# Improving Industry Descriptions for the Annual Refiling Survey 

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## I. Introduction

Industry is a fundamental variable in government economic statistics, and the accurate classification of industry is important to ensuring high quality industry-based data. U.S. statistical agencies base industry on the North American Industry Classification System (NAICS). The sampling frame at the Bureau of Labor Statistics (BLS) includes a NAICS designation for each of approximately 8.4 million business establishments. BLS ensures that the NAICS designations are current and accurate through the Annual Refiling Survey (ARS), an annual survey conducted as part of the Quarterly Census of Employment and Wages (QCEW). QCEW is a Federal-State Cooperative Program in which state agencies act as contractors to collect data for BLS from or about establishments in their states.

During the ARS, respondents see a written description of the industry that corresponds to the NAICS code assigned to their establishment. The written descriptions consist of a general statement characterizing an economic activity, followed by lists of included examples and excluded items. Respondents are asked to indicate whether the description corresponds to the establishment's main business activity. Anecdotal reports from state agencies indicate that some respondents are confused by these descriptions, especially the "Does Not Include" component, and report incorrectly as a result.

The purpose of this study is to explore the presentation of industry descriptions on ARS forms in a controlled laboratory setting. We use vignettes describing fictitious business establishments to compare respondent behavior with currently-used (original) industry descriptions and alternative (test) industry descriptions from which we have omitted the "Does not include" statements. Our goal is to determine whether the presence of the "Does not include" statement causes respondents to make more errors, as suggested by anecdotal reports from state agency staff.

## II. Background

## NAICS Classifications

The NAICS classification system was introduced in 1997 and replaced the Standard Industrial Classification (SIC) system, which had been in place since the 1930s. Under NAICS, industries are classified according to their production processes, so that businesses using similar raw materials, equipment, and labor to perform similar activities are grouped together (Walker and Murphy, 2001). The initial NAICS classification was updated in 2002 and will be further refined in 2007.

History. There were several motivations driving the development of NAICS. First, the SIC system did not allow for an adequate representation of an economy that was increasingly service-oriented, rather than goods-producing, nor did it readily allow for the identification of new and emerging industries. In addition, the North American Free Trade Agreement (NAFTA) required a common classification system that would permit comparison of economic statistics across the three partner nations, Canada, Mexico, and the U.S. Still another concern was that some SICs were based on production processes while other SICs were shaped around demand characteristics-i.e., activities or products that appeared similar to the users or customers. ${ }^{2}$ As a result, the system did not have a single underlying conceptual basis (Murphy, 1998).

[^0]Because of the importance of industry classification in structuring national economic indicators, development of NAICS took place at high levels in the three participating governments. In the U.S., the responsibility fell to the Office of Management and Budget (OMB), which is part of the Executive Office of the President. OMB established the Economic Classification Policy Committee (ECPC) and charged it with overseeing the NAICS structure and its content. The U.S. work was performed by subject matter subcommittees, with contributions from numerous government agencies, as well as input from trade groups, data users, and others (Murphy, 1998). The ECPC represents the U.S. in discussions with Canada and Mexico, and continues to direct updates and changes to the industry classification structure.

Structure. NAICS is a hierarchical structure consisting of 20 major sectors, each corresponding to a different category of economic activity (for example, manufacturing, construction, finance and insurance, health care). Within the hierarchy, the most detailed individual industries are represented by unique 6 -digit codes. The first 2 digits identify the sector, the third is the subsector, the fourth represents the industry group, and the fifth digit is the international (three nation) industry level. The sixth digit is used by the individual countries if they need more detailed classifications than those agreed upon by the NAFTA consortium.

The 6-digit level usually specifies a single economic activity, but the NAICS structure characterizes a few industries as combinations of two or more specific products or activities, both of which must be present (OMB, 2002). Gasoline stations with convenience stores (NAICS 447110) are an example of a combined activity. In addition, within many industry groups, the structure provides for a residual or "Other" category that encompasses products, services, or activities not specifically included anywhere else. There are 1,179 different 6-digit industries in the NAICS 2002 hierarchy.

NAICS Manual. The NAICS manual (OMB, 1997; 2002) is the primary reference for assigning industry codes. The manual defines each industry sector and subsector, provides a narrative description of each industry group and internationallevel industry, and if there are U.S.-specific industries, includes a complete specification of each one. At the most detailed level, the manual may include "illustrative examples" of activities or products (called index items) that serve as criteria for classification. In addition, the definitions may specify exceptions, especially in the "Other" categories. For example, the definition of 442299, Other Home Furnishings Stores, is:

This U.S. industry comprises establishments primarily engaged in retailing new home furnishings (except floor coverings, furniture, and window treatments) (OMB, 2002: 560)

The illustrative examples for the preceding description (442299) include bath shops, chinaware stores, lamp stores, and some other types of stores. Each industry also lists cross references to similar activities and shows the NAICS classifications for those activities. In the example shown here, the cross references are to Floor Coverings Retailers, Furniture Stores, Window Treatment Stores, and several other industries, not all of which are addressed in the definition. In effect, the combination of exceptions and cross references define an industry by what it is not as well as by what it is. This process of definition by exception is meaningful and easy to follow in the NAICS manual, where a reader can review the cross references. It is less meaningful when it is removed from its supporting context, as used on the ARS forms.

## The Annual Refiling Survey

The Annual Refiling Survey is the BLS mechanism for maintaining current information in its sampling frame. Every year, the state QCEW offices mail ARS forms to approximately one-third of the Unemployment Insurance account holders in their states. ${ }^{3}$ These BLS-designed forms ask respondents to verify the business name, mailing address, physical location address, county or township, and economic activity for the location(s) in that state. The economic activity (industry) item consists of a short description and a question about whether the description accurately reflects the main business activity of the establishment in the state during the previous 12 months. If it does not, respondents are asked to list their main activities, and to indicate the approximate percentage each contributes to sales or revenues.
to "Educational Services" because their production process was defined as "establishments with students who learn and teachers who teach" (Jordan, 2005).
${ }^{3}$ For ARS purposes, the basic unit of analysis is an Unemployment Insurance account. Accounts are assigned by each state and can apply to either single-unit businesses or multi-establishment firms. The materials created for this study are singleestablishment versions, although the same industry descriptions appear on single-unit and multi-unit ARS forms.

Figure 1 illustrates the basic structure of the industry verification item on the form. The top part of the illustration shows the generic template, while the bottom half shows what the questions look like as presented to a respondent in industry 238221 from the fictitious state of Utana. Note that the question refers to the "main" business activity, leaving the definition of "main" up to the respondent. This ambiguity is intentional. According to the NAICS manual, if an establishment performs more than one activity, the classification should be based on the "principal product or group of products produced or distributed, or services rendered." While the ideal determination of this product or service is the establishment's "relative share of current production costs and capital investments," revenue, shipments, or employment are often used as proxies (OMB, 2002: 22). During the questionnaire design process, the design team considered the tradeoff of making the question more precise, at the price of making it more complex and more challenging to understand. The team decided that for verification purposes we would use the more respondent-friendly wording now in place. The questionnaire requests more detailed information when the respondent does not agree with the description, and states use the additional detail for coding purposes.

Figure 1. Industry Verification Item from ARS Form activity.)

YES ...Please SKIP to Item 12
NO ....Continue with Item 11

| 9 | Our records show that the main activity of the business using U.I. number <br> 9999999999 in UTANA is: <br> Plumbing, heating, or air-conditioning contractors primarily working on RESIDENTIAL buildings. Examples of their work may include, but are not limited to: <br> * Duct work (cooling, dust collection, * Natural gas fireplace installation exhaust, heating, ventilation) * Lawn sprinkler system installation <br> * Fire sprinkler system installation * Sewer hook-ups and connections <br> * Furnace installation <br> * Sump pump installation <br> RESIDENTIAL contractors may provide both parts and labor when performing work. The work performed may include new work, additions, alterations, maintenance, and repairs. <br> DOES NOT INCLUDE primarily installing electrical controls for HVAC systems; or duct cleaning. |
| :---: | :---: |
|  |  |
| 10 | While you may not do everything listed above, does the information in Item 9 accurately describe the main business in Utana during the past 12 months? (If the business has been closed, sold, or moved out of this state, please answer in terms of its former activity.) |
|  |  |

BLS economists rewrite the industry descriptions from the NAICS manual for the ARS forms. During the rewriting process, they simplify the language, remove the cross references, and fit the description into the space available. As illustrated above, the manual is written using economic jargon, and tends to present long lists of included and excluded items in paragraph form. The economists worked from a set of guidelines, including:

- Describe what the industry is well ahead of what it is not.
- Use bullets instead of paragraphs to the extent possible, especially for lists
- Where appropriate, emphasize that the examples are illustrative and that the list is not exhaustive
- Use "Does not include" to refer to excluded items
- Avoid presenting excluded activities in parentheses.

Some industries are particularly challenging to describe, however. The "all other" industries generally take the form of:
This industry comprises establishments primarily engaged in [activity] (except ...)
It is not uncommon for the list of exclusions to be as long or longer than the list of inclusions. Since respondents do not see the related industry descriptions, the result is lengthy "Does not include" statements on their ARS forms. For example, the "Does not include" statement for All Other Home Furnishings Stores, cited above, is:

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DOES NOT INCLUDE retail sales of floor coverings, furniture, window treatments, or
    new mirrored glass lighting fixtures.
DOES NOT INCLUDE electronic home shopping, mail-order, or other non-store retail
    sales of home furnishings.
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State agencies tell BLS that some respondents reject descriptions because their business involves some amount of an excluded item, even though the "includes" list covers their main activity. Other respondents reject correctly coded industry descriptions because their businesses engage in an activity that is absent from the list of examples. ${ }^{4}$

## III. Methodology

## Research Objectives

Stated broadly, the objective of this research is to look for principles that can be adapted to writing industry descriptions that will make these descriptions clearer to ARS respondents. The specific goal of the present study is to explore the effect of using exclude statements in the ARS industry descriptions. Because of the complexity of some industry definitions, it is important that the examination of excludes be tailored to the industry.

## Approach

Our goal for the current investigation is to compare industry descriptions with and without the "Does not include" statements. We wanted to see if the presence or absence of these statements has an effect on the likelihood that a respondent will agree with a correct description or disagree with an incorrect description. We conducted a laboratory study with members of the general public as study participants. We created vignettes to represent businesses that could be compared to BLS industry descriptions. Each vignette is a short descriptive paragraph describing a fictional business.

