| Gender | Age Group | Wage Group* | Number | Percent | Number | Percent |
| **Total** | | | **458** | **100** | **181,663** | **100** |
| Female | 24 and Under | $239 to 765 | 65 | 14.2 | 4,498 | 2.5 |
| Female | 24 and Under | $766 to 1,163 | 38 | 8.3 | 3,845 | 2.1 |
| Female | 24 and Under | $1,164 to 1,744 | 18 | 3.9 | 4,421 | 2.4 |
| Female | 24 and Under | $1,745 to 3,150 | 12 | 2.6 | 5,395 | 3.0 |
| Female | 24 and Under | $3,151 to 7,510 | 4 | 0.9 | 2,727 | 1.5 |
| Female | 25 to 34 | $239 to 765 | 9 | 2.0 | 1,595 | 0.9 |
| Female | 25 to 34 | $766 to 1,163 | 10 | 2.2 | 1,582 | 0.9 |
| Female | 25 to 34 | $1,164 to 1,744 | 4 | 0.9 | 2,730 | 1.5 |
| Female | 25 to 34 | $1,745 to 3,150 | 13 | 2.8 | 6,696 | 3.7 |
| Female | 25 to 34 | $3,151 to 7,510 | 6 | 1.3 | 12,199 | 6.7 |
| Female | 35 to 44 | $239 to 765 | 5 | 1.1 | 1,546 | 0.9 |
| Female | 35 to 44 | $766 to 1,163 | 4 | 0.9 | 1,374 | 0.8 |
| Female | 35 to 44 | $1,164 to 1,744 | 6 | 1.3 | 2,578 | 1.4 |
| Female | 35 to 44 | $1,745 to 3,150 | 11 | 2.4 | 6,558 | 3.6 |
| Female | 35 to 44 | $3,151 to 7,510 | 8 | 1.7 | 15,052 | 8.3 |
| Female | 45 to 54 | $239 to 765 | 6 | 1.3 | 982 | 0.5 |
| Female | 45 to 54 | $766 to 1,163 | 3 | 0.7 | 867 | 0.5 |
| Female | 45 to 54 | $1,164 to 1,744 | 12 | 2.6 | 1,518 | 0.8 |
| Female | 45 to 54 | $1,745 to 3,150 | 7 | 1.5 | 4,731 | 2.6 |
| Female | 45 to 54 | $3,151 to 7,510 | 5 | 1.1 | 12,299 | 6.8 |
| Female | 55 and Over | $766 to 1,163 | 6 | 1.3 | 638 | 0.4 |
| Female | 55 and Over | $1,164 to 1,744 | 4 | 0.9 | 1,044 | 0.6 |
| Female | 55 and Over | $1,745 to 3,150 | 3 | 0.7 | 2,769 | 1.5 |
| Female | 55 and Over | $3,151 to 7,510 | 3 | 0.7 | 5,257 | 2.9 |
| Male | 24 and Under | $239 to 765 | 22 | 4.8 | 2,793 | 1.5 |
| Male | 24 and Under | $766 to 1,163 | 17 | 3.7 | 2,456 | 1.4 |
| Male | 24 and Under | $1,164 to 1,744 | 21 | 4.6 | 3,195 | 1.8 |
| Male | 24 and Under | $1,745 to 3,150 | 18 | 3.9 | 4,746 | 2.6 |
| Male | 24 and Under | $3,151 to 7,510 | 4 | 0.9 | 4,785 | 2.6 |
| Male | 25 to 34 | $239 to 765 | 5 | 1.1 | 762 | 0.4 |
| Male | 25 to 34 | $1,164 to 1,744 | 5 | 1.1 | 1,608 | 0.9 |
| Male | 25 to 34 | $1,745 to 3,150 | 16 | 3.5 | 5,150 | 2.8 |
| Male | 25 to 34 | $3,151 to 7,510 | 13 | 2.8 | 16,718 | 9.2 |
| Male | 35 to 44 | $239 to 765 | 5 | 1.1 | 479 | 0.3 |
| Male | 35 to 44 | $766 to 1,163 | 5 | 1.1 | 436 | 0.2 |
| Male | 35 to 44 | $1,164 to 1,744 | 3 | 0.7 | 830 | 0.5 |
| Male | 35 to 44 | $1,745 to 3,150 | 4 | 0.9 | 2,685 | 1.5 |
| Male | 35 to 44 | $3,151 to 7,510 | 18 | 3.9 | 13,496 | 7.4 |
| Male | 45 to 54 | $239 to 765 | 6 | 1.3 | 324 | 0.2 |
| Male | 45 to 54 | $1,164 to 1,744 | 5 | 1.1 | 499 | 0.3 |
| Male | 45 to 54 | $1,745 to 3,150 | 7 | 1.5 | 1,620 | 0.9 |
| Male | 45 to 54 | $3,151 to 7,510 | 13 | 2.8 | 8,641 | 4.8 |
| Male | 55 and Over | $1,164 to 1,744 | 4 | 0.9 | 723 | 0.4 |
| Male | 55 and Over | $1,745 to 3,150 | 3 | 0.7 | 1,805 | 1.0 |
| Male | 55 and Over | $3,151 to 7,510 | 2 | 0.4 | 5,011 | 2.8 |

*Quarterly Wages.

Reviewing Table 3 (see page 15), the cell with the bold outline is the lowest value of the column and defines the maximum N that can be selected from our control pool for inclusion in our control group. Selecting an N larger than 24,732 will create a control group with a distribution different than our participant group. We could select a smaller control group but, in general, it is preferable to select the largest control group possible. The larger the control group, the more likely it will represent the labor market behavior of workers characteristically similar to our participant group.

By applying the maximum N value throughout our distribution, we calculate the number of individuals to be included in each stratification of our control group. For example, 24,732 times 14.2 percent (percentage of participants in the first row of Table 3) results in 3,510; for the second row, 24,732 times 8.3 percent results in 2,052. With the number of individuals in each stratification defined, the last step entails randomly selecting the individuals who will make up our final control group.

Randomization is very important in the control group selection process. Randomization assures us the individuals selected for the control group are not systematically different from those in the participant group. As an example of the bias which could corrupt our control group selection, assume we select the first 3,510 records from our control pool (first cell of Table 3) that are Females, 24 and Under, with average quarterly earnings between $239 and $765 the year prior to the year training ended. In




addition, assume the database from which the control group is selected is sorted on Social Security Number (SSN), which occurs in many administrative databases. As SSNs are state-specific (i.e., Wyoming-issued SSNs begin with 520), it is quite likely the individuals selected to fill this stratification will include a disproportionate number of people with SSNs issued from other states. This could introduce systematic variation between our participant and control groups on issues related to attachment (the desire to stay or leave) to Wyoming's labor force.

In conclusion, the steps involved in the selection of comparable control groups are as follows. First, determine a quantifiable and defensible research question. Second, identify the participants of the training program to be assessed and describe their relevant characteristics. Third, use the boundaries and categories established in step two to populate the control pool. Fourth, calculate the maximum number of individuals that can be utilized to create a characteristically similar control group. Finally, use appropriate randomization techniques in the selection of individuals to fill the control groups.

## Definitions for Purposes of This Article

**Control Group** - Individuals who did not receive training, selected from the control pool, who are characteristically similar to the participant group.

**Control Pool** - A subset of the population meeting the pre-determined requirements to possibly be included in the control group.

**Earnings Gained from Employment** - Of those who are employed in the first quarter after exit, the total post-program earnings minus pre-program earnings divided by the number of adults who exited during the quarter.

**Entered Employment Rate** - Of those who are not employed at registration, the number of adults who have entered employment by the end of the first quarter after exit divided by the number of adults who exit during the quarter.

**Experimental Design** - Method to determine the impact of a training program whereby individuals are randomly assigned to the participant and control groups by the researcher prior to training.

**Participant Group** - Individuals who received training.

**Population** - All individuals of the available data sets.

**Quasi-Experimental Design** - Method to determine the impact of a training program whereby assignment of individuals to the participant group has already occurred, independent of the researcher.

**Retention in Employment Rate** - Of those who are employed in the first quarter after exit, the number of adults who are employed

(Text continued on page 16)