In the laboratory, we presented study participants with mock ARS forms containing industry descriptions, some with and some without the "Does not include" statements. We asked participants to consult the industry description on the forms and to determine whether or not the descriptions accurately reflected the business described in the scenario. ${ }^{5}$ We also asked study participants to rate the difficulty of the verification task, and we debriefed them about the task.

[^1]Our research approach differs from other establishment studies where researchers generally visit the respondents at their places of business and make inquiries about their business activities (e.g., Phipps et al., 1993; Eldridge et al., 2000). The more familiar methodology would not meet the needs of our study because respondents are expected to provide an answer for more than one industry. It would be unreasonable to expect individual ARS respondents to answer any questions about a business or industry other than their own.

## Research Design

We used scenarios and mock ARS forms to compare the effect of having "Does not include" statements as part of the industry verification process.

Selection of Industries. The selection of industries to test was a key component of the research. We began with Employment and Wages: Annual Averages (BLS, 2003), the primary publication of the QCEW program, and compiled a list of all 6-digit NAICS industries that had 20,000 or more establishments in 2002. This process yielded a list of 87 industries ${ }^{6}$ and ensured that we would be working within the realm of widely visible and familiar industries. We then analyzed the industry descriptions printed on the ARS forms for those 87 industries. We coded:

- The total number of words in the description (as counted by Microsoft Word)
- The number of examples of items or activities in the industry description "includes." Some of these "includes" are part of the narrative descriptions, while others appear on ARS forms as "Examples include, but are not limited to"
- The number of items shown under "Does not include"

The industry descriptions ranged in length from 20 to 144 words and the number of examples and included items ranged from 0 to 21 . We selected industries in the middle range ( $60-100$ words, 2 to 16 "includes"), in order to ensure that the descriptions were relatively homogeneous and to increase the likelihood that our results could be attributed to the experimental condition and not to an uncontrolled attribute of the industry description. ${ }^{7}$ We chose not to use the number of "excludes" as a criterion, because the number varied widely and nonlinearly relative to the "includes." Within these limits, we divided the remaining 29 industries into four approximately equal groups and chose 3 industries from each group, for a total of 12 industries. Our subjective choices were based on our perception of how common the industries were, the clarity of the BLS descriptions, our wish to represent as many different industry sectors as possible, and the ease of creating vignettes for them. All of the selected industries have "Does not include" statements in their current descriptions. Appendix 1 shows the 12 selected industries and their descriptions.

Vignettes. Vignettes create a "reality" for respondents. They are especially useful in assessing potential sources of error because researchers know the correct answer for a situation. In recent years vignettes have moved from the realm of household surveys into establishment surveys (Morrison et al., 2004), where they have been presented as mock records to test questionnaire layouts (Stettler et al, 2000), the questionnaire completion process (Goldenberg et al., 2002), and selfadministered questionnaires (Goldenberg, 1998). ${ }^{8}$

By using vignettes in a laboratory setting, we can ask about a variety of industries. We control the situations being described, the extent to which they do or do not match industry definitions, and the amount of ambiguity in those situations. On the other hand, because laboratory subjects are members of the general public, and we are testing industry-specific descriptions, we have to ensure that the scenarios deal with familiar businesses and everyday situations.

We created two hypothetical scenarios for each industry. One is straightforward, by which we mean the scenario reflects information from the "include" side of the NAICS industry definition (description or examples). The other scenario is complex, in that it incorporates information from the "Does not include" statement. We used the complex scenario because in the real world many businesses encompass a variety of products, services, or activities, some of which could overlap with other NAICS classifications. For example, using the Other Home Furnishings stores described earlier, a straightforward scenario that is correctly coded in this industry might describe a store that sells sheets, towels, and other bedroom and bathroom accessories. A straightforward scenario that is not correctly coded for this industry could describe a business that

[^2]sells refrigerators, stoves, washing machines, dryers, and other household appliances-that is, the business does something different from what is described, but is not specifically addressed by the exclusions. A complex scenario that is correctly coded might be a business that sells lamps ( 30 percent of total products sold), other home accessories ( 45 percent), and rugs ( 25 percent), while a complex scenario that does not fit the description could be a furniture store or a store that sells rugs ( 60 percent) and other home accessories ( 40 percent). What makes these situations complex is that they refer to one of the exclusions for the NAICS industry. In the case of the store with 60 percent of its sales in rugs, the main product or activity is an excluded item.

Appendix 2 shows the vignettes for each of the 12 selected industries. Based on the scenarios, study participants should reject some of the industry descriptions. The Y or N at the end of each scenario indicates whether the description should be accepted $(\mathrm{Y})$ or rejected $(\mathrm{N})$, given the scenario. ${ }^{9}$

Original and test conditions. Once we had selected the industries, we turned again to the industry descriptions currently printed on the ARS forms. We defined the current descriptions as the original condition. We removed the "Does not include" statement from the description to create the test condition. We determined that study participants would see both original and test conditions, but for different industries. That is, they would always see either the original or the test condition for a specific industry. Since nothing else in the industry description changes, this allows us to evaluate the effect of the "Does not include" statement. By holding the version of the industry description constant across both types of scenarios, we increase the likelihood that any differences that emerge are in fact due to the presence or absence of the "Does not include" statement. We assigned original and test conditions so that study participants would see all 12 industries and an equal number of original and test descriptions.

Materials. We prepared the following materials for the study:

- Mock ARS forms corresponding to each vignette scenario. The forms show a fictitious business at a specific physical location in the fictitious state of Utana. The industry questions (Figure 1) contain the industry description corresponding to the scenario, in either the original or the test condition. While participants received the entire form, the questions following the industry description were grayed out so as not to distract the study participants. We prepared two versions of each industry description, one with the "Does not include" statement (original) and one without the "Does not include" statement (test), for a total of 48 different ARS forms. Appendix 3 shows sample mock ARS forms for the original and test conditions.
- Worksheets for each scenario. The worksheets contain a paragraph with the vignette, as well as a self-administered difficulty rating. We asked participants to rate each industry verification task from 1 to 5 , where 1 is very easy and 5 is very hard, before going on to the next scenario.
- Participant packets. We compiled 24 sets of scenario worksheets and their corresponding ARS forms into packets for each study participant. We used a randomization procedure to allocate industries and scenarios so that study participants saw either the original or the test version of each description. We also developed four different sequences in which we presented the scenarios and industries. This procedure ensured that participants did not see both scenarios for an industry together, scattered correct and incorrect descriptions, and provided a good mix of complex and straightforward scenarios.
- An interviewer-administered debriefing questionnaire. The questionnaire asked about the industry descriptions on the ARS form, focusing on the examples to include, the "Does not include" statements, whether the includes were helpful/confusing, whether the excludes were helpful/confusing, and how the study participant understood the phrase "Examples include but are not limited to." We also showed a study participant a complex scenario and asked if having the "Does not include" information would have been helpful while working with the scenario. Finally, we asked the participants to paraphrase the industry questions and asked how they understood different phrases in those questions.

Administering the task. We briefed study participants on the nature of the ARS survey and the present task. We asked them to read and sign an Informed Consent form. Then we gave participants the packet described above, reviewed the instructions, and let them go to work. When they finished all 24 scenarios, an interviewer conducted the debriefing interview and recorded the answers.

[^3]Participants. Thirty-nine individuals responded to an advertisement in a local newspaper and received $\$ 35.00$ each to compensate for the expenses incurred by participating in the study. We subsequently dropped 3 of the participants' data from the analysis, ${ }^{10}$ leaving us with a base of 36 usable cases. The participants ranged in age from 22 to 75 years, with a mean age of 45 . All were high school graduates, with 12 to 19 years of education (mean 15.5 years); 25 percent had bachelor's degrees and an additional 36 percent had graduate training. Fourteen of the study participants were male and 22 were female.

## IV. Predicted Outcomes

Our basic measure is the percentage of correct responses for each vignette, tabulated separately for the original (with "Does not include") and test (without "Does not include") versions of the industry descriptions. In some cases, the correct responses are "No"-the description on the mock ARS form does not fit the scenario.

Recall that state QCEW staff have attributed errors to the presence of "Does not include" statements. If these staff reports are correct, the test version of an industry description should result in a higher number of correct answers than the original version. Similarly, we should see more correct responses for the straightforward vignettes than for the complex ones, because the straightforward scenarios present easier tasks. However, we noted that the complex scenarios contain references to information from the "Does not include" statement. Therefore, we anticipate an interaction effect, where the test version of the industry description produces fewer correct answers for the circumstances described in the complex vignettes.

In addition to looking at whether the study participant correctly assessed each ARS form, we have two additional tools with which to examine the results and to consider the effect of the experimental treatment. The first is the perceived ease or difficulty attributed to the response for each scenario, recorded on the vignette worksheet. Our expectation is that the easier the task, the greater the likelihood of a correct response. Since the "Does not include" statements may make the task more difficult, it is likely that the ratings for the original industry descriptions will reflect greater difficulty than those for the descriptions in the test condition. However, this might be reversed for the complex scenarios, since they address information in the "Does not include" statements, and that information that could make the task easier.

The second tool is the debriefing interview. The short interview focused on the industry description item and included general questions about the use of examples and the presence of the "Does not include" statements.

## V. Results

## Experimental treatment and response accuracy

Table 1 summarizes the results of the experiment. This table shows each of the industries we tested, tabulates the number (first line) and percentage of correct responses (second line) for the original and test versions of the industry description, and presents the differences between the percentages correct (original minus test). The data appear separately for the straightforward and complex scenarios. Each original and test condition has a maximum of 18 cases. The percentage correct at the bottom of the table summarizes our findings: across all 12 industries, there was no difference in correct response for the straightforward scenarios. On the complex side, the test condition showed a slightly higher percentage correct than the original condition, a difference which is not statistically significant, and which is counter to our prediction that the test condition would not perform as well for complex cases.