**Table 3: Hypothetical Example of the Control Group Size Determination Matrix**

| Variable | | | | | Calculations | | |
|---|---|---|---|---|---|---|---|
| Gender | Age Group | Wage Group* | Participant Distribution Percentage | Number of Individuals in the Control Pool (N) | Total N to Fit Participant Distribution | Number of Records Selected Based on Minimum Total N | Remainder of Control Pool |
| **Total** | | | | **181,663** | **181,663** | **24,732** | **156,931** |
| Female | 24 and Under | $239 to 765 | 14.2 | 4,498 | 31,694 | 3,510 | 988 |
| Female | 24 and Under | $766 to 1,163 | 8.3 | 3,845 | 46,342 | 2,052 | 1,793 |
| Female | 24 and Under | $1,164 to 1,744 | 3.9 | 4,421 | 112,490 | 972 | 3,449 |
| Female | 24 and Under | $1,745 to 3,150 | 2.6 | 5,395 | 205,909 | 648 | 4,747 |
| Female | 24 and Under | $3,151 to 7,510 | 0.9 | 2,727 | 312,242 | 216 | 2,511 |
| Female | 25 to 34 | $239 to 765 | 2.0 | 1,595 | 81,168 | 486 | 1,109 |
| Female | 25 to 34 | $766 to 1,163 | 2.2 | 1,582 | 72,456 | 540 | 1,042 |
| Female | 25 to 34 | $1,164 to 1,744 | 0.9 | 2,730 | 312,585 | 216 | 2,514 |
| Female | 25 to 34 | $1,745 to 3,150 | 2.8 | 6,696 | 235,905 | 702 | 5,994 |
| Female | 25 to 34 | $3,151 to 7,510 | 1.3 | 12,199 | 931,190 | 324 | 11,875 |
| Female | 35 to 44 | $239 to 765 | 1.1 | 1,546 | 141,614 | 270 | 1,276 |
| Female | 35 to 44 | $766 to 1,163 | 0.9 | 1,374 | 157,323 | 216 | 1,158 |
| Female | 35 to 44 | $1,164 to 1,744 | 1.3 | 2,578 | 196,787 | 324 | 2,254 |
| Female | 35 to 44 | $1,745 to 3,150 | 2.4 | 6,558 | 273,051 | 594 | 5,964 |
| Female | 35 to 44 | $3,151 to 7,510 | 1.7 | 15,052 | 861,727 | 432 | 14,620 |
| Female | 45 to 54 | $239 to 765 | 1.3 | 982 | 74,959 | 324 | 658 |
| Female | 45 to 54 | $766 to 1,163 | 0.7 | 867 | 132,362 | 162 | 705 |
| Female | 45 to 54 | $1,164 to 1,744 | 2.6 | 1,518 | 57,937 | 648 | 870 |
| Female | 45 to 54 | $1,745 to 3,150 | 1.5 | 4,731 | 309,543 | 378 | 4,353 |
| Female | 45 to 54 | $3,151 to 7,510 | 1.1 | 12,299 | 1,126,588 | 270 | 12,029 |
| Female | 55 and Over | $766 to 1,163 | 1.3 | 638 | 48,701 | 324 | 314 |
| Female | 55 and Over | $1,164 to 1,744 | 0.9 | 1,044 | 119,538 | 216 | 828 |
| Female | 55 and Over | $1,745 to 3,150 | 0.7 | 2,769 | 422,734 | 162 | 2,607 |
| Female | 55 and Over | $3,151 to 7,510 | 0.7 | 5,257 | 802,569 | 162 | 5,095 |
| Male | 24 and Under | $239 to 765 | 4.8 | 2,793 | 58,145 | 1,188 | 1,605 |
| Male | 24 and Under | $766 to 1,163 | 3.7 | 2,456 | 66,168 | 918 | 1,538 |
| Male | 24 and Under | $1,164 to 1,744 | 4.6 | 3,195 | 69,681 | 1,134 | 2,061 |
| Male | 24 and Under | $1,745 to 3,150 | 3.9 | 4,746 | 120,759 | 972 | 3,774 |
| Male | 24 and Under | $3,151 to 7,510 | 0.9 | 4,785 | 547,883 | 216 | 4,569 |
| Male | 25 to 34 | $239 to 765 | 1.1 | 762 | 69,799 | 270 | 492 |
| Male | 25 to 34 | $1,164 to 1,744 | 1.1 | 1,608 | 147,293 | 270 | 1,338 |
| Male | 25 to 34 | $1,745 to 3,150 | 3.5 | 5,150 | 147,419 | 864 | 4,286 |
| Male | 25 to 34 | $3,151 to 7,510 | 2.8 | 16,718 | 588,988 | 702 | 16,016 |
| Male | 35 to 44 | $239 to 765 | 1.1 | 479 | 43,876 | 270 | 209 |
| Male | 35 to 44 | $766 to 1,163 | 1.1 | 436 | 39,938 | 270 | 166 |
| Male | 35 to 44 | $1,164 to 1,744 | 0.7 | 830 | 126,713 | 162 | 668 |
| Male | 35 to 44 | $1,745 to 3,150 | 0.9 | 2,685 | 307,433 | 216 | 2,469 |
| Male | 35 to 44 | $3,151 to 7,510 | 3.9 | 13,496 | 343,398 | 972 | 12,524 |
| Male | 45 to 54 | $239 to 765 | 1.3 | 324 | 24,732 | 324 | 0 |
| Male | 45 to 54 | $1,164 to 1,744 | 1.1 | 499 | 45,708 | 270 | 229 |
| Male | 45 to 54 | $1,745 to 3,150 | 1.5 | 1,620 | 105,994 | 378 | 1,242 |
| Male | 45 to 54 | $3,151 to 7,510 | 2.8 | 8,641 | 304,429 | 702 | 7,939 |
| Male | 55 and Over | $1,164 to 1,744 | 0.9 | 723 | 82,784 | 216 | 507 |
| Male | 55 and Over | $1,745 to 3,150 | 0.7 | 1,805 | 275,563 | 162 | 1,643 |
| Male | 55 and Over | $3,151 to 7,510 | 0.4 | 5,011 | 1,147,519 | 108 | 4,903 |

*Quarterly Wages.

in the third quarter after exit divided by the number of adults who exit during the quarter.

[1]U.S. Department of Labor, Employment and Training Administration, ***Training and Employment Guidance Letter No. 7-99***, March 3, 2000, <http://usworkforce.org/documents/tegl/tegl-7-99.htm> (June 25, 2002).

[2]United States, Public Law 105-220 (Workforce Investment Act), Section 136(e)(2).

[3]United States, Public Law 105-220 (Workforce Investment Act), Section 172 (c).

# Local Area Unemployment Statistics for First Quarter 2002

***by: Brad Payne, Economist***

During the first quarter of 2002, Local Area Unemployment Statistics (LAUS) employment increased statewide by 1,425 jobs or 0.6 percent when compared to the first quarter of 2001. Employment growth between the first quarters of 2001 and 2002 was one percentage point less than the growth between the first quarters of 2000 and 2001. Similarly, the labor force increased by 1,766 or 0.7 percent between first quarter 2001 and first quarter 2002, while unemployment increased by 342

**Table: Change in Wyoming's Labor Force, Employment, Unemployment, and Unemployment Rates by Region and County, First Quarter 2002**

| | Labor Force | | | | Employment | | | | Unemployment | | | | Unemployment Rate | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| REGION/ County | First Quarter | | Change | | First Quarter | | Change | | First Quarter | | Change | | First Quarter | | |
| | 2002 | 2001 | Number | Percent | 2002 | 2001 | Number | Percent | 2002 | 2001 | Number | Percent | 2002 | 2001 | Change |
| **NORTHWEST** | **45,351** | **45,532** | **-181** | **-0.4** | **42,316** | **42,473** | **-158** | **-0.4** | **3,036** | **3,059** | **-23** | **-0.8** | **6.7** | **6.7** | **0.0** |
| Big Horn | 5,813 | 5,854 | -41 | -0.7 | 5,423 | 5,475 | -52 | -0.9 | 390 | 379 | 11 | 2.8 | 6.7 | 6.5 | 0.2 |
| Fremont | 18,477 | 18,321 | 157 | 0.9 | 17,136 | 16,772 | 364 | 2.2 | 1,341 | 1,549 | -207 | -13.4 | 7.3 | 8.5 | -1.2 |
| Hot Springs | 2,403 | 2,347 | 56 | 2.4 | 2,257 | 2,234 | 23 | 1.0 | 146 | 113 | 33 | 28.9 | 6.1 | 4.8 | 1.2 |
| Park | 14,159 | 14,424 | -266 | -1.8 | 13,293 | 13,619 | -326 | -2.4 | 866 | 805 | 60 | 7.5 | 6.1 | 5.6 | 0.5 |
| Washakie | 4,499 | 4,586 | -86 | -1.9 | 4,206 | 4,373 | -167 | -3.8 | 293 | 212 | 81 | 38.0 | 6.5 | 4.6 | 1.9 |
| **NORTHEAST** | **46,450** | **45,032** | **1,418** | **3.1** | **44,569** | **43,058** | **1,511** | **3.5** | **1,881** | **1,974** | **-93** | **-4.7** | **4.0** | **4.4** | **-0.3** |
| Campbell | 23,296 | 21,332 | 1,964 | 9.2 | 22,512 | 20,616 | 1,896 | 9.2 | 785 | 716 | 68 | 9.5 | 3.4 | 3.4 | 0.0 |
| Crook | 2,771 | 2,810 | -39 | -1.4 | 2,633 | 2,658 | -25 | -1.0 | 138 | 151 | -13 | -8.8 | 5.0 | 5.4 | -0.4 |
| Johnson | 3,554 | 3,630 | -77 | -2.1 | 3,428 | 3,473 | -45 | -1.3 | 126 | 158 | -32 | -20.1 | 3.5 | 4.3 | -0.8 |
| Sheridan | 13,558 | 13,992 | -434 | -3.1 | 12,877 | 13,241 | -365 | -2.8 | 681 | 751 | -69 | -9.2 | 5.0 | 5.4 | -0.3 |
| Weston | 3,271 | 3,268 | 3 | 0.1 | 3,120 | 3,070 | 50 | 1.6 | 151 | 198 | -47 | -23.8 | 4.6 | 6.0 | -1.4 |
| **SOUTHWEST** | **52,699** | **52,339** | **360** | **0.7** | **49,977** | **50,032** | **-56** | **-0.1** | **2,722** | **2,306** | **416** | **18.0** | **5.2** | **4.4** | **0.8** |
| Lincoln | 6,702 | 6,311 | 391 | 6.2 | 6,201 | 5,875 | 325 | 5.5 | 501 | 436 | 65 | 15.0 | 7.5 | 6.9 | 0.6 |
| Sublette | 3,080 | 3,052 | 28 | 0.9 | 2,987 | 2,973 | 15 | 0.5 | 93 | 80 | 13 | 16.7 | 3.0 | 2.6 | 0.4 |
| Sweetwater | 20,149 | 20,524 | -375 | -1.8 | 19,084 | 19,486 | -402 | -2.1 | 1,065 | 1,038 | 27 | 2.6 | 5.3 | 5.1 | 0.2 |
| Teton | 11,947 | 11,806 | 141 | 1.2 | 11,575 | 11,604 | -29 | -0.3 | 372 | 201 | 170 | 84.6 | 3.1 | 1.7 | 1.4 |
| Uinta | 10,821 | 10,645 | 176 | 1.7 | 10,130 | 10,094 | 36 | 0.4 | 691 | 551 | 140 | 25.4 | 6.4 | 5.2 | 1.2 |
| **SOUTHEAST** | **73,450** | **73,383** | **67** | **0.1** | **70,689** | **70,613** | **77** | **0.1** | **2,760** | **2,770** | **-10** | **-0.4** | **3.8** | **3.8** | **0.0** |
| Albany | 19,393 | 19,507 | -114 | -0.6 | 18,956 | 19,050 | -94 | -0.5 | 436 | 457 | -21 | -4.5 | 2.2 | 2.3 | -0.1 |
| Goshen | 6,096 | 6,292 | -196 | -3.1 | 5,808 | 5,968 | -160 | -2.7 | 288 | 324 | -36 | -11.1 | 4.7 | 5.1 | -0.4 |
| Laramie | 42,516 | 42,172 | 344 | 0.8 | 40,753 | 40,486 | 267 | 0.7 | 1,763 | 1,686 | 77 | 4.6 | 4.1 | 4.0 | 0.1 |
| Niobrara | 1,122 | 1,171 | -49 | -4.2 | 1,080 | 1,107 | -28 | -2.5 | 43 | 64 | -21 | -33.0 | 3.8 | 5.4 | -1.6 |
| Platte | 4,322 | 4,241 | 81 | 1.9 | 4,092 | 4,002 | 90 | 2.3 | 230 | 240 | -9 | -3.9 | 5.3 | 5.7 | -0.3 |
| **CENTRAL** | **49,780** | **49,676** | **104** | **0.2** | **47,268** | **47,216** | **52** | **0.1** | **2,511** | **2,460** | **51** | **2.1** | **5.0** | **5.0** | **0.1** |
| Carbon | 7,888 | 7,944 | -56 | -0.7 | 7,384 | 7,505 | -121 | -1.6 | 504 | 439 | 65 | 14.9 | 6.4 | 5.5 | 0.9 |
| Converse | 6,222 | 6,625 | -404 | -6.1 | 5,924 | 6,258 | -334 | -5.3 | 298 | 367 | -69 | -18.9 | 4.8 | 5.5 | -0.8 |
| Natrona | 35,670 | 35,107 | 563 | 1.6 | 33,961 | 33,453 | 508 | 1.5 | 1,709 | 1,654 | 55 | 3.3 | 4.8 | 4.7 | 0.1 |
| **STATEWIDE** | **267,729** | **265,963** | **1,766** | **0.7** | **254,818** | **253,394** | **1,425** | **0.6** | **12,911** | **12,569** | **342** | **2.7** | **4.8** | **4.7** | **0.1** |

individuals or 2.7 percent over the same time period. The unemployment rate during first quarter 2002 was 4.8 percent, while the unemployment rate during first quarter 2001 was slightly lower at 4.7 percent.

Within Wyoming, the Northwest and Southwest regions experienced negative growth, while the remaining three regions posted positive over-the-year employment growth. Of the regions showing growth, the Northeast region recorded the highest rate of growth (3.5 percent) by adding 1,511 jobs. Due to the growth in the Mining industry, Campbell County's employment growth of 9.2 percent (1,896 jobs) offset employment losses in the majority of the other counties in the region.

The statewide increase in unemployment was driven by the Southwest region where the number of unemployed increased by 416 or 18.0 percent from first quarter 2001 to first quarter 2002. Teton County led the region and the State with increased unemployment of 170 individuals or 84.6 percent. The job losses mainly occured in the Construction, eating & drinking places, and hotels & other lodging industries.

The most dramatic over-the-year increases in the unemployment rates were found in Washakie and Teton counties. Washakie County's change in the unemployment rate was 1.9 percentage points (from 4.6 percent in first quarter 2001 to 6.5 percent in first quarter 2002). Teton County's unemployment rate increased from 1.7 percent in first quarter 2001 to 3.1 percent in first quarter 2002 (a change of 1.4 percentage points). In both cases, a decrease in the number employed and an increase in the number unemployed contributed to the increase in the unemployment rates.

Niobrara, Weston, and Fremont counties posted significant decreases in quarterly unemployment rates. The unemployment rates between the first quarters of 2001 and 2002 fell from 5.4 percent to 3.8 percent in Niobrara County, 6.0 percent to 4.6 percent in Weston County, and 8.5 percent to 7.3 percent in Fremont County. While the decreases in the unemployment rates for Weston and Fremont counties were driven by increases in employment with corresponding decreases in unemployment, Niobrara County's unemployment rate decrease was driven by a shrinking labor force which could be caused by potential employees either leaving the county to find work or abandoning their job search.

**State Unemployment Rates**
**April 2002**
**(Not Seasonally Adjusted)**

| State | Unemp. Rate |
|---|---|
| Puerto Rico | 12.0 |
| Oregon | 7.5 |
| Washington | 7.0 |
| Alaska | 6.7 |
| North Carolina | 6.5 |
| Mississippi | 6.4 |
| California | 6.3 |
| Illinois | 6.1 |
| West Virginia | 6.1 |
| Michigan | 5.9 |
| New York | 5.8 |
| New Mexico | 5.7 |
| **United States** | **5.7** |
| Wisconsin | 5.7 |
| District of Columbia | 5.6 |
| Texas | 5.6 |
| Idaho | 5.5 |
| Nevada | 5.5 |
| Utah | 5.5 |
| Arizona | 5.4 |
| Ohio | 5.4 |
| South Carolina | 5.3 |
| Alabama | 5.2 |
| Colorado | 5.2 |
| Louisiana | 5.2 |
| New Jersey | 5.2 |
| Indiana | 5.1 |
| Kentucky | 5.1 |
| Arkansas | 5.0 |
| Florida | 5.0 |
| Maryland | 5.0 |
| Missouri | 5.0 |
| Pennsylvania | 5.0 |
| Tennessee | 5.0 |
| Minnesota | 4.5 |
| Montana | 4.5 |
| **Wyoming** | **4.5** |
| Hawaii | 4.4 |
| Maine | 4.4 |
| Massachusetts | 4.4 |
| Kansas | 4.3 |
| New Hampshire | 4.3 |
| Georgia | 4.2 |
| Oklahoma | 4.2 |
| Vermont | 4.2 |
| Rhode Island | 4.1 |
| Virginia | 3.9 |
| Delaware | 3.8 |
| Connecticut | 3.6 |
| Iowa | 3.6 |
| North Dakota | 3.6 |
| Nebraska | 3.5 |
| South Dakota | 3.3 |

**State Unemployment Rates**
**April 2002**
**(Seasonally Adjusted)**

| State | Unemp. Rate |
|---|---|
| Puerto Rico | 12.3 |
| Oregon | 7.5 |
| Washington | 7.1 |
| Mississippi | 7.0 |
| North Carolina | 6.9 |
| Alaska | 6.6 |
| California | 6.4 |
| District of Columbia | 6.4 |
| Illinois | 6.3 |
| New York | 6.1 |
| Texas | 6.1 |
| Michigan | 6.0 |
| **United States** | **6.0** |
| West Virginia | 6.0 |
| New Mexico | 5.9 |
| Louisiana | 5.8 |
| Ohio | 5.8 |
| South Carolina | 5.8 |
| Arizona | 5.7 |
| Utah | 5.7 |
| Alabama | 5.6 |
| Nevada | 5.5 |
| New Jersey | 5.5 |
| Maryland | 5.4 |
| Pennsylvania | 5.4 |
| Wisconsin | 5.4 |
| Arkansas | 5.3 |
| Colorado | 5.3 |
| Idaho | 5.3 |
| Kentucky | 5.3 |
| Tennessee | 5.3 |
| Missouri | 5.2 |
| Florida | 5.1 |
| Indiana | 5.1 |
| Massachusetts | 4.7 |
| Georgia | 4.6 |
| Virginia | 4.6 |
| Montana | 4.5 |
| Rhode Island | 4.5 |
| Kansas | 4.4 |
| Oklahoma | 4.4 |
| **Wyoming** | **4.4** |
| Hawaii | 4.3 |
| Minnesota | 4.3 |
| Delaware | 4.1 |
| Maine | 4.0 |
| New Hampshire | 4.0 |
| Vermont | 3.9 |
| Connecticut | 3.8 |
| Nebraska | 3.8 |
| Iowa | 3.6 |
| North Dakota | 3.6 |
| South Dakota | 3.4 |

# Wyoming Unemployment Rises in April

***by: David Bullard, Senior Economist***

Wyoming's seasonally adjusted unemployment rate increased from 3.9 percent in March 2002 to 4.4 percent in April, and over-the-year job growth held steady at 1.5 percent. In contrast, U.S. unemployment rose to 6.0 percent and U.S. job growth was negative.

From March to April 2002, Wyoming gained 1,000 jobs or 0.4 percent. This is slightly lower than the 1,200 jobs gained from March to April 2001. Job growth in Construction (1,000 jobs), Retail Trade (400 jobs), and Services (200 jobs) was partially offset by job losses in Government (-800 jobs).