Looking at the individual industries, correct responses for straightforward scenarios under the original condition ranged from 33.3 to 88.9 percent, and from 44.4 to 83.3 percent under the test situation. Similarly, for the complex vignettes, correct responses ranged from 27.8 to 83.3 percent under the original condition and from 50.0 to 94.4 percent for the test condition. For each industry, we can compare the percentage correct between the original version and the test condition (the "Diff O- T" column in Table 1). Here again we see essentially no difference. Among the 12 industries, in 5 instances the original version of the industry description had a higher percentage correct than the test version $(\mathrm{O}>\mathrm{T})$, in 5 instances the test version outperformed the original version $(\mathrm{O}<\mathrm{T})$, and in the remaining two industries the results were identical $(\mathrm{O}=\mathrm{T})$. Among the complex scenarios, the original outperformed the test version in 5 cases, the test version was more successful in 6 cases, and the results were identical once.

[^4]Table 1. Scenarios and Industry Descriptions: Results
Number and Percentage Correct for Original and Test Conditions, by Type of Scenario

| NAICS Industry |  | Straightforward Scenario |  |  |  | Complex Scenario |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | Correct response | Industry description |  | Diff O-T | Correct response | Industry description |  | Diff O-T |
|  |  |  | Original | Test |  |  | Original | Test |  |
| $238221$ <br> Residential plumbing and HVAC Contractors | $\begin{gathered} \mathrm{Nr} \\ \mathrm{Pct} \end{gathered}$ | N | $\begin{array}{r} 12 \\ 66.7 \end{array}$ | $\begin{array}{r} 11 \\ 61.1 \end{array}$ | 5.6 | Y | $\begin{array}{r} 15 \\ 83.3 \end{array}$ | $\begin{array}{r} 14 \\ 77.8 \end{array}$ | 5.5 |
| $441110$ <br> New car dealers | $\begin{array}{r} \mathrm{Nr} \\ \mathrm{Pct} \end{array}$ | N | $\begin{array}{r} 15 \\ 83.3 \\ \hline \end{array}$ | $\begin{array}{r} 14 \\ 77.8 \\ \hline \end{array}$ | 5.5 | Y | $\begin{array}{r} 13 \\ 72.2 \\ \hline \end{array}$ | $\begin{array}{r} 14 \\ 77.8 \\ \hline \end{array}$ | -5.6 |
| $444190$ <br> Other building material dealers | $\begin{array}{r} \mathrm{Nr} \\ \mathrm{Pct} \\ \hline \end{array}$ | Y | $\begin{array}{r} 11 \\ 61.1 \end{array}$ | $\begin{array}{r} 13 \\ 72.2 \end{array}$ | -11.1 | N | $\begin{array}{r} 13 \\ 72.2 \end{array}$ | $\begin{array}{r} 11 \\ 61.1 \end{array}$ | 11.1 |
| $\begin{aligned} & 447190 \\ & \text { Other Gasoline } \\ & \text { Stations } \end{aligned}$ | $\begin{array}{r} \mathrm{Nr} \\ \mathrm{Pct} \end{array}$ | Y | $\begin{array}{r} 14 \\ 77.8 \end{array}$ | $\begin{array}{r} 15 \\ 83.3 \end{array}$ | -5.5 | Y | $\begin{array}{r} 15 \\ 83.3 \end{array}$ | $\begin{array}{r} 15 \\ 83.3 \end{array}$ | 0 |
| $453220$ <br> Gift, novelty, and souvenir stores | $\begin{array}{r} \mathrm{Nr} \\ \mathrm{Pct} \\ \hline \end{array}$ | N | $\begin{array}{r} 16 \\ 88.9 \\ \hline \end{array}$ | $\begin{array}{r} 14 \\ 77.8 \end{array}$ | 11.1 | Y | $\begin{array}{r}5 \\ 27.8 \\ \hline\end{array}$ | $\begin{array}{r} 15 \\ 83.3 \\ \hline \end{array}$ | -55.5 |
| $453998$ <br> Store retailers not specified elsewhere | $\begin{array}{r} \mathrm{Nr} \\ \mathrm{Pct} \end{array}$ | Y | $\begin{array}{r} 6 \\ 33.3 \\ \hline \end{array}$ | $\begin{array}{r} 8 \\ 44.4 \\ \hline \end{array}$ | -11.1 | N | $\begin{array}{r} 16 \\ 72.2 \end{array}$ | $\begin{array}{r} 13 \\ 88.9 \end{array}$ | -16.7 |
| $541940$ <br> Veterinary services | $\begin{gathered} \mathrm{Nr} \\ \mathrm{Pct} \end{gathered}$ | Y | $\begin{array}{r} 15 \\ 83.3 \end{array}$ | $\begin{array}{r} 11 \\ 61.1 \end{array}$ | 22.2 | N | $\begin{array}{r} 14 \\ 77.8 \end{array}$ | $\begin{array}{r} 10 \\ 55.6 \end{array}$ | 22.2 |
| $624410$ <br> Child daycare services | $\begin{gathered} \mathrm{Nr} \\ \mathrm{Pct} \end{gathered}$ | Y | $\begin{array}{r} 14 \\ 77.8 \end{array}$ | $\begin{array}{r} 14 \\ 77.8 \end{array}$ | 0 | N | $\begin{array}{r} 15 \\ 83.3 \end{array}$ | $\begin{array}{r} 14 \\ 77.8 \\ \hline \end{array}$ | 5.5 |
| 713940 <br> Fitness and recreational sports centers | $\begin{array}{r} \mathrm{Nr} \\ \mathrm{Pct} \end{array}$ | Y | $\begin{array}{r} 14 \\ 77.8 \end{array}$ | $\begin{array}{r} 15 \\ 83.3 \end{array}$ | -5.5 | N | $\begin{array}{r} 10 \\ 55.6 \end{array}$ | 9 50 | 5.6 |
| $811111$ <br> General automotive repairs | $\begin{array}{r} \mathrm{Nr} \\ \mathrm{Pct} \end{array}$ | Y | $\begin{array}{r} 14 \\ 77.8 \end{array}$ | $\begin{array}{r} 14 \\ 77.8 \end{array}$ | 0 | N | $\begin{array}{r} 14 \\ 82.4 \end{array}$ | $\begin{array}{r} 15 \\ 83.3 \end{array}$ | -0.9 |
| 812112 <br> Beauty salons | $\begin{gathered} \mathrm{Nr} \\ \mathrm{Pct} \end{gathered}$ | N | $\begin{array}{r} 12 \\ 66.7 \end{array}$ | $\begin{array}{r} 10 \\ 55.6 \end{array}$ | 11.1 | Y | $\begin{array}{r} 11 \\ 61.1 \end{array}$ | $\begin{array}{r} 17 \\ 94.4 \end{array}$ | -33.3 |
| 813410 <br> Civic and social organizations | $\begin{gathered} \mathrm{Nr} \\ \mathrm{Pct} \end{gathered}$ | Y | $\begin{array}{r} 8 \\ 44.4 \\ \hline \end{array}$ | $\begin{array}{r} 12 \\ 66.7 \end{array}$ | -22.3 | Y | $\begin{array}{r} 10 \\ 55.6 \end{array}$ | $\begin{array}{r} 11 \\ 61.1 \end{array}$ | -5.5 |
| Total correct |  |  | 151 | 151 |  |  | 151 | 158 |  |
| Percent correct |  |  | 70.2 | 70.2 |  |  | 70.2 | 73.5 |  |

We believe that the study participants generally understood the task and used the scenarios as we had intended. Most of the scenarios- 19 of 24 ( 79 percent) in the original condition, and 20 of 24 ( 83 percent) of those in the test condition-were answered correctly at least 60 percent of the time. Where the scenarios did not perform well, the problem could have been in the way we worded the vignette. ${ }^{11}$

[^5]Looking within specific industries, and comparing the straightforward and complex situations, we find some evidence of an interaction effect. Moving from the straightforward to the complex, the difference between the original and test conditions changes direction in five industries, and goes to/from zero in three additional industries. The change in direction is inconsistent, raising the possibility that something other than the experimental treatment might be responsible for the observed results. Given the lack of differences overall, however, the hypothesized interaction between straightforward and complex scenarios did not appear.

Effect of the underlying decision task. As noted, some of the industry descriptions on the ARS forms were correct for the vignette and some were not. Since these two activities represent different cognitive tasks, we looked at the performance of the industry descriptions under the original and test conditions. Table 2 summarizes the difference in the proportion of correct responses according to whether the correct response is to verify a description or to reject it as incorrect. For the 12 industries used in this study, the post hoc analysis shows different patterns of responses based on the underlying task. When the industry on the ARS form fits the scenario ("Yes" response), the test version outperforms the original version. That is, omitting the "Does not include" statement appears to help with the recognition task, perhaps by eliminating irrelevant information. When the industry does not match the scenario, however, a larger number of study participants seeing the original industry description selected the correct answer that those who saw the test version. Although the number of industries to be verified and rejected is quite small, the pattern of data suggests that the "Does not include" statements were a factor in our study participants' decisions to reject the ARS descriptions.

Table 2. Decision Task (Verify Correct versus Reject Incorrect): Data Pattern Performance of Original and Test conditions across Industries (Number of Industries)

| Decision Task | Straightforward | Complex | Total |
| :---: | :---: | :---: | :---: |
| Verify correct |  |  |  |
| Orig > Test | 1 | 1 | 2 |
| Orig < Test | 5 | 4 | 9 |
| Orig = Test | 2 | 1 | 3 |
| Reject incorrect |  |  |  |
| Orig > Test | 4 | 2 | 8 |
| Orig < Test | 0 | 2 | 2 |
| Orig = Test | 0 | 0 | 0 |

Taking the analysis a step further, Table 3 shows the mean percentage correct under each set of conditions in Table 2 . We used analysis of variance (ANOVA) to evaluate the differences. In the ANOVA model, scenario type (straightforward/ complex) and the underlying task (verify correct or reject incorrect) are within-subject factors and industry description (original/test) is a between-subject factor. The main effects and 3-factor interaction were not statistically significant. Only one of the three possible 2 -factor interactions, underlying decision task and industry description, reached statistical significance $[\mathrm{F}(1,70)=4.32, \mathrm{P}<.05]$, suggesting that study participants answered differently depending upon the original or test condition of the industry description. Indeed, Table 3 shows a significantly higher proportion of correct verifications for complex scenarios using the test version of the industry description ( 79.6 percent) than for the original version ( 63.9 percent) $[\mathrm{F}(1,70)=4.24, \mathrm{p}<.05]$. The table points to an interaction-for the complex scenarios, the pattern is reversed. Study participants presented with an original version of the industry description had a higher percentage of correct rejections (75.9 percent) than did those who saw the test version ( 66.7 percent), but this difference was not statistically significant. The interaction holds for the straightforward scenarios, but again the differences are not statistically significant.