When compared to April 2001, Wyoming nonagricultural employment grew by 3,700 jobs or 1.5 percent. Large contributors to this growth were Construction (1,000 jobs or 6.0%), Services (2,100 jobs or 3.8%), and Government (600 jobs or 1.0%). Within Services, strong job gains appeared in auto & miscellaneous repair (400 jobs or 13.3%), amusement & recreation services (500 jobs or 16.7%), health services (600 jobs or 5.3%), and private social services (400 jobs or 6.3%). Mining added 300 jobs (1.6%) because of growth in coal mining.

Over-the-year employment fell slightly in Manufacturing (-300 jobs or 2.7%), Transportation, Communications, & Public Utilities (-200 jobs or 1.4%), and Retail Trade (-300 jobs or 0.7%). Within Retail Trade, job losses appeared in general merchandise stores (-100 jobs or 1.8%), food stores (-100 jobs or 2.0%), and miscellaneous retail stores (-100 jobs or 1.8%).

Reflecting a normal seasonal pattern, most county unemployment rates fell from March to April. Big Horn County experienced the largest decrease, falling from 6.7 percent in March to 5.4 percent in April. Unemployment also fell significantly in Hot Springs, Washakie, Lincoln, and Fremont counties.

Only three counties experienced rising unemployment in April. Teton County's unemployment rate rose from 3.1 percent in March to 5.1 percent in April. Unemployment typically peaks in April in Teton County as this month marks the changeover from the winter to summer tourist season. Sublette County's unemployment rate rose from 3.2 percent to 3.6 percent in April, while Campbell County's rate inched up from 3.4 percent to 3.5 percent.

# Wyoming Nonagricultural Wage and Salary Employment[1]

***by: David Bullard, Senior Economist***

**"Wyoming nonagricultural employment grew by 3,700 jobs or 1.5 percent between April 2001 and April 2002. Large contributors to this growth were Construction, Services, and Government."**

## WYOMING STATEWIDE*

| | Employment in Thousands | | | Percent Change Total Employment | |
|---|---|---|---|---|---|
| | APR02(p) | MAR02(r) | APR01 | MAR 02 APR 02 | APR 01 APR 02 |
| **TOTAL NONAG. WAGE & SALARY EMPLOYMENT** | **242.5** | **241.5** | **238.8** | **0.4** | **1.5** |
| TOTAL GOODS PRODUCING | 47.3 | 46.3 | 46.3 | 2.2 | 2.2 |
| Mining | 18.9 | 18.9 | 18.6 | 0.0 | 1.6 |
| Coal Mining | 4.9 | 4.9 | 4.5 | 0.0 | 8.9 |
| Oil & Gas Extraction | 11.2 | 11.2 | 11.2 | 0.0 | 0.0 |
| Crude Petrol-Natural Gas | 3.3 | 3.4 | 3.2 | -2.9 | 3.1 |
| Oil & Gas Field Services | 7.9 | 7.8 | 8.0 | 1.3 | -1.3 |
| Nonmetallic Minerals | 2.5 | 2.6 | 2.6 | -3.8 | -3.8 |
| Construction | 17.6 | 16.6 | 16.6 | 6.0 | 6.0 |
| General Building Contractors | 3.9 | 3.9 | 3.9 | 0.0 | 0.0 |
| Heavy Construction | 5.3 | 4.6 | 4.6 | 15.2 | 15.2 |
| Special Trade Construction | 8.4 | 8.1 | 8.1 | 3.7 | 3.7 |
| Manufacturing | 10.8 | 10.8 | 11.1 | 0.0 | -2.7 |
| Durable Goods | 5.0 | 5.0 | 5.1 | 0.0 | -2.0 |
| Nondurable Goods | 5.8 | 5.8 | 6.0 | 0.0 | -3.3 |
| Printing & Publishing | 1.6 | 1.6 | 1.7 | 0.0 | -5.9 |
| Petroleum & Coal Products | 1.2 | 1.2 | 1.2 | 0.0 | 0.0 |
| TOTAL SERVICE PRODUCING | 195.2 | 195.2 | 192.5 | 0.0 | 1.4 |
| Transportation & Public Utilities | 13.8 | 13.7 | 14.0 | 0.7 | -1.4 |
| Transportation | 9.1 | 9.0 | 9.2 | 1.1 | -1.1 |
| Railroad Transportation | 3.0 | 3.0 | 3.0 | 0.0 | 0.0 |
| Trucking & Warehousing | 3.6 | 3.6 | 3.7 | 0.0 | -2.7 |
| Communications | 2.0 | 2.0 | 2.1 | 0.0 | -4.8 |
| Telephone Communications | 1.0 | 1.0 | 1.0 | 0.0 | 0.0 |
| Electric, Gas & Sanitary Services | 2.7 | 2.7 | 2.6 | 0.0 | 3.8 |
| Electric Services | 1.9 | 1.9 | 1.8 | 0.0 | 5.6 |
| Trade | 53.7 | 53.2 | 53.6 | 0.9 | 0.2 |
| Wholesale Trade | 8.3 | 8.2 | 7.9 | 1.2 | 5.1 |
| Durable Goods | 4.9 | 4.8 | 4.6 | 2.1 | 6.5 |
| Nondurable Goods | 3.4 | 3.4 | 3.3 | 0.0 | 3.0 |
| Retail Trade | 45.4 | 45.0 | 45.7 | 0.9 | -0.7 |
| Building Materials & Garden Supply | 2.2 | 2.1 | 2.1 | 4.8 | 4.8 |
| General Merchandise Stores | 5.4 | 5.3 | 5.5 | 1.9 | -1.8 |
| Department Stores | 4.6 | 4.5 | 4.6 | 2.2 | 0.0 |
| Food Stores | 5.0 | 4.9 | 5.1 | 2.0 | -2.0 |
| Auto Dealers & Service Stations | 8.1 | 8.0 | 8.2 | 1.3 | -1.2 |
| Gas Stations | 4.0 | 4.0 | 4.1 | 0.0 | -2.4 |
| Apparel & Accessory Stores | 1.1 | 1.2 | 1.1 | -8.3 | 0.0 |
| Furniture & Home Furnishing Stores | 1.6 | 1.6 | 1.6 | 0.0 | 0.0 |
| Eating & Drinking Places | 16.5 | 16.3 | 16.5 | 1.2 | 0.0 |
| Miscellaneous Retail | 5.5 | 5.6 | 5.6 | -1.8 | -1.8 |
| Finance, Insurance & Real Estate | 8.3 | 8.3 | 8.2 | 0.0 | 1.2 |
| Depos-Nondepos & Security Brokers | 4.3 | 4.3 | 4.3 | 0.0 | 0.0 |
| Depository Institutions | 3.4 | 3.4 | 3.4 | 0.0 | 0.0 |
| Insurance | 1.8 | 1.8 | 1.8 | 0.0 | 0.0 |
| Services | 56.8 | 56.6 | 54.7 | 0.4 | 3.8 |
| Hotels & Other Lodging Places | 7.4 | 7.3 | 7.3 | 1.4 | 1.4 |
| Personal Services | 2.1 | 2.1 | 2.1 | 0.0 | 0.0 |
| Business Services | 8.6 | 8.4 | 8.6 | 2.4 | 0.0 |
| Automotive & Misc. Repair Services | 3.4 | 3.5 | 3.0 | -2.9 | 13.3 |
| Amusements (Rec Services & Mot. Pics.) | 3.5 | 3.9 | 3.0 | -10.3 | 16.7 |
| Health Services | 11.9 | 11.8 | 11.3 | 0.8 | 5.3 |
| Offices of Doctors of Medicine | 2.9 | 2.9 | 2.7 | 0.0 | 7.4 |
| Legal Services | 1.2 | 1.2 | 1.2 | 0.0 | 0.0 |
| Social Services | 6.8 | 6.8 | 6.4 | 0.0 | 6.2 |
| Membership Organizations | 3.7 | 3.7 | 3.7 | 0.0 | 0.0 |
| Engineering & Management | 4.4 | 4.4 | 4.4 | 0.0 | 0.0 |
| Government | 62.6 | 63.4 | 62.0 | -1.3 | 1.0 |
| Total Federal Government | 6.7 | 6.8 | 6.7 | -1.5 | 0.0 |
| Department of Defense | 0.9 | 0.8 | 0.9 | 12.5 | 0.0 |
| Total State Government | 14.4 | 14.4 | 14.2 | 0.0 | 1.4 |
| State Education | 5.6 | 5.7 | 5.5 | -1.8 | 1.8 |
| Total Local Government | 41.5 | 42.2 | 41.1 | -1.7 | 1.0 |
| Local Hospitals | 5.5 | 5.5 | 5.3 | 0.0 | 3.8 |
| Local Education | 23.3 | 23.9 | 23.2 | -2.5 | 0.4 |

[1]Current Employment Statistics (CES) estimates include all full- and part-time wage and salary workers in nonagricultural establishments who worked or received pay during the week which includes the 12th of the month. Self-employed, domestic services, and personnel of the armed forces are excluded. Data are not seasonally adjusted.

*Published in cooperation with the Bureau of Labor Statistics.

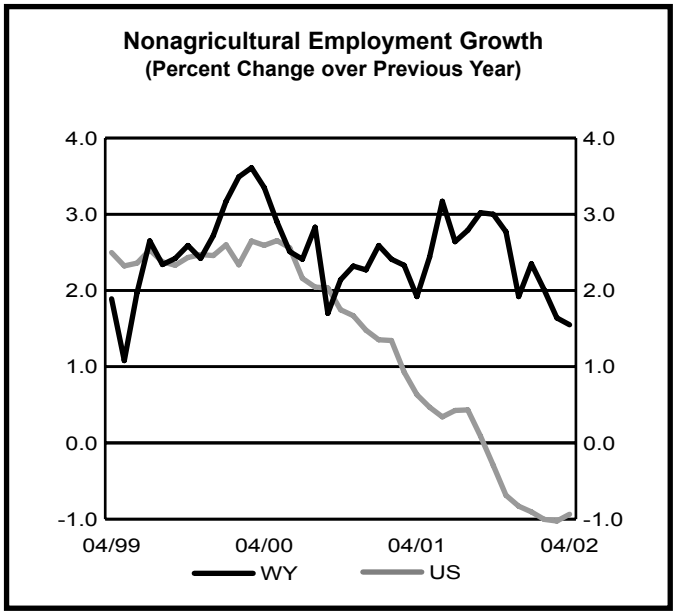
(p) Subject to revision. (r) Revised.

## LARAMIE COUNTY

| | Employment in Thousands | | | Percent Change Total Employment | |
|---|---|---|---|---|---|
| | APR02(p) | MAR02(r) | APR01 | MAR 02 APR 02 | APR 01 APR 02 |
| **TOTAL NONAG. WAGE & SALARY EMPLOYMENT** | **37.7** | **37.6** | **37.5** | **0.3** | **0.5** |
| TOTAL GOODS PRODUCING | 3.7 | 3.6 | 3.9 | 2.8 | -5.1 |
| Mining & Construction | 2.1 | 2.0 | 2.2 | 5.0 | -4.5 |
| Manufacturing | 1.6 | 1.6 | 1.7 | 0.0 | -5.9 |
| TOTAL SERVICE PRODUCING | 34.0 | 34.0 | 33.6 | 0.0 | 1.2 |
| Transportation & Public Utilities | 2.9 | 2.8 | 3.0 | 3.6 | -3.3 |
| Trade | 8.9 | 8.8 | 8.6 | 1.1 | 3.5 |
| Wholesale Trade | 0.9 | 0.9 | 0.8 | 0.0 | 12.5 |
| Retail Trade | 8.0 | 7.9 | 7.8 | 1.3 | 2.6 |
| Finance, Insurance & Real Estate | 1.9 | 1.8 | 1.8 | 5.6 | 5.6 |
| Services | 8.4 | 8.4 | 8.2 | 0.0 | 2.4 |
| Total Government | 11.9 | 12.2 | 12.0 | -2.5 | -0.8 |
| Federal Government | 2.4 | 2.4 | 2.4 | 0.0 | 0.0 |
| State Government | 3.6 | 3.7 | 3.5 | -2.7 | 2.9 |
| Local Government | 5.9 | 6.1 | 6.1 | -3.3 | -3.3 |

## NATRONA COUNTY*

| | | | | | |
|---|---|---|---|---|---|
| **TOTAL NONAG. WAGE & SALARY EMPLOYMENT** | **32.7** | **32.8** | **32.4** | **-0.3** | **0.9** |
| TOTAL GOODS PRODUCING | 5.7 | 5.7 | 5.6 | 0.0 | 1.8 |
| Mining | 2.1 | 2.0 | 2.1 | 5.0 | 0.0 |
| Construction | 1.9 | 2.0 | 1.8 | -5.0 | 5.6 |
| Manufacturing | 1.7 | 1.7 | 1.7 | 0.0 | 0.0 |
| TOTAL SERVICE PRODUCING | 27.0 | 27.1 | 26.8 | -0.4 | 0.7 |
| Transportation & Public Utilities | 1.6 | 1.6 | 1.5 | 0.0 | 6.7 |
| Transportation | 1.2 | 1.2 | 1.1 | 0.0 | 9.1 |
| Communications & Public Utilities | 0.4 | 0.4 | 0.4 | 0.0 | 0.0 |
| Trade | 8.6 | 8.6 | 8.7 | 0.0 | -1.1 |
| Wholesale Trade | 2.4 | 2.4 | 2.4 | 0.0 | 0.0 |
| Retail Trade | 6.2 | 6.2 | 6.3 | 0.0 | -1.6 |
| Finance, Insurance & Real Estate | 1.3 | 1.3 | 1.2 | 0.0 | 8.3 |
| Services | 9.9 | 9.9 | 9.8 | 0.0 | 1.0 |
| Personal & Business Services | 2.1 | 2.1 | 2.2 | 0.0 | -4.5 |
| Health Services | 3.0 | 3.0 | 3.0 | 0.0 | 0.0 |
| Government | 5.6 | 5.7 | 5.6 | -1.8 | 0.0 |
| Federal Government | 0.6 | 0.6 | 0.6 | 0.0 | 0.0 |
| State Government | 0.7 | 0.7 | 0.7 | 0.0 | 0.0 |
| Local Government | 4.3 | 4.4 | 4.3 | -2.3 | 0.0 |
| Local Education | 3.0 | 3.1 | 3.0 | -3.2 | 0.0 |



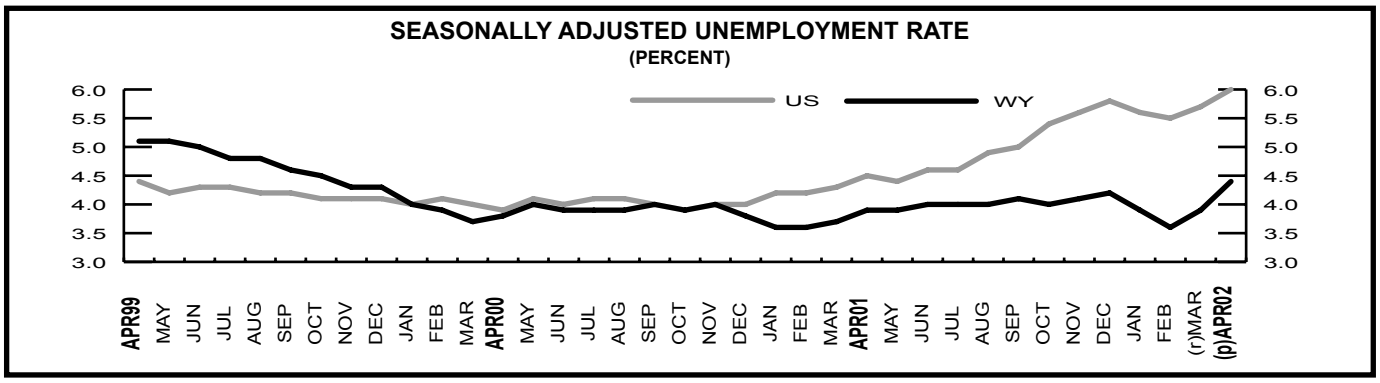
# Economic Indicators

***by: David Bullard, Senior Economist***

**"U.S. unemployment (seasonally adjusted) increased to 6.0 percent in April 2002."**

| | April 2002 (p) | March 2002 (r) | April 2001 (b) | Percent Change Month | Percent Change Year |
|---|---|---|---|---|---|
| Wyoming Total Civilian Labor Force (1) | 270,859 | 270,335 | 268,366 | 0.2 | 0.9 |
| Unemployed | 12,100 | 12,486 | 10,659 | -3.1 | 13.5 |
| Employed | 258,759 | 257,849 | 257,707 | 0.4 | 0.4 |
| Wyoming Unemployment Rate/Seas. Adj. | 4.5%/4.4% | 4.6%/3.9% | 4.0%/3.9% | N/A | N/A |
| U.S. Unemployment Rate/Seas. Adj. | 5.7%/6.0% | 6.1%/5.7% | 4.2%/4.5% | N/A | N/A |
| U.S. Multiple Jobholders | 7,265,000 | 7,392,000 | 7,280,000 | -1.7 | -0.2 |
| As a percent of all workers | 5.4% | 5.5% | 5.4% | N/A | N/A |
| U.S. Discouraged Workers | 317,000 | 319,000 | 346,000 | -0.6 | -8.4 |
| U.S. Part Time for Economic Reasons | 3,927,000 | 4,129,000 | 3,108,000 | -4.9 | 26.4 |
| Hours & Earnings for Production Workers | | | | | |
| Wyoming Mining | | | | | |
| Average Weekly Earnings | $937.92 | $849.85 | $879.91 | 10.4 | 6.6 |
| Average Weekly Hours | 44.2 | 41.7 | 40.4 | 6.0 | 9.4 |
| U.S. Mining Hours & Earnings | | | | | |
| Average Weekly Earnings | $756.84 | $762.70 | $765.60 | -0.8 | -1.1 |
| Average Weekly Hours | 42.4 | 42.8 | 43.5 | -0.9 | -2.5 |
| Wyoming Manufacturing Hours & Earnings | | | | | |
| Average Weekly Earnings | $637.26 | $619.38 | $643.85 | 2.9 | -1.0 |
| Average Weekly Hours | 38.0 | 37.0 | 38.6 | 2.7 | -1.6 |
| U.S. Manufacturing Hours & Earnings | | | | | |
| Average Weekly Earnings | $620.98 | $620.45 | $588.13 | 0.1 | 5.6 |
| Average Weekly Hours | 40.8 | 40.9 | 39.9 | -0.2 | 2.3 |
| Wyoming Unemployment Insurance | | | | | |
| Weeks Compensated (2) | 18,034 | 18,643 | 11,745 | -3.3 | 53.5 |
| Benefits Paid | $4,061,577 | $4,154,550 | $2,408,277 | -2.2 | 68.7 |
| Average Weekly Benefit Payment | $225.22 | $222.85 | $205.05 | 1.1 | 9.8 |
| State Insured Covered Jobs (1) | 217,184 | 214,603 | 213,777 | 1.2 | 1.6 |
| Insured Unemployment Rate | 2.2% | 2.4% | 1.5% | N/A | N/A |
| Consumer Price Index for All U.S. Urban Consumers (CPI-U) (1982 to 1984 = 100) | | | | | |
| All Items | 179.8 | 178.8 | 176.9 | 0.6 | 1.6 |
| Food & Beverages | 176.7 | 176.6 | 172.4 | 0.1 | 2.5 |
| Housing | 179.5 | 179.1 | 175.4 | 0.2 | 2.3 |
| Apparel | 128.8 | 128.2 | 131.9 | 0.5 | -2.4 |
| Transportation | 153.7 | 150.5 | 156.1 | 2.1 | -1.5 |
| Medical Care | 283.2 | 282.0 | 270.8 | 0.4 | 4.6 |
| Recreation (Dec. 1997=100) | 106.5 | 106.1 | 105.0 | 0.4 | 1.4 |
| Education & Communication (Dec. 1997=100) | 106.2 | 106.6 | 104.1 | -0.4 | 2.0 |
| Other Goods & Services | 292.9 | 288.5 | 281.3 | 1.5 | 4.1 |
| Producer Prices (1982 to 1984 = 100) | | | | | |
| All Commodities | 131.0 | 129.9 | 136.4 | 0.8 | -4.0 |
| Wyoming Building Permits | | | | | |
| New Privately Owned Housing Units Authorized | 228 | 151 | 163 | 51.0 | 39.9 |
| Valuation | $31,820,000 | $20,407,000 | $25,661,000 | 55.9 | 24.0 |