Table 3. Verify Correct versus Reject Incorrect:
Mean Percentage of Correct Responses Across all Scenarios

| Decision Task | Straightforward |  | Complex |  | Total |  |
| :--- | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Original | Test | Original | Test | Original | Test |
| Verify correct | 66.7 | 70.8 | $63.9^{*}$ | $79.6^{*}$ | 65.5 | 74.6 |
| Reject incorrect | 76.4 | 68.1 | 75.9 | 66.7 | 76.1 | 66.9 |
| Total | 70.2 | 70.2 | 70.2 | 73.5 | 70.2 | 71.9 |

[^6]Taken together, these findings suggest that "Does not include" statements are helpful when the individual should reject the industry description as incorrect for the scenario. However, if the description is correct and should be verified, removing the "Does not include" statements seems to help with the recognition task and thus to increase the likelihood of a correct answer.

## Experimental Treatment and Ease/Difficulty of Response

Study participants assigned a rating to each vignette to reflect the ease or difficulty of completing the mock ARS form. Ratings ranged from 1 (very easy) to 5 (very difficult). We recoded the participant-assigned ratings so that they ranged from 1 (very difficult) to 5 (very easy) for each ARS form/vignette combination - that is, the higher the mean, the easier the task.

We compared the mean ease/difficulty ratings for each vignette between original and test conditions for the straightforward and complex scenarios. Given the input from state QCEW personnel, we would expect participants to find the original descriptions more difficult to work with than the test conditions, even though information in the "Does not include" statements might directly address the situation described in the vignettes. To some extent, the perceived ease or difficulty parallels that of the overall accuracy ratings. Table 4 shows the ratings for each of the 12 industries and the overall rating across all industries. Generally speaking the differences were negligible. For the straightforward scenarios, the mean for the original industry descriptions was 3.97 , while for the test descriptions it was 3.95 . For the complex scenarios, the means were a little lower: 3.87 for the original descriptions and 3.83 for the test versions. These differences are not statistically significant. Looking at individual industries and the straightforward vignettes, we see means ranging from 3.67 to 4.28 under the original condition and from 3.61 to 4.39 under the test condition. The differences are very small, and statistically significant for only 2 of the 12 vignettes. In addition, the direction of the statistically significant differences is not the same; these results could have happened by chance. The situation for the complex scenarios is similar, but the ratings are a little lower, suggesting the (expected) greater difficulty in those scenarios. Means for the original condition ranged from 3.33 to 4.22 , and from 3.44 to 4.22 for the test condition. None of the individual differences between conditions are statistically significant for the complex scenarios. In short, removing the "Does not include" statements from the industry descriptions does not appear to affect the perceived difficulty of the respondent's task.

We repeated the analysis, examining whether the study participant was verifying correct information or rejecting incorrect information. Table 5 shows the response pattern. This table compiles the results of the "Diff $\mathrm{O}-\mathrm{T}$ " column in Table 4, showing the results of each comparison according to the respondent's decision task. It appears from this table that having the original or the test version of the industry description had little effect for study participants who were verifying an industry description. However, when the appropriate action was to reject an incorrect industry, the original version noticeably outperformed the test version. That is, the original definition-with the "Does not include" statement-appears to facilitate the task of recognizing and rejecting an incorrect description.

This pattern is borne out by the mean ease ratings shown in Table 6, although none of the mean differences or interaction terms is statistically significant. The numbers are small, but the interaction observed earlier holds for the present situation. None of the differences is statistically significant, but if the underlying task is to verify a correct description, our study participants found the test version of the description (without the "Does not include" statement) easier to work with than the original. On the other hand, the original version rated "easier" when the underlying task was to reject an incorrect description. This result mirrors the mean correct responses shown in Table 3.

## Ease/difficulty and correct response

We created a dummy variable for the correct response for each vignette, using 1 for a correct answer and 0 for an incorrect answer. We then correlated the ease/difficulty rating with the likelihood that a study participant answered the vignette correctly. Our expectation was that the easier the task (i.e., the higher the recoded ease rating), the more likely the study participant would be to provide the correct answer. Larger positive $r$ values support the hypothesis; smaller values and negative correlations tend to refute it.

Table 4. Mean Ease/Difficulty Ratings for Each Scenario, Original and Test Condition ${ }^{\text {a }}$

| NAICS Industry | Straightforward Scenarios |  |  | Complex Scenarios |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Industry description |  | Diff O-T | Industry description |  | Diff O-T |
|  | Original | Test |  | Original | Test |  |
| $238221$ <br> Residential plumbing and HVAC Contractors | 4.17 | 4.06 | 0.11 | 4.11 | 3.72 | 0.39 |
| $441110$ <br> New car dealers | 4.11 | 4.06 | 0.05 | 3.94 | 4.06 | -0.11 |
| $444190$ <br> Other building material dealers | 4.06 | 4.06 | 0.0 | 3.56 | 3.83 | -0.28 |
| $447190$ <br> Other Gasoline Stations | 4.00 | 4.06 | 0.06 | 3.44 | 3.94 | -0.50 |
| $453220$ <br> Gift, novelty, and souvenir stores | 4.06 | 3.61 | 0.45 | 3.83 | 3.55 | 0.28 |
| $453998$ <br> Store retailers not specified elsewhere | 3.67 | 4.00 | -0.33 | 4.00 | 3.44 | 0.56 |
| $541940$ <br> Veterinary services | 3.72 | 4.39 | -0.67* | 4.00 | 3.78 | 0.22 |
| $624410$ <br> Child daycare services | 4.28 | 3.67 | 0.61* | 4.22 | 4.12 | 0.10 |
| $713940$ <br> Fitness and recreational sports centers | 4.28 | 4.11 | 0.16 | 3.78 | 3.65 | 0.13 |
| $811111$ <br> General automotive repairs | 3.76 | 3.83 | -0.07 | 4.06 | 3.83 | 0.22 |
| $812112$ <br> Beauty salons | 3.78 | 3.89 | -0.11 | 4.17 | 4.22 | -0.06 |
| $813410$ <br> Civic and social organizations | 3.72 | 3.61 | 0.11 | 3.33 | 3.79 | -0.44 |
| Overall total | 3.97 | 3.95 |  | 3.87 | 3.83 |  |

${ }^{a}$ Ease/difficulty rating: $1=$ Very difficult, $5=$ very ease $\quad * p<.05 \quad * * p<.01$

Table 5. Decision Task (Verify Correct versus Reject Incorrect): Data Pattern Comparison of Mean Ease/Difficulty Ratings Across Industries (Number of Industries)

| Decision Task | Straightforward | Complex | Total |
| :---: | :---: | :---: | :---: |
| Verify correct | 3 |  |  |
| Orig > Test | 4 | 3 | 6 |
| Orig < Test | 1 | 3 | 7 |
| Orig $~$ Test |  | 0 | 1 |
| Reject incorrect | 1 | 5 | 8 |
| Orig > Test | 1 | 2 |  |
| Orig < Test | 0 | 0 | 0 |
| Orig $=$ Test |  |  |  |

Table 6. Decision Task (Verify Correct versus Reject Incorrect): Mean Ease/Difficulty Ratings

| Decision Task | Straightforward |  | Complex |  | Total |  |
| :--- | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Original | Test | Original | Test | Original | Test |
| Verify correct | 3.94 | 3.97 | 3.80 | 3.88 | 3.88 | 3.92 |
| Reject incorrect | 4.03 | 3.90 | 3.94 | 3.78 | 3.97 | 3.83 |
| Total | 3.97 | 3.95 | 3.87 | 3.83 | 3.96 | 3.85 |

Table 7 shows the correlations between correct response and reported ease or difficulty of obtaining that response. Looking first at the straightforward vignettes, under the original industry condition, all but one of the correlations was in the expected positive direction. (The exception had an r value of .00 , indicating no relationship between ease of response and correct response.) Correlations ranged from 0 to .533 . Under the test condition, the range was from -.127 to .665 . Eight of the correlations were positive and four were negative. The negative correlations all represented a change of direction between the original and test conditions, which provides additional evidence of an interaction. That is, the absence of the "Does not include" statement in the test condition seems to have altered the relationship between ease of the industry verification task and the likelihood of reaching the correct answer. For example, in one scenario (Gift, novelty, and souvenir stores), the difference in the percentage correct between the original and test conditions was 11.1 percent. The correlations between ease and correct response for this scenario were in the same direction, but differed by a factor of 10 ( 0.533 for the original condition, 0.053 for the test). Although study participants in the test condition found the task more difficult, they still generally got the correct answer. ${ }^{12}$

Turning to the complex scenarios, correlations ranged from -.410 to .604 for the original industry descriptions and from -. 261 to .360 for the test condition. Ten of the 12 correlations were positive under the original condition, while 8 of the 12 were positive for the test condition.

What do these correlations tell us? Under both sets of scenarios, using the original version of the industry descriptions, there is a positive relationship between the likelihood that a study participant arrived at the correct answer and the reported ease or difficulty of the scenario evaluation task. The situation for the test condition is mixed. Four of the correlations were negative under both the straightforward and the complex scenarios. A negative correlation indicates that the harder the task, the more likely the study participant was to provide the correct answer. We can speculate that, in some cases, the study participants found the test versions of the industry descriptions more challenging and therefore worked harder to get the correct answer.

Overall, there is no consistent pattern of relationships across industry description conditions within industries. Looking at the straightforward scenarios, half have higher correlations between ease or difficulty and correct response for the test conditions than for the original conditions. The other half have either lower positive correlations or correlations that change direction. Under the complex environment, the pattern is even more mixed, which we interpret to mean that the relationship between ease or difficulty and correct response is not affected by the presence or absence of the "Does not include" statements. These results again call into question the state QCEW staff expectations (i.e., that removing the "Does not include" statements will make the respondent task easier and result in more accurate responses).

We also looked separately at the correlations between ease/difficulty and correct response for the verify and reject tasks, but found nothing to suggest a pattern or an effect.

## Insights from Debriefing Interviews

We now turn to the debriefing interview, which we administered after the study participants had finished working with a set of 24 vignettes. The interviews had two goals:

- To further explore perceptions about the industry descriptions, especially the use of examples and the "Does not include" statements
- To see how study participants understood the industry description questions on the ARS form. ${ }^{13}$

[^7]Table 7. Correlations between Ease/Difficulty Ratings and Correct Response, by Scenario and Industry Description Condition

| NAICS Industry | Straightforward Scenarios |  | Complex Scenarios |  |
| :---: | :---: | :---: | :---: | :---: |
|  | Industry description |  | Industry description |  |
|  | Original | Test | Original | Test |
| $238221$ <br> Residential plumbing and HVAC Contractors | 0.131 | 0.562* | 0.270 | 0.444 |
| $441110$ <br> New car dealers | 0.246 | 0.665** | 0.115 | -0.261 |
| $444190$ <br> Other building material dealers | 0.178 | -0.115 | 0.086 | 0.360 |
| $447190$ <br> Other Gasoline Stations | 0.000 | 0.315 | 0.508* | -0.029 |
| $453220$ <br> Gift, novelty, and souvenir stores | 0.533* | 0.053 | 0.108 | -0.178 |
| $453998$ <br> Store retailers not specified elsewhere | 0.112 | -0.127 | 0.375 | -0.197 |
| $541940$ <br> Veterinary services | 0.217 | 0.411 | 0.142 | 0.027 |
| $624410$ <br> Child daycare services | 0.203 | 0.094 | 0.271 | 0.275 |
| $713940$ <br> Fitness and recreational sports centers | 0.386 | 0.531* | -0.410 | 0.023 |
| $811111$ <br> General automotive repairs | 0.132 | -0.099 | 0.604* | 0.083 |
| $812112$ <br> Beauty salons | 0.076 | 0.438 | 0.174 | 0.347 |
| $813410$ <br> Civic and social organizations | 0.431 | -0.033 | -0.320 | 0.180 |

${ }^{\mathrm{a}}$ Ease/difficulty rating: $1=$ Very difficult, $5=$ very ease $\quad * \mathrm{p}<.05 \quad$ ** $\mathrm{p}<.01$

We addressed the first goal with general questions about Items 9 and 10 on the ARS form (see Figure 1). Our intent was to look at whether the includes and the "Does not include" statements affected the study participants' ability to understand the industry descriptions printed on the forms. Observations from the debriefing interviews are qualitative, and conclusions from them are suggestive. Nevertheless, they are useful for helping to round out the picture from the experimental results.

The second goal was to see how our study participants understood the basic industry questions, which have been used in the field since 1999. The ARS forms were designed with the expectation that the survey respondent would be part of the business establishment and would have some knowledge of an establishment's products or services. Obviously this was not true in the laboratory setting, where "establishment knowledge" was imposed through the vignettes. At the same time, the QCEW program is aware that many ARS respondents are not part of the business establishments named on the forms. These respondents may be accountants, professional employer organizations, or other third parties, including company headquarters personnel. ${ }^{14}$ That is, real respondents (as well as laboratory respondents) might not be familiar with an establishment's industry, so it is important to ensure that these questions can be readily understood outside the business establishment.

[^8]Use of examples. Almost all of the study participants found the examples or statements of what to include helpful; and about three-fifths also said the examples were not confusing. We asked how they used examples, and several mentioned comparing the vignette's business activities with the examples. Those who found the examples confusing made references to industry descriptions that did not fit the scenario (i.e., the rejection task).
"Does not include" statements. Virtually all of the study participants noticed the "Does not include" statements, and almost all found them helpful. At the same time, roughly a fourth of them also indicated that these statements could be confusing. Study participants said that they used the information in the "Does not include" statements by comparing it to the business described in the vignette. Some used the "Does not include" information as a decision-making tool, especially if they were able to see immediately that the scenario didn't fit the industry in Item 9.

During the interview, we showed study participants an example of an original industry description for one of the scenarios where they had worked with the test condition. We asked if having the "Does not include" statement would have helped them with the vignette in question. Two-thirds of the study participants said that it would have, and many indicated that they would have used the "excluded" information to make their decision.

Industry description question. On the ARS form, the Item 9 and Item 10 questions are:

$$
\text { Our records show that the main activity of the business using U.I number } 9999999999
$$ in Utana is:

followed by the formatted description associated with the NAICS code on record for the business. Item 10 says:

> While you may not do everything listed above, does the information in Item 9 accurately describe the main business in Utana during the past 12 months? (If the business has been closed, sold, or moved out of this state, please answer in terms of its former activity.)

We assessed comprehension of Item 10 by asking study participants to paraphrase the question, and then probed further about specific key phrases. Some of the participants struggled with the idea of putting the question into their own words. Those who tried generally grasped the intent of Item 10, which focuses on the firm's primary economic activity. However, a few seemed to miss the point. "Whatever will keep the business afloat" is not a correct representation of these items. "Based on description" is an inadequate answer, which might or might not reflect an understanding of the question. And some responses were similarly ambiguous, e.g. "Even though the scenario does not include what is listed you can use what is available to give an accurate answer."

Most of the study participants also grasped the idea of the "main business" and "the past 12 months," although a few had different ideas. One study participant thought the main business referred to "one of the main businesses in that particular area" or "the major business in the state, the number one business in the area." Most understood "the past 12 months."

Finally, we asked whether or not the study participant thought the business had to do everything in the write-up. About half said "No," which is the correct answer. Seven of the remaining study participants answered "Yes," and added a qualification to the effect that otherwise the business would be guilty of false advertising. These study participants apparently did not understand the debriefing question, a problem we inadvertently created by using the word "write-up" instead of referring precisely to the industry description.

## VI. Discussion

The objective of this research was to see whether the presence or absence of "Does not include" statements in industry descriptions affects the likelihood that a business respondent will agree with (verify) a correct description or disagree with (reject) an incorrect description. We selected 12 common industries and created two vignettes describing fictitious businesses in each of those industries. The straightforward scenario for each industry is drawn from the general information and examples of the industry description currently used on the ARS form. The complex vignette addresses information that only appears in the "Does not include" portion of that industry description. Vignettes were written so that slightly more than half were accurately described on the ARS forms, while the remainder did not correctly fit the fictitious businesses.

In a laboratory setting, we presented study participants with mock ARS forms containing industry descriptions, some with the "Does not include" statements and some without them. The laboratory study allowed us to investigate several industries at
one time, and to know in advance whether the answer given was correct or not. We asked study participants to consult the industry description on the form and to determine whether or not that description accurately reflected the business described in the scenario. We also asked them to rate the ease or difficulty of the verification task on a five-point scale.

Across all scenarios, there was essentially no difference in the percentage of correct responses between the original and test versions of the industry descriptions on the ARS forms. Industry descriptions with and without the "Does not include" statements worked equally well for both the straightforward and the complex vignettes. We noted that across industries, the "Original minus Test" difference changed direction in inconsistent ways. This further supports our contention that, overall, the "Does not include" statements have little influence on whether or not the industry item is answered correctly.

Bearing in mind that not all of the scenarios were created to match the ARS forms descriptions, we separated the scenarios according to the underlying decision task, i.e., whether the correct response for the ARS form was "Yes" or "No." We found that when a study participant should verify the existing information (i.e., the correct response is "Yes"), there was a tendency for the test version of the industry description to yield a greater number of correct responses, a finding that was statistically significant for complex scenarios. That is, the absence of the "Does not include" seemed to produce better data, a result in keeping with our expectations. On the other hand, when the study participant should reject the ARS description, the original version of the industry description worked better. Although we cannot confirm this conclusion without further research, we speculate that the presence of the "Does not include" statement gives study participants more information with which to work, and particularly with which to judge that there is a mismatch between the business in the vignette and the industry shown on the ARS form. We saw some additional evidence of this when we looked at the reported ease/difficulty ratings in conjunction with the need to verify or reject the ARS industry description (Table 6). While there was no difference between the original and test versions for industries that were correct, when the right answer for a scenario was "No," the original descriptions had higher ease ratings than the test versions. Since the only difference between the original and the test conditions was the "Does not include" statements, we infer that study participants are using the information in these statements to confirm that the industry does not fit their situation. In fact, we learned during the debriefing interviews that the participants used the "Does not include" statements to help rule out the description on the ARS form.

Even though these findings are based on a very limited set of data, there are implications for the ARS. On one hand, the vast majority of ARS respondents verify the industry descriptions on their survey forms. State coders are well trained and know how to assign correct NAICS codes, and businesses are contacted every three years, offering ample opportunities for the states to "get it right." On the other hand, the trend among state Unemployment Insurance offices is toward automated respondent self-coding, and toward allowing new business registrants only a few words to describe their activities. The new business registration process may be handled by a third party rather than an employee of the establishment. This trend increases the probability that the initially-assigned code will not be the correct one. The ARS is used to maintain the BLS business establishment sampling frame, so miscoded establishments have serious consequences for future samples, weighting, and published economic statistics. Since the "Does not include" statements help to rule out incorrect industries, the ARS might benefit from keeping the "Does not include" statements as part of their industry descriptions for the survey forms. These statements seem to be especially helpful in recognizing and correcting wrong NAICS codes.

We cannot ignore the fact that the differences-and in many cases the lack of those differences-identified in this research could derive from the vignettes themselves, rather than from the presence or absence of the "Does not include" statement in the industry descriptions. We attempted to create realistic business settings that do not fit neatly into the NAICS schema. The laboratory subjects may have tried to read more into the vignettes than we intended.

Another area that this study did not address is the wording of the industry descriptions. This wording, rather than the presence or absence of "Does not include," may be what we see reflected in the ease ratings. During the debriefing, a comment that we heard quite often had to do with the wordiness of the descriptions, and the inclusion of seemingly irrelevant material. The descriptions list the NAICS index items as examples, and quite a few of the cross references are written into the "Does not include" statements. For example, many of the retail descriptions have a "Does not include" statement that refers to "nonstore sales of..." $x$, $y$, or $z$. Since the descriptions begin with "In-store sales of...," perhaps this part of the description could be deleted without harm. It might also be helpful if a non-economist (perhaps from the BLS Publications Staff) could review the language in the descriptions, and work with the QCEW economists to ensure that industries are accurately described but in lay terminology. The final product would be a better industry classification tool, resulting in more accurate economic statistics.