(p) Preliminary. (r) Revised. (b) Benchmarked. (1) Local Area Unemployment Statistics Program Estimates. (2) Not Normalized.



# Wyoming County Unemployment Rates

***by: Brad Payne, Economist***

**"Reflecting a normal seasonal pattern, most county unemployment rates fell from March to April 2002."**

| REGION County | Labor Force | | | Employed | | | Unemployed | | | Unemployment Rate | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Apr 2002 (p) | Mar 2002 (r) | Apr 2001 (b) | Apr 2002 (p) | Mar 2002 (r) | Apr 2001 (b) | Apr 2002 (p) | Mar 2002 (r) | Apr 2001 (b) | Apr 2002 (p) | Mar 2002 (r) | Apr 2001 (b) |
| **NORTHWEST** | **46,248** | **45,730** | **46,103** | **43,542** | **42,739** | **43,471** | **2,706** | **2,991** | **2,632** | **5.9** | **6.5** | **5.7** |
| Big Horn | 5,885 | 5,818 | 5,933 | 5,570 | 5,430 | 5,638 | 315 | 388 | 295 | 5.4 | 6.7 | 5.0 |
| Fremont | 18,786 | 18,693 | 18,434 | 17,598 | 17,393 | 17,124 | 1,188 | 1,300 | 1,310 | 6.3 | 7.0 | 7.1 |
| Hot Springs | 2,477 | 2,443 | 2,479 | 2,358 | 2,296 | 2,356 | 119 | 147 | 123 | 4.8 | 6.0 | 5.0 |
| Park | 14,595 | 14,308 | 14,607 | 13,779 | 13,454 | 13,954 | 816 | 854 | 653 | 5.6 | 6.0 | 4.5 |
| Washakie | 4,505 | 4,468 | 4,650 | 4,237 | 4,166 | 4,399 | 268 | 302 | 251 | 5.9 | 6.8 | 5.4 |
| **NORTHEAST** | **47,702** | **47,080** | **45,979** | **45,798** | **45,177** | **44,362** | **1,904** | **1,903** | **1,617** | **4.0** | **4.0** | **3.5** |
| Campbell | 23,790 | 23,683 | 21,682 | 22,955 | 22,870 | 21,073 | 835 | 813 | 609 | 3.5 | 3.4 | 2.8 |
| Crook | 2,907 | 2,781 | 2,982 | 2,760 | 2,638 | 2,833 | 147 | 143 | 149 | 5.1 | 5.1 | 5.0 |
| Johnson | 3,722 | 3,579 | 3,753 | 3,603 | 3,460 | 3,630 | 119 | 119 | 123 | 3.2 | 3.3 | 3.3 |
| Sheridan | 13,945 | 13,757 | 14,224 | 13,289 | 13,076 | 13,646 | 656 | 681 | 578 | 4.7 | 5.0 | 4.1 |
| Weston | 3,338 | 3,280 | 3,338 | 3,191 | 3,133 | 3,180 | 147 | 147 | 158 | 4.4 | 4.5 | 4.7 |
| **SOUTHWEST** | **53,050** | **53,229** | **52,027** | **50,327** | **50,613** | **49,788** | **2,723** | **2,616** | **2,239** | **5.1** | **4.9** | **4.3** |
| Lincoln | 6,805 | 6,721 | 6,594 | 6,375 | 6,239 | 6,241 | 430 | 482 | 353 | 6.3 | 7.2 | 5.4 |
| Sublette | 3,175 | 3,081 | 3,144 | 3,062 | 2,983 | 3,081 | 113 | 98 | 63 | 3.6 | 3.2 | 2.0 |
| Sweetwater | 20,393 | 20,481 | 20,512 | 19,449 | 19,477 | 19,648 | 944 | 1,004 | 864 | 4.6 | 4.9 | 4.2 |
| Teton | 11,833 | 12,083 | 11,069 | 11,232 | 11,713 | 10,623 | 601 | 370 | 446 | 5.1 | 3.1 | 4.0 |
| Uinta | 10,844 | 10,863 | 10,708 | 10,209 | 10,201 | 10,195 | 635 | 662 | 513 | 5.9 | 6.1 | 4.8 |
| **SOUTHEAST** | **73,952** | **74,173** | **74,371** | **71,538** | **71,588** | **72,217** | **2,414** | **2,585** | **2,154** | **3.3** | **3.5** | **2.9** |
| Albany | 19,796 | 19,910 | 19,847 | 19,370 | 19,469 | 19,487 | 426 | 441 | 360 | 2.2 | 2.2 | 1.8 |
| Goshen | 6,304 | 6,008 | 6,576 | 6,082 | 5,773 | 6,320 | 222 | 235 | 256 | 3.5 | 3.9 | 3.9 |
| Laramie | 42,188 | 42,794 | 42,227 | 40,650 | 41,136 | 40,891 | 1,538 | 1,658 | 1,336 | 3.6 | 3.9 | 3.2 |
| Niobrara | 1,186 | 1,119 | 1,246 | 1,141 | 1,074 | 1,204 | 45 | 45 | 42 | 3.8 | 4.0 | 3.4 |
| Platte | 4,478 | 4,342 | 4,475 | 4,295 | 4,136 | 4,315 | 183 | 206 | 160 | 4.1 | 4.7 | 3.6 |
| **CENTRAL** | **49,906** | **50,122** | **49,886** | **47,553** | **47,733** | **47,867** | **2,353** | **2,389** | **2,019** | **4.7** | **4.8** | **4.0** |
| Carbon | 7,980 | 7,860 | 8,056 | 7,565 | 7,435 | 7,733 | 415 | 425 | 323 | 5.2 | 5.4 | 4.0 |
| Converse | 6,339 | 6,246 | 6,604 | 6,069 | 5,960 | 6,304 | 270 | 286 | 300 | 4.3 | 4.6 | 4.5 |
| Natrona | 35,587 | 36,016 | 35,226 | 33,919 | 34,338 | 33,830 | 1,668 | 1,678 | 1,396 | 4.7 | 4.7 | 4.0 |
| **STATEWIDE** | **270,859** | **270,335** | **268,366** | **258,759** | **257,849** | **257,707** | **12,100** | **12,486** | **10,659** | **4.5** | **4.6** | **4.0** |
| Statewide Seasonally Adjusted | | | | | | | | | | 4.4 | 3.9 | 3.9 |
| U.S. | | | | | | | | | | 5.7 | 6.1 | 4.2 |
| U.S. Seasonally Adjusted | | | | | | | | | | 6.0 | 5.7 | 4.5 |

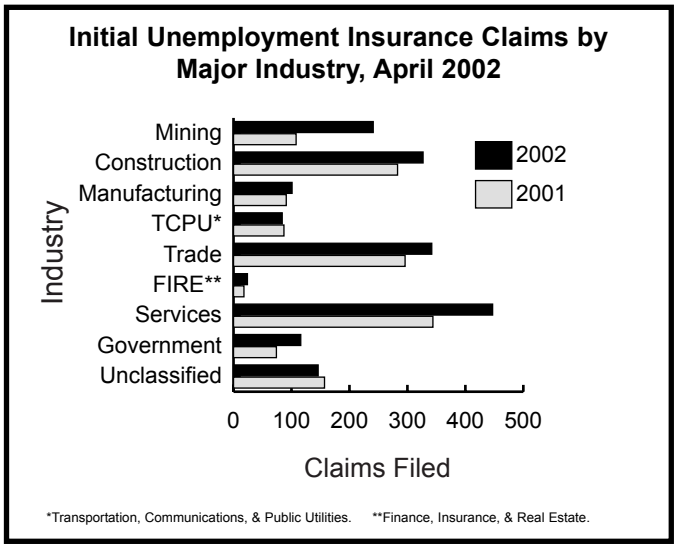
Prepared in cooperation with the Bureau of Labor Statistics. Benchmarked 02/02. Run Date 05/02.
Data are not seasonally adjusted except where otherwise specified.

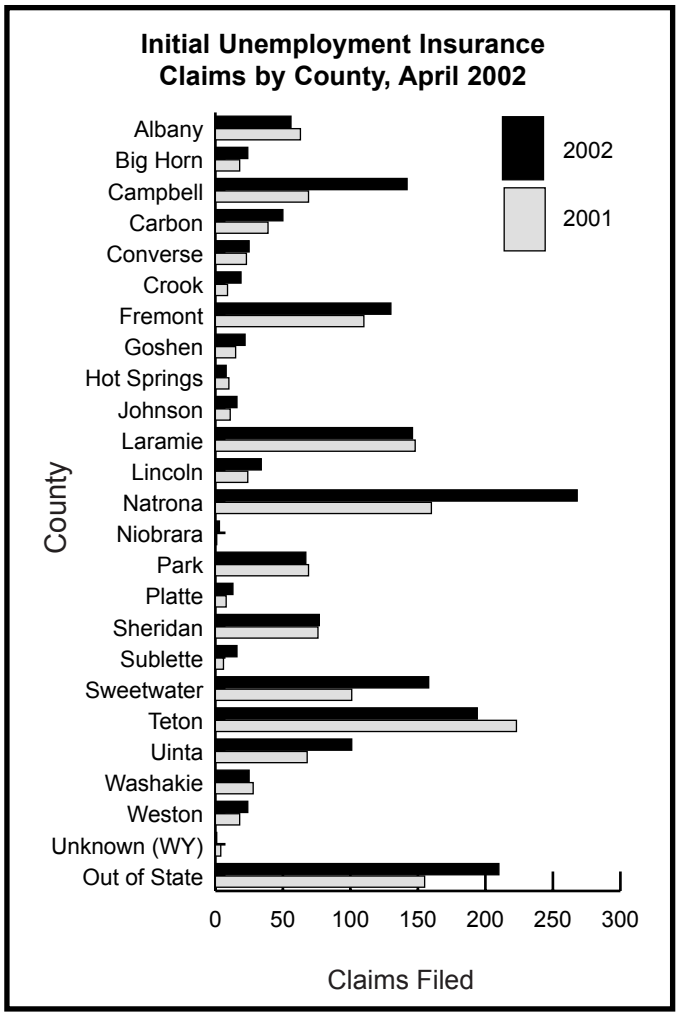
(p) Preliminary. (r) Revised. (b) Benchmarked.
NOTE: The Current Population Survey (CPS) estimated the 2001 annual average Wyoming unemployment rate at 3.9 percent.
The 90 percent confidence interval for this estimate suggests that in 9 of 10 cases, the interval 3.4 to 4.4 percent would contain the actual rate.

# Wyoming Normalized Unemployment Insurance Statistics: Initial Claims

***by: Mark A. Harris, Sociologist, Ph.D.***

**"Total statewide initial claims are up over the prior year for both total goods producing industries (38.8%) and total services producing industries (23.7%)."**



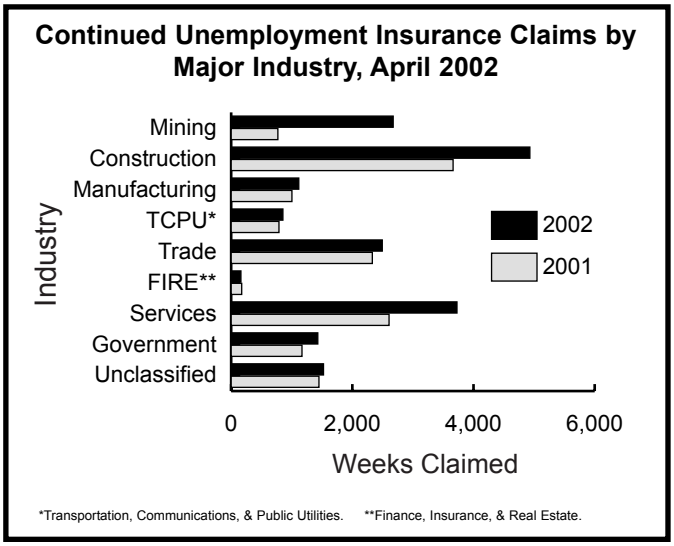

| | Claims Filed | | | Percent Change Claims Filed | |
|---|---|---|---|---|---|
| **WYOMING STATEWIDE** | Apr 02 | Mar 02 | Apr 01 | Mar 02 Apr 02 | Apr 01 Apr 02 |
| TOTAL CLAIMS FILED | 1,828 | 1,862 | 1,458 | -1.8 | 25.4 |
| TOTAL GOODS PRODUCING | 669 | 869 | 482 | -23.0 | 38.8 |
| Mining | 241 | 316 | 108 | -23.7 | 123.1 |
| Oil & Gas Extraction | 226 | 294 | 91 | -23.1 | 148.4 |
| Construction | 327 | 422 | 283 | -22.5 | 15.5 |
| Manufacturing | 101 | 131 | 91 | -22.9 | 11.0 |
| TOTAL SERVICES PRODUCING | 1,013 | 839 | 819 | 20.7 | 23.7 |
| Transportation, Comm., & Pub. Utilities | 84 | 96 | 87 | -12.5 | -3.4 |
| Transportation | 67 | 79 | 75 | -15.2 | -10.7 |
| Communications & Public Utilities | 17 | 17 | 12 | 0.0 | 41.7 |
| Trade | 342 | 272 | 296 | 25.7 | 15.5 |
| Wholesale Trade | 37 | 40 | 37 | -7.5 | 0.0 |
| Retail Trade | 305 | 232 | 259 | 31.5 | 17.8 |
| Finance, Insurance, & Real Estate | 24 | 21 | 18 | 14.3 | 33.3 |
| Services | 447 | 348 | 344 | 28.4 | 29.9 |
| Personal & Business Services | 109 | 105 | 71 | 3.8 | 53.5 |
| Health Services | 42 | 26 | 26 | 61.5 | 61.5 |
| Government | 116 | 102 | 74 | 13.7 | 56.8 |
| Local Government | 63 | 40 | 33 | 57.5 | 90.9 |
| Local Education | 13 | 14 | 10 | -7.1 | 30.0 |
| UNCLASSIFIED | 146 | 154 | 157 | -5.2 | -7.0 |
| **LARAMIE COUNTY** | | | | | |
| TOTAL CLAIMS FILED | 145 | 169 | 148 | -14.2 | -2.0 |
| TOTAL GOODS PRODUCING | 40 | 53 | 63 | -24.5 | -36.5 |
| Mining | 0 | 2 | 0 | 0.0 | 0.0 |
| Oil & Gas Extraction | 0 | 2 | 0 | 0.0 | 0.0 |
| Construction | 32 | 42 | 53 | -23.8 | -39.6 |
| Manufacturing | 8 | 9 | 10 | -11.1 | -20.0 |
| TOTAL SERVICES PRODUCING | 90 | 103 | 74 | -12.6 | 21.6 |
| Transportation, Comm., & Pub. Utilities | 10 | 22 | 10 | -54.5 | 0.0 |
| Transportation | 2 | 13 | 8 | -84.6 | -75.0 |
| Communications & Public Utilities | 8 | 9 | 2 | -11.1 | 300.0 |
| Trade | 26 | 34 | 24 | -23.5 | 8.3 |
| Wholesale Trade | 4 | 6 | 3 | -33.3 | 33.3 |
| Retail Trade | 22 | 28 | 21 | -21.4 | 4.8 |
| Finance, Insurance, & Real Estate | 3 | 5 | 2 | -40.0 | 50.0 |
| Services | 37 | 31 | 29 | 19.4 | 27.6 |
| Personal & Business Services | 14 | 12 | 15 | 16.7 | -6.7 |
| Health Services | 5 | 2 | 2 | 150.0 | 150.0 |
| Government | 14 | 11 | 9 | 27.3 | 55.6 |
| Local Government | 2 | 5 | 3 | -60.0 | -33.3 |
| Local Education | 0 | 0 | 0 | 0.0 | 0.0 |
| UNCLASSIFIED | 15 | 13 | 11 | 15.4 | 36.4 |
| **NATRONA COUNTY** | | | | | |
| TOTAL CLAIMS FILED | 268 | 271 | 160 | -1.1 | 67.5 |
| TOTAL GOODS PRODUCING | 105 | 134 | 49 | -21.6 | 114.3 |
| Mining | 33 | 51 | 18 | -35.3 | 83.3 |
| Oil & Gas Extraction | 28 | 51 | 18 | -45.1 | 55.6 |
| Construction | 53 | 66 | 23 | -19.7 | 130.4 |
| Manufacturing | 19 | 17 | 8 | 11.8 | 137.5 |
| TOTAL SERVICES PRODUCING | 151 | 131 | 92 | 15.3 | 64.1 |
| Transportation, Comm., & Pub. Utilities | 15 | 13 | 12 | 15.4 | 25.0 |
| Transportation | 14 | 12 | 11 | 16.7 | 27.3 |
| Communications & Public Utilities | 1 | 1 | 1 | 0.0 | 0.0 |
| Trade | 44 | 48 | 27 | -8.3 | 63.0 |
| Wholesale Trade | 8 | 5 | 6 | 60.0 | 33.3 |
| Retail Trade | 36 | 43 | 21 | -16.3 | 71.4 |
| Finance, Insurance, & Real Estate | 4 | 5 | 2 | -20.0 | 100.0 |
| Services | 76 | 63 | 46 | 20.6 | 65.2 |
| Personal & Business Services | 27 | 30 | 14 | -10.0 | 92.9 |
| Health Services | 14 | 4 | 10 | 250.0 | 40.0 |
| Government | 12 | 2 | 5 | 500.0 | 140.0 |
| Local Government | 10 | 1 | 4 | 900.0 | 150.0 |
| Local Education | 1 | 0 | 0 | 0.0 | 0.0 |
| UNCLASSIFIED | 12 | 6 | 19 | 100.0 | -36.8 |