## VII. References

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Appendix 1. Twelve Industry Descriptions as Currently Used on Annual Refiling Survey Forms

| NAICS | Title | Description |
| :---: | :---: | :---: |
| 238221 | Residential plumbing and HVAC contractors | Plumbing, heating, or air-conditioning contractors primarily working on RESIDENTIAL buildings. Examples of their work may include, but are not limited to: <br> * Duct work (cooling, dust collection, * Natural gas fireplace installation exhaust, heating, ventilation) <br> * Lawn sprinkler system installation <br> * Fire sprinkler system installation <br> * Sewer hook-ups and connections <br> * Furnace installation <br> * Sump pump installation <br> RESIDENTIAL contractors may provide both parts and labor when performing work. The work performed may include new work, additions, alterations, maintenance, and repairs. <br> DOES NOT INCLUDE primarily installing electrical controls for HVAC systems; or duct cleaning. |
| 441110 | New car dealers | Retailing NEW automobiles, light trucks, or both. Retailing these new vehicles may take place in combination with vehicle repair services, retailing used cars, or selling replacement parts and accessories for these vehicles. Examples include retail sales of: <br> * Automobiles * Light trucks * Pickup trucks <br> * Cargo vans * Passenger vans * Sport utility vehicles <br> DOES NOT INCLUDE selling ONLY used vehicles. <br> DOES NOT INCLUDE repairing vehicles without also selling new vehicles. |
| 444190 | Other building material dealers | In-store retail sales of specialized lines of new building materials. Examples of merchandise lines include, but are not limited to, retail sales of: <br> * Ceramic tiles * Fencing * Lumber * Prefabricated cabinets <br> * Doors and windows * Glass * Plumbing supplies * Roofing supplies <br> * Electrical supplies * Lighting fixtures * Prefabricated buildings * Wood flooring <br> DOES NOT INCLUDE hardware stores, paint and wallpaper stores, and home centers. <br> DOES NOT INCLUDE electronic home shopping, mail-order, or other non-store retail sales of specialized lines of new building materials. |
| 447190 | Other gasoline stations | (1) Retailing gasoline, diesel fuel, gasohol, or other automotive fuels at gasoline stations without convenience store*s or food marts. OR <br> (2) Retailing automotive fuels in combination with one or more other activities, such as repairing vehicles, selling automotive oils, selling replacement parts or accessories, or serving food at restaurants. <br> Examples include, but are not limited to: <br> * Gasoline stations without convenience stores * Truck stops without convenience stores <br> * Marine service stations <br> DOES NOT INCLUDE repairing motor vehicles without retailing automotive fuels, or retailing automotive fuels in combination with a convenience store or food mart. |
| 453220 | Gift, novelty, and souvenir stores | In-store retail sales of new gifts, novelty merchandise, souvenirs, greeting cards, seasonal and holiday decorations, and curios. Examples include, but are not limited to: <br> * Balloon shops * Gift shops <br> * Souvenir shops <br> * Christmas stores * Greeting card shops <br> * Curio shops * Novelty shops <br> DOES NOT INCLUDE retailing stationery. <br> DOES NOT INCLUDE electronic home shopping, mail-order, or other non-store retail sales of and gifts and novelties. |

Appendix 1. Twelve Industry Descriptions as Currently Used on Annual Refiling Survey Forms (continued)

| NAICS | Title | Description |
| :---: | :---: | :---: |
| 453998 | Store retailers not specified elsewhere | Retail sales of specialized lines of merchandise in stores. Also includes retailing a general line of new and used merchandise on an auction basis. Examples include, but are not limited to: <br> * Art supplies <br> * Closet organizers * Hot tubs <br> * Candles <br> * Fireworks, permanent location * Police supplies <br> * Calendars <br> * Flags and banners * Religious supplies <br> * Cemetery memorials <br> Cemeter memorials * Flowers, artificial or dried * Swimming pool supplies <br> * Collectors' items (autographs, * General merchandise auctions * Trophies, awards, and plaques coins, cards, stamps) * Home security equipment <br> DOES NOT INCLUDE retailing specialized lines of merchandise via electronic home shopping, mailorder, or direct sale. |
| 541940 | Veterinary services | Veterinary services. Licensed veterinary practitioners practicing of veterinary medicine, dentistry, or surgery for animals; and providing testing services for licensed veterinary practitioners. <br> Examples include, but are not limited to: <br> * Animal hospitals * Veterinary clinics <br> * Veterinarian offices * Veterinary testing laboratories <br> DOES NOT INCLUDE providing veterinary research and development services, providing nonveterinary pet care services, such as boarding or grooming pets, providing animal breeding services or boarding horses, and transporting pets. |
| 624410 | Child daycare services | Child day care services of infants or children. Generally care is for preschool children, but but may include caring for older children when they are not in school and may also offer prekindergarten educational programs. Examples include, but are not limited to: <br> * Child day care babysitting services * Nursery schools <br> * Child or infant day care centers * Preschool centers <br> DOES NOT INCLUDE kindergarten educational programs provided in elementary and secondary schools. |
| 713940 | Fitness and recreational sports centers | Operating fitness and recreational sports facilities featuring exercise and other active physical fitness conditioning or recreational sports activities, such as swimming, skating, or racquet sports. Examples include, but are not limited to: <br> * Aerobic dance or exercise centers * Physical fitness health spas without lodging <br> * Gymnasiums * Ice or roller skating rinks <br> * Handball, racquetball, * Swimming pools <br> or tennis club facilities <br> DOES NOT INCLUDE diet and weight reducing centers; operating health resorts and spas where recreational facilities are combined with lodging; and recreational sports clubs (sports teams) not operating sports facilities. |

Appendix 1. Twelve Industry Descriptions as Currently Used on Annual Refiling Survey Forms (continued)

| NAICS | Title | Description |
| :---: | :---: | :---: |
| 811111 | General automotive repairs | Providing a wide range of mechanical and electrical repair and maintenance services for automotive vehicles (such as passenger cars, trucks and vans) and all trailers or engine repair and replacement. <br> Examples include, but are not limited to: <br> * Automotive engine repair shops * General automotive repair shops <br> * Garages (except gasoline service stations) <br> DOES NOT INCLUDE gasoline stations, automotive parts and accessories stores, automobile dealers <br> also providing automotive vehicle repair service, automobile repair shops specializing in a particular repair service, such as vehicle exhaust systems or transmissions, motorcycle repair and maintenance services, and automotive oil change and lubrication shops. |
| 812112 | Beauty salons | Beauty salons cutting, trimming, shampooing, weaving, coloring, waving, or styling hair; providing facials and body waxing and wraps; or applying make-up (except permanent make-up). Include any combination of these activities. Examples include, but are not limited to: <br> * Beauty parlors or shops <br> * Combined beauty and barber shops <br> * Cosmetology salons or shops <br> * Facial salons or shops <br> * Hairdressing salons or shops <br> * Unisex or women's hair stylist shops <br> DOES NOT INCLUDE barber shops or beauty schools. |
| 813410 | Civic and social organizations | Promoting the civic and social interests of their members. These organizations may operate bars and restaurants for their members. Examples include, but are not limited to: <br> * Alumni associations * Fraternal lodges <br> * Parent/Teacher groups <br> * Automobile clubs (except travel) * Granges <br> * Scouting associations <br> * Booster clubs <br> * Non-federally recognized <br> * Social clubs <br> * Ethnic associations <br> Indian tribal councils <br> * Veterans' membership organizations <br> DOES NOT INCLUDE insurance offices operated by fraternal benefit organizations; operating residential fraternity and sorority houses; and providing travel arrangements and reservation services, such as automobile travel clubs or motor travel clubs. |

## Appendix 2: Straightforward and Complex Scenarios for each industry description

| NAICS | Industry | Scenario Type: Straightforward | Scenario Type: Complex |
| :---: | :---: | :---: | :---: |
| 238221 | Residential plumbing and HVAC contractors | Call Jonathon, Inc. has 20 to 25 licensed plumbers on staff at any one time. Most of the time these plumbers work at construction sites for new office buildings. They may install ductwork for heating systems, or they may install piping, bathroom fixtures, sinks, and specialpurpose equipment such as showers in executive bathrooms. Once in a while a builder hires Call Jonathon to install kitchens, baths, and laundry rooms in new houses. However, the office construction business has been so good that owner Jonathan Underwood generally turns away other work. | The owners of Frankfred Heating and Cooling Co. have been in business since 1978, maintaining and installing furnaces, air conditioners, heat pumps, and similar equipment.` Their customers are homeowners and apartment managers all across the county, and many of them have annual service agreements. In response to customer requests, Frankfred has added duct cleaning to the services offered (for an additional fee), but so far only a handful of customers have taken advantage of it. |
| 441110 | New car dealers | Would you buy a car from Cal? Cal Worthington Cars is owned and operated by a famous comedian, and his specialty is "good used cars with no mystery about them." Since Cal hails from Texas, the sales staff dresses in western-style clothes, including cowboy hats and boots. Each customer receives a cowboy hat along with the car's ownership and maintenance history. | Chevy Chase Cars is owned and operated by a famous movie actor. It's fun to shop here because the selling floor looks like a movie studio. The owner's notoriety and humor, along with what the ads call 'the best deals around,' result in a high volume of new car sales. Since trade-ins are a big part of those good deals, Chevy Chase Cars also has a good selection of quality pre-owned cars for sale. |
| 444190 | Other building material dealers | Tile Inc. specializes in marble and ceramic European tiles for high-end and custom homes. The Beverly Hills Home and Garden Design Show recently showcased the store, featuring Tile Inc. 's Italian terra-cotta clay roof tiles and marble fireplace tiles. | The Hoyt family has owned and operated Hoyt's Hardware for three generations. The store sells the usual collection of tools, plumbing, electrical, and mechanical items that serve homeowners and local contractors. They can't compete with the mega-home centers, so they don't sell lumber, plumbing fixtures, cabinets, or similar large items. Instead, they offer personal attention and the excellent customer service that Grandpa Hoyt set as the family standard. |
| 447190 | Other gasoline stations | In and Out Gas sells gas and other fuels. The station is open 24 hours a day, 7 days a week, with an attendant on hand. The station offers basic auto repair services on weekdays. | Truck Time is located near highway 53. Long-haul truck drivers know it as a familiar and comfortable place to stop to refuel and to take care of basic maintenance and repair services. While Truck Time takes care of the vehicles, next door there is a motel (different owners) that offers a restaurant and a convenience store. |
| 453220 | Gift, novelty, and souvenir stores | Where's Miss Kittycat? specializes in children's books and readingoriented toys. The store features a reading room sized for kids ten and younger, and an adult-child area furnished with comfortable chairs and sofas where parents can read to their children. Kitty Sperling and her staff hold morning story hours each week for preschool children, and after-school book sessions for older kids. | Gail's Gallerie specializes in unusual glass and ceramic decorative gift items for the home. Handblown glass creations, hand-painted platters and dinnerware, vases - many with silk floral arrangements-are just a few examples of the merchandise Gail sells. Two years ago she began to offer her merchandise online. Her online sales now account for about $15 \%$ of her business. |
| 453998 | Store retailers not specified elsewhere | Amy's Art caters to professional artists and to art enthusiasts at all levels. She stocks her store with drawing supplies, paints, brushes, canvases, easels, a complete line of artist papers, frames, and nearly everything else an artist might need. To encourage beginners, Amy's Art offers a handful of specialty classes in watercolor, acrylic, and oil painting and basic drawing. She is currently deciding whether the classes generate enough revenue to justify continuing to offer them. | Autograph Here specializes in celebrity autographs, sold in the store and online over the web. Customers who visit the store can purchase autographs for movie stars, television personalities, sports heroes, and political leaders, where the most popular are for movie stars such as Tom Hanks and Julia Roberts. However, Autograph Here has developed an international following over its website, which accounts for nearly three-fourths of its sales. The business is best known for stocking rare autographs. Former president John F. Kennedy and John Lennon are among two recent online sales. |

## Appendix 2: Straightforward and Complex Scenarios for each industry description (continued)

| NAICS | Industry | Scenario Type: Straightforward | Scenario Type: Complex |
| :---: | :---: | :---: | :---: |
| 541940 | Veterinary services | The Middletowne Veterinary Clinic is a private animal hospital run by Dr. Mark Fisher and two associate veterinarians. Dr. Fisher and his associates see patients during regular office hours, and perform scheduled and emergency surgeries as needed. The Clinic has facilities for keeping its patients while they are being treated or recovering from surgery. The doctors also make "barn calls" when their services are needed to treat cows, horses, sheep, and other large farm animals. | Paws Here, a pet care facility with a staff of 12 , is owned by veterinarian Julie Jenkins. Paws Here services include animal grooming and 7-day-a week, around-the-clock pet boarding. Dr. Jenkins and a nurse also provide general animal health care (shots, spaying, and treatment of minor illnesses) at their clinic 2 days a week. |
| 624410 | Child daycare services | Tot Heaven is a preschool day care center. The center accepts children from ages 2 through 5 . The owners believe that children benefit from educational programs even at those young ages, so they offer nursery school and other educational activities geared to preschoolers. | Anderson Academy is a private school with grades one through eight. In response to many requests from parents, Anderson's Board of Directors recently approved adding a new kindergarten program. The Board authorized money for the school to use to remodel two classrooms for the kindergarteners. |
| 713940 | Fitness and recreational sports centers | LadyFit is a fitness facility geared for women. The club has a completely equipped gym, and offers classes in aerobics and yoga. The facility also offers tennis and racquet ball classes. | Dorsey Lodge is a resort that promises something active for everyone. In the winter, there is skiing, snowboarding, and ice skating. The lake and swimming pools are popular summer activities, along with the golf course and tennis courts. Hiking is available most of the year. The Dorsey Lodge spa offers massages and various skin and beauty treatments. The Lodge also has a fully-equipped workout center, three restaurants, and luxurious hotel rooms. |
| 811111 | General automotive repirs | Euromart Automotive Repair is a garage that specializes in maintaining and repairing Volvos, Saabs, BMWs, and other European-designed vehicles. Clients bring their cars in for services such as engine tune-ups and oil changes, as well as diagnosis of various car problems and repairs. Euromart Automotive repairs and replaces brakes, exhaust systems, electrical systems, and other automotive components. | Ken Wilmot owns and operates a Lube Today franchise. Lube Today is a specialty automotive service that only does oil changes and lubrications, but does them quickly. They promise their customers oil changes within an hour on weekdays. Because they are part of a national franchise, if you have taken your car to a Lube Today anywhere in the country, the staff at Ken's shop will be able to check the records and see when your car last had an oil change. |
| 812112 | Beauty salons | The Hardwick Shop has a staff of three barbers, including owner Tom Hardwick, whose primary business is cutting hair for men and boys. The staff also offers shaves and trims beards. The sign in the window says "Ladies Haircuts," but the overwhelming majority of the customers are men-many bringing in their young boys. | The Cuts and Curls salon has a staff of 10 , including stylists, a manicurist, and one person who shampoos hair. The salon offers services such as permanents and hair coloring, as well as cuts, sets, and blow-dries. While most of the customers are women, the staff also cuts children's hair. Cuts and Curls serves a small number of male customers in a separate room designated Just for Men. |
| 813410 | Civic and social organizations | Members of the local Historic Car Association (HCA) like old cars. About half of the members own vehicles manufactured before 1950 and proudly display them in parades each year. The most valuable vehicles are owned directly by the HCA. The Association has a paid staff that maintains the membership roster, produces a monthly newsletter, and cares for the HCA's cars in their "clubhouse," an old but functional garage. | Hudson University's football and basketball teams are major sources of pride and of funds. The Hudson $U$ Club was chartered to help the University's athletic program with financial and emotional support. Of course the members attend games and cheer the teams on. The Club also raises money to fund athletic scholarships. An important fundraiser is the Club-sponsored away-game trip package, where members pay a fixed price that includes game tickets and a Go Hudson party at selected away games. Popular though these activities are, most of the scholarship money still comes from generous alumni contributions paid directly to the Hudson U Club. |

## Appendix 3. Sample ARS form Original Condition

This report is mandatory under Section 320.5 of the Utana Unemployment Insurance Code and Section $320-1$ Title 22 of the Utana Code of Regulations, and is authorized by law,
29 U.S.C. 2. Your cooperation is needed to make the results of this survey complete, accurate. and timely.
2 The questions on this form concem the work location(s) using Unemployment Insurance acoount number
7812567093 IN UTANA.

TILE INC.
99 HILLSIDE ROAD
DAVENPORT, UA 1249-8459

3 We need the name and direct maiing address for the business using this Unemployment Insurance account, regardless of who prepares the form. This information does not affect mailings for tax purposes. Are the name and mailing address shown in Item 2 correct for the business using this Unemployment Insurance account?

YES.- $\square$ NO Flease print corrections or adoitions to the right of the printed adidress in fitem 2.COMPANY PERMANENTLY OUT OF BUSNESS OR MOVED OUT OF UTANA

Enter date closed or moved: $\qquad$ SKIP to Item 9 on the back of this
form
In addition to your mailing address, please tell us where your business is physically located (street and number). The physical location address is the place where you conduct your business and receive deliveries, so it cannot be a Post Office Box or a rural route number. Our records show that this business in Utana is physically located at:

99 HILLSIDE ROAD
DAVENPORT, UA 1249-8459
Is this address correct for the location in Utana?
[ ] YES -->Continue with Iten 5
[ [ NO -.>Please make changes to the right of the address here. in Iten 4. Continue with Item 5

Is the following information correct for the address in Item 4? UTANA COUNTY: CLAY
$\square$
YES...Continue with Item 6
NO.....Flease print corrections in this space and then continue with Aem 6
According to our records, the business operating under Unemployment Insurance account 7812567093 in Utana mainly provides goods and services to the general public. Is this correct?
("The general public" includes individual consumers, other businesses, and organizations.)
[ ] YES, we MAINLY provide goods and services to the general public
[ ] NO, we are part of a larger company and we MAINLY support other locations of our company
Does this business have a website?
$\square$ YES...Please enter your website address here. $\qquad$ Continue with Item 8
$\square$ NO.....Continue with Item 8
Does the business using Unemployment Insurance account 7812567093 IN UTANA
have only one physical location in this state? (Do not count client sites or offsite projects that wil last less than a year.)
$\square$ YES (One physical location)....Continue with Item 9 on the back
$\square$ NO (More than one physical location).... Please attach a separate sheet. For each site, (1) list physical location address, (2) show number of employees, and (3) answer items 6 and 9-11. Continue with Item 9

## PLEASE CONTINUE WITH ITEM 9 ON THE BACK OF THIS PAGE.



9 Our records show that the main activity of the business using U.L. number
7812567093 in UTANA is:
In-store retail sales of specialized lines of new building materials. Examples of merchandise lines include, but are not limited to, retail sales of
Ceramic tiles

* Fencing
* Lumber
* Prefabricated cabinets
- Doors and windows * Glass * Plumbing supplies * Roofing supplies
* Electrical supplies * Lighting fixtures * Prefabricated buildings * Wood flooring

DOES NOT INCLUDE hardware stores, paint and wallpaper stores, and home centers.
DOES NOT INCLUDE electronic home shopping, mail-order, or other non-store retail sales of specialized lines of new building materials.

While you may not do everything isted above, does the information in ltem 9 accurately describe the main business in Ut ana
during the past 12 months? (ff the business has been closed, sold, or moved out of this state, please answer in terms of its former activity.)YES . Please SKIP to llem 12
NO Confinue with litem 11
11
We need detailed information to assign the correct industry code to this business, In the space provided below, describe your main
business activites, goods, products, or services in this state, as though you were telling a prospective employee what you do. Then give us the approximate percentage of sales or revenues resulting from each item. See examples below. Percentages should total $100 \%$. If you are a third party agent for the business named in liem 2 , such as a payroll service or accountant, please review Items $9-11$ with your clent.
Goods or products: What are they, and what do you do wth them? Do you design, manufacture, sell directly to consumers, distribute to wholesalers, install, repair, or do something else with them? What are these goods or products made of? EXAMPLE 1: Major appliances: Sell to public 40\%; Sell to retaïers 30\%; Repair 30\% EXAMPLE 2: Install fiber optic cable 100\% Manufacturers: What are your main products? What are your most important materials? What are the main production methods? EXAMPLE: Weaving cotton broadwoven fabrics $80 \%$; Spinning cotton threads $20 \%$
Services: Describe in detail the services you provide. To whom do you provide those services? If you offer consulfing, brokerage. management or similar services, what are your major activties?
EXAMPIE 1:Hair cufting \& striing 65\%-Manicures 25\%-Facials 10\% EXAMPLE 2: Long distance trucking, less than trucldoad 100\% EXAMPLE 3: Marketing consulting: Planning strategy 60\%, Sales forecasfing 40\% EXAMIPLE 4: Cleaning private homes $100 \%$
Construction or Building Trades: Is the work mostly residential or nonresidential? Single- or multi-family? New or remodeling? EXAMPLE-Electrical contractor: Wiring new homes $51 \%$; Electrical refurbishing of office buildings $49 \%$
List most
important
activities $\qquad$

Name of person to contact if we have questions about this report. (Please print)
Name: $\qquad$ Phone: ( $\qquad$
$\qquad$ Date: $\qquad$
Tite: $\qquad$ Fax: $\qquad$ Please be sure to answer Items 9-11.