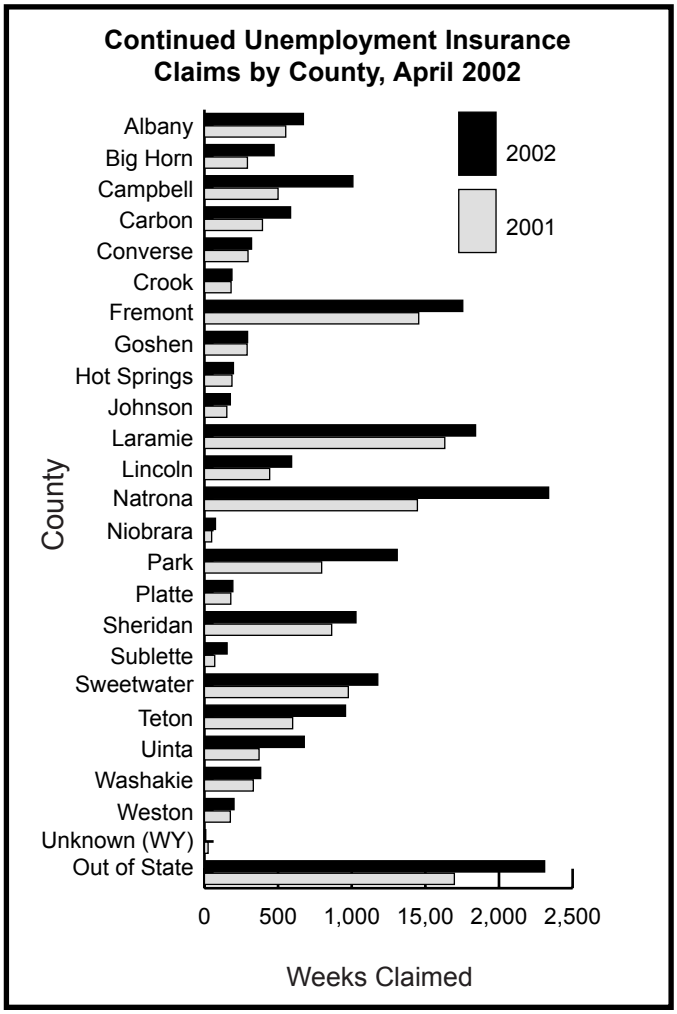
# Wyoming Normalized Unemployment Insurance Statistics: Continued Claims

***by: Mark A. Harris, Sociologist, Ph.D.***

**"Total statewide continued claims are up over the prior year. Oil & gas extraction had a particularly large over-the-year increase (412.8% or 2,006 weeks claimed)."**

| | Weeks Claimed | | | Percent Change Weeks Claimed | |
|---|---|---|---|---|---|
| **WYOMING STATEWIDE** | Apr 02 | Mar 02 | Apr 01 | Mar 02 Apr 02 | Apr 01 Apr 02 |
| TOTAL CLAIMS FILED | 18,910 | 21,621 | 13,954 | -12.5 | 35.5 |
| **TOTAL UNIQUE CLAIMANTS** | 6,171 | 6,668 | 4,630 | -7.5 | 33.3 |
| TOTAL GOODS PRODUCING | 8,720 | 11,023 | 5,437 | -20.9 | 60.4 |
| Mining | 2,674 | 2,743 | 771 | -2.5 | 246.8 |
| Oil & Gas Extraction | 2,492 | 2,489 | 486 | 0.1 | 412.8 |
| Construction | 4,930 | 7,034 | 3,663 | -29.9 | 34.6 |
| Manufacturing | 1,116 | 1,246 | 1,003 | -10.4 | 11.3 |
| TOTAL SERVICES PRODUCING | 8,666 | 8,915 | 7,068 | -2.8 | 22.6 |
| Transportation, Comm., & Pub. Utilities | 854 | 820 | 789 | 4.1 | 8.2 |
| Transportation | 668 | 644 | 581 | 3.7 | 15.0 |
| Communications & Public Utilities | 186 | 176 | 208 | 5.7 | -10.6 |
| Trade | 2,494 | 2,467 | 2,330 | 1.1 | 7.0 |
| Wholesale Trade | 391 | 404 | 326 | -3.2 | 19.9 |
| Retail Trade | 2,103 | 2,063 | 2,004 | 1.9 | 4.9 |
| Finance, Insurance, & Real Estate | 161 | 170 | 174 | -5.3 | -7.5 |
| Services | 3,727 | 3,761 | 2,606 | -0.9 | 43.0 |
| Personal & Business Services | 1,114 | 1,217 | 659 | -8.5 | 69.0 |
| Health Services | 228 | 226 | 198 | 0.9 | 15.2 |
| Government | 1,430 | 1,697 | 1,169 | -15.7 | 22.3 |
| Local Government | 470 | 545 | 338 | -13.8 | 39.1 |
| Local Education | 104 | 100 | 104 | 4.0 | 0.0 |
| UNCLASSIFIED | 1,524 | 1,683 | 1,449 | -9.4 | 5.2 |
| **LARAMIE COUNTY** | | | | | |
| TOTAL CLAIMS FILED | 1,840 | 2,435 | 1,632 | -24.4 | 12.7 |
| **TOTAL UNIQUE CLAIMANTS** | 596 | 739 | 527 | -19.4 | 13.1 |
| TOTAL GOODS PRODUCING | 588 | 1,061 | 617 | -44.6 | -4.7 |
| Mining | 11 | 24 | 4 | -54.2 | 175.0 |
| Oil & Gas Extraction | 9 | 12 | 0 | -25.0 | 0.0 |
| Construction | 504 | 920 | 553 | -45.2 | -8.9 |
| Manufacturing | 73 | 117 | 60 | -37.6 | 21.7 |
| TOTAL SERVICES PRODUCING | 1,102 | 1,189 | 878 | -7.3 | 25.5 |
| Transportation, Comm., & Pub. Utilities | 161 | 154 | 224 | 4.5 | -28.1 |
| Transportation | 94 | 89 | 105 | 5.6 | -10.5 |
| Communications & Public Utilities | 67 | 65 | 119 | 3.1 | -43.7 |
| Trade | 334 | 375 | 273 | -10.9 | 22.3 |
| Wholesale Trade | 57 | 58 | 39 | -1.7 | 46.2 |
| Retail Trade | 277 | 317 | 234 | -12.6 | 18.4 |
| Finance, Insurance, & Real Estate | 18 | 30 | 34 | -40.0 | -47.1 |
| Services | 404 | 452 | 248 | -10.6 | 62.9 |
| Personal & Business Services | 231 | 239 | 130 | -3.3 | 77.7 |
| Health Services | 31 | 36 | 32 | -13.9 | -3.1 |
| Government | 185 | 178 | 99 | 3.9 | 86.9 |
| Local Government | 53 | 56 | 30 | -5.4 | 76.7 |
| Local Education | 9 | 9 | 11 | 0.0 | -18.2 |
| UNCLASSIFIED | 150 | 185 | 137 | -18.9 | 9.5 |
| **NATRONA COUNTY** | | | | | |
| TOTAL CLAIMS FILED | 2,338 | 2,727 | 1,445 | -14.3 | 61.8 |
| **TOTAL UNIQUE CLAIMANTS** | 760 | 869 | 470 | -12.5 | 61.7 |
| TOTAL GOODS PRODUCING | 1,161 | 1,529 | 575 | -24.1 | 101.9 |
| Mining | 441 | 505 | 123 | -12.7 | 258.5 |
| Oil & Gas Extraction | 417 | 469 | 93 | -11.1 | 348.4 |
| Construction | 554 | 894 | 342 | -38.0 | 62.0 |
| Manufacturing | 166 | 130 | 110 | 27.7 | 50.9 |
| TOTAL SERVICES PRODUCING | 1,101 | 1,102 | 784 | -0.1 | 40.4 |
| Transportation, Comm., & Pub. Utilities | 114 | 108 | 82 | 5.6 | 39.0 |
| Transportation | 86 | 83 | 55 | 3.6 | 56.4 |
| Communications & Public Utilities | 28 | 25 | 27 | 12.0 | 3.7 |
| Trade | 386 | 412 | 299 | -6.3 | 29.1 |
| Wholesale Trade | 82 | 88 | 89 | -6.8 | -7.9 |
| Retail Trade | 304 | 324 | 210 | -6.2 | 44.8 |
| Finance, Insurance, & Real Estate | 31 | 26 | 39 | 19.2 | -20.5 |
| Services | 523 | 491 | 289 | 6.5 | 81.0 |
| Personal & Business Services | 231 | 198 | 110 | 16.7 | 110.0 |
| Health Services | 37 | 30 | 40 | 23.3 | -7.5 |
| Government | 47 | 65 | 75 | -27.7 | -37.3 |
| Local Government | 32 | 38 | 13 | -15.8 | 146.2 |
| Local Education | 9 | 10 | 0 | -10.0 | 0.0 |
| UNCLASSIFIED | 76 | 96 | 86 | -20.8 | -11.6 |



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