## 13

Please place your completed form in the postage paid envelope provided and return it to the address in Item 14 within 14 days of receiving it. Thank you for your cooperation!

For questions conceming this form, contact:
UTANA DEPARTMENT OF LABOR AND INDUSTRY
DIVISION OF RESEARCH AND STATISTICS - ES-202
12345 CENTER STREET, ROOH 260
SOMECITY, UA 12345-9876 INTERNET: http://www.utana.dol.gov
PHONE: 1-123-321-4321 FAX: 123-321-4421
Purpese and Use: The purpose of this rupot is to update information on yor products or serviove. The informasion wil be used so ansure that we assigs the correct North Amplican industry

 Time of Completion: Time of complition is estimated to vary from 25030 minules with an awarage of 5 mivutes per form. This estimate includes time for reviewinginstructons, searching Time or Comple



Appendix 3. Sample ARS form
Test Condition

Industry Verification Form, BLS 3023 NVS
Form Approved, O.M.B. No. 1220-0032
UTANA DEPARTMENT OF LABOR AND INDUSTRY In cooperation with the U.S. Department of Labor

This report is mandatory under Section 320.5 of the Utana Unemployment Insurance Code and Section 320-1 Title 22 of the Utana Code of Regulations, and is authorized by lam. 29 U.S.C. 2. Your cooperation is needed to make the results of this survey complete, accurate. and timely.
2 The questions on this form concern the work location(s) using Unemployment Insurance acoourt: number
7812567093 IN UTANA.

TILE INC
99 HILLSIDE ROAD
DAVENPORT, UA 1249-8459

3 We need the name and direct mailing address for the business using this Unemployment Insurance account, regardless of who prepares the form. This information does not affect mailings for tax purposes. Are the name and mailing address shown in Item 2 correct for the business using this Unemployment Insurance account?

YES.- $\square$ NO Flease print corrections or additions to the right of the printed address in item 2.COMPANY PERMANENTLY OUT OF BUSINESS OR MOVED OUT OF UTANA Enter date closed or moved: $\qquad$ SKIP to Item 9 on the back of this form
In addition to your mailing address, please tell us where your business is physically located (street and number). The physical location address is the place vhere you conduct your business and receive deliveries, so it cannot be a Post Office Box or a rural route number. Our records show that this business in Utana is physically located at:

99 HILLSIDE ROAD
DAVENPORT, UA 1249-8459
Is this address correct for the location in Utana?
[ ] YES-->Continue with Item 5
[ [ NO .->Please make changes to the right of the address here, in Iten 4. Continue with Item 5
Is the following information corect for the address in ltem 4? UTANA COUNTY: CLAY
$\square \quad$ YES... Continue with Hem 6
NO.... Flease print corrections in this space and then continue with Hem 6
6 According to our records, the business operating under Unemployment Insurance account 7812567093 in Utana mainly provides goods and services to the general public. Is this correct?
("The general public" includes individual consumers, other businesses, and organizations.)
[ ] YES, we MAINLY provide goods and services to the general public
[ ] NO, we are part of a larger company and we MAINLY support other locations of OUR company
Does this business have a website?
$\square$ YES...Please enter your website address here. $\qquad$ ..Continue with litem 8
$\square$ NO.....Continue with tem 8
8
Does the business using Unemployment Insurance account 7812567993 IN UTANA
have only one physical location in th's state? (Do not count client sites oc offste projects that will last less than a year.)
$\square$ YES (One physical location)....Continue with litem 9 on the back
$\square$ NO (More than one physical location).... Please attach a separate sheet For each site, (1) list physical iocation address, (2) show number of employees, and (3) answer items 6 and 9 -11. Continue with Item 9

## PLEASE CONTINUE WITH ITEM 9 ON THE BACK OF THIS PAGE.

EMPL SIC AUX NANCS CTY TWN4 OWN NEE AT $\ldots 21 \theta-6282-5-444190-116-072 \theta-. .-T S-23$


9 Our records show that the main activity of the business using U.I. number 7812567093 in UTANA is:
In-store retail sales of specialized lines of new building materials. Examples of merchandise lines include, but are not limited to, retail sales of

* Ceramic tiles
* Fencing
* Lumber
* Prefabricated cabinets
* Doors and windows * Glass * Plumbing supplies
* Electrical supplies * Lighting fixtures * Prefabricated buildings
* Roofing supplies
* Wood flooring


## 10

While you may not do everything Isted above, does the informato....................................................................... duving the past 12 montths? (ff the business has been closed, sold, or moved out of this state, please answer in terms of its former activity.) $\square$ YES . Please SKOP to Item 12
$\square$ NO ._Continue with Item 11
11
We need detailed information to assign the comect industry code to this business. In the space provided below, describe your main business activities, goods, products, or services in this state, as though you were telling a prospective employee what you do. Then give us the approximate percentage of sales or revenues resulting from each item. See examples below. Percentages should total $100 \%$. If you are a third party agent for the business named in liem 2, such as a payroll service or accountant, please revew ltems $9-11$ with your client.

Goods or products: What are they, and what do you do with them? Do you design, manufacture, sell directly to consumers, distribute to wholesalers, install, repair, or do something else with them? What are these goods or products made of?
 Manufacturers: What are your main products? What are your most important materials? What are the main production methods? EXAMPLE: Weaving cotton broadiwoven fabrics 80\%; Spinning cotton threads 20\%
Services: Describe in detail the services you provide. To whom do you provide those servioes? If you offer consulting, brokerage, management, or similar services, what are your major activties?
EXAMPLE 1: Hair cutting \& styling 65\%; Manicures 25\%; Facials 10\% EXAMPLE 2: Long distance trucking, less than truckdoad 100\% EXAMPLE 3: Marketing consuting: Planning strategy 60\%, Sales forecasting 40\% EXAMPLE 4: Cleaning private homes 100\%
Construction or Building Trades: Is the work mostly residential or nonresidential? Single- or multi-family? New or remodeling? EXAMPLE: Electrical contractor: Wiring new homes 51\%; Electrical refurbishing of office buildings 49\%


12
Name of person to contact if we have questions about this report. (Please prinf)
Name: $\qquad$ Phone: ( $\qquad$ Date: $\qquad$
Title: $\qquad$ Fax: $\qquad$
If you are a third party agent, such as an acoounting firm or payroll service, check here. $\square$ Please be sure to answer Items 9-11.

## 13

Please place your completed form in the postage paid envelope provided and return it to the address in Item 14 within 14 days of receiving it. Thank you for your cooperation!
列 Time of Completion: Time of comptitisn is estimated to vary from 20030 minulvs with an awsrape of 5 minutes per form. This estmate incuides tine for reviewieg instivitors, searching




[^0]:    ${ }^{1}$ The opinions expressed in this paper are those of the authors and do not reflect official policy of the Bureau of Labor Statistics. The authors gratefully acknowledge the contributions of Stella Godbolt in recruiting test subjects, Kathy Herring for data entry and research assistance, Martha Duff for help in reviewing the responses to the debriefing interviews, and William Mockovak for his helpful comments on an earlier draft of the paper.
    ${ }^{2}$ An example of a demand-based classification is "Beauty and cosmetology schools." This classification was included under the SICs for "Beauty Shops" and "Barber Shops" because of the services provided to the public. These schools were moved

[^1]:    ${ }^{4}$ BLS has not conducted a systematic cognitive evaluation of the industry descriptions for the ARS forms. The large number of descriptions makes it impractical and costly. However, state QCEW staffs interact with respondents, often telephoning for clarification of a business' activities, and these personnel are a useful source of information for QCEW. We systematically ask state QCEW offices about problems with industry descriptions, especially those that seem to be misunderstood.
    ${ }^{5}$ In this paper, we use the terms "vignette" and "scenario" interchangeably.

[^2]:    ${ }^{6}$ The list included a few known "problem" industries with fewer than 20,000 establishments, and some that represented
    "Other" categories. However, none of the smaller industries made the final cut.
    ${ }^{7}$ This range is approximately the mean number of words (79) $\pm$ one standard deviation (27).
    ${ }^{8}$ See Morrison et al., 2004 for a review.

[^3]:    ${ }^{9}$ In creating the vignettes, we wanted to reflect the reality that some businesses are not assigned the correct industry code. However, we did not incorporate this decision into the research design, and as a result the number of correct and incorrect vignettes is not equal.

[^4]:    ${ }^{10}$ One participant left without completing the activity, and two others apparently did not understand the task. Their data were not usable.

[^5]:    ${ }^{11}$ This seems likely in two cases (NAICS 453998, Store retailers not specified elsewhere, and NAICS 713940, Fitness and recreational sports centers), where both the original and the test condition fell below the (admittedly arbitrary) 60 percent level for one of the vignette pairs. "Store retailers not specified elsewhere" is one of the residual categories described earlier, and the problematic vignette was for the straightforward condition. Both of the less-successful vignettes for NAICS 713940 described complex situations. In another case (NAICS 813410, Civic and social organizations), both the original conditions but not the test condition failed to achieve 60 percent correct.

[^6]:    *Difference between means $\mathrm{p}<.05$

[^7]:    ${ }^{12}$ This straightforward scenario did not perform well overall. The vignette presents a business that specializes in children's books and reading-oriented toys, while the industry on the ARS form describes "in-store retail sales of new gifts, novelty merchandise, souvenirs, greeting cards, seasonal and holiday decorations, and curios." The description did not fit the category, and comments from several study participants recognized that fact. A few interpreted the business in the vignette to be a novelty store rather than a bookstore.
    ${ }^{13}$ This section requires a caveat: We did not audiotape the interviews, so respondent feedback was affected by the speed and clarity of the interviewer's notes. However, we believe we have captured the essence of the comments.

[^8]:    ${ }^{14}$ The questionnaire instructs third party respondents to consult with their clients about the industry description. We have no data on how often these third-party respondents actually make the contact.

