

Dependent Interviewing and Seam Effects: An Analysis of the Agricultural Labor Survey

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Panel Survey

- Data are collected from the same sample of respondents (panel) over time
- Respondent burden
- Fabricated changes

Agricultural Labor (Ag Labor) Survey

- Biannual
- Data collection:
 - July (July, October) and April (January, April)
- Collects data on the number of hired workers, hours worked and wages paid
- Mail and computer-assisted telephone interview (CATI)

Changes to the Ag Labor Survey

2. For the paid workers, record the number of workers, hours worked, and the gross wages paid the week of October 6th through the 12th. Please separate the workers by the main type of work they were hired to do based on the following groups:

Code	Work Hired to Do
1	FIELD WORKERS: Jack-of all-trades and machinery operators on crop farms, fruit or vegetable pickers, greenhouse or nursery workers, hay balers and haulers, etc.
2	LIVESTOCK WORKERS: Jack-of-all-trades and machinery operators on livestock or poultry operations, workers hired to fix fences, tend animals, milk cows, gather eggs, etc.
3	SUPERVISOR/MANAGER: Hired managers, range foremen, crew leaders, etc. Exclude individuals not directly involved in day-to-day decisions on the farm.
4	OTHER WORKERS: Office workers, bookkeepers, pilots, pesticide applicators, etc.

Work Hired to Do	Worker Code (shown above)	Number of Paid Workers	Total Hours Worked	Total Gross Wages That Week (Dollars)
	411	412	413	414
	421	422	423	424
	431	432	433	434
	441	442	443	444
	451	452	453	454

Ag Labor 2013

Code	Work Hired to Do
FIELD WORKERS	
11	Agricultural Equipment Operators - Crop, Nursery and Greenhouse: Drive and control farm equipment to till soil and to plant, cultivate, and harvest crops.
12	Farmworkers - Crop, Nursery and Greenhouse: Manually plant, cultivate, and harvest vegetables, fruits, nuts, horticultural specialties, field crops, Christmas trees and short rotation woody crops. Use hand tools, such as shovels, trowels, hoes, tampers, pruning hooks, shears, and knives. Duties may include tilling soil and applying fertilizers; transplanting, weeding, thinning, or pruning crops; applying pesticides; or cleaning, grading, sorting, packing, and loading harvested products. May construct trellises, repair fences and farm buildings, or participate in irrigation activities.
13	Graders And Sorters - Crop, Nursery and Greenhouse Products: Grade, sort, or classify agricultural crops by size, weight, color or condition.
14	Hand Packers And Packagers - Crop, Nursery and Greenhouse Products: Pack or package by hand a wide variety of products and materials.
15	All Other Field Workers: All agricultural workers working with crops, nursery or greenhouse products not included in codes 11-14.
LIVESTOCK WORKERS	
20	Agricultural Equipment Operators – Farm, Ranch, and Aquacultural Animals: Drive and control heavy farm equipment while attending to live farm, ranch, or aquacultural animals and in harvest of unprocessed animal products.
21	Farmworkers - Farm, Ranch, and Aquacultural Animals: Attend to live farm, ranch, or aquacultural animals including cattle, sheep, swine, goats, horses and other equines, poultry, finfish, shellfish, and bees. Duties may include feeding, watering, herding, milking, grazing, castrating, branding, de-beaking, weighing, catching, and loading animals. May conduct simple exams; maintain records; assist in births; and administer medications, vaccinations, or insecticides. May clean and maintain animal housing areas.
22	Graders And Sorters - Farm, Ranch, and Aquacultural Animal Products: Grade, sort, or classify unprocessed food and other agricultural products by size, weight, color, or condition.
23	Hand Packers And Packagers - Farm, Ranch and Aquacultural Animal Products: Pack or package by hand a wide variety of products and materials.
24	All Other Livestock Workers: All agricultural workers working with farm, ranch and aquacultural animals or products not included in codes 20 – 23.
SUPERVISORS	
31	Farmers, Ranchers and Other Agricultural Managers: Plan, direct, or coordinate the management or operation of farms, ranches, greenhouses, aquacultural operations, nurseries, tree farms, or other agricultural establishments.
32	First-Line Supervisors of Farm Workers: Directly supervise and coordinate the activities of agricultural, aquacultural, and related workers.
OTHER WORKERS	
41	Agricultural Inspectors: Inspect agricultural commodities, processing equipment and facilities, and aquacultural operations, to ensure compliance with regulations and laws governing health, quality, and safety.
42	Animal Breeders: Select and breed animals according to their genealogy, characteristics, and offspring.
43	Pesticide Handlers and Sprayers: Mix or apply pesticides, herbicides, fungicides, or insecticides through sprays, dusts, vapors, soil incorporation, or chemical application to all crops including nursery and greenhouse products and facilities, and livestock, and livestock facilities. Usually requires specific training and state or federal certification. Excludes pilots who dust or spray crops from aircraft.
44	Any Other Worker Not Listed Above: Including, but not limited to, mechanics, shop workers, truck drivers, accountants, bookkeepers, office workers. Excluding contract & custom workers, retail workers, and "value-added" workers.

Ag Labor 2016



Prior Research

- Operators understand the questions and can categorize employees (Ott - 2013, Sloan - 2016)

Findings: Difficult to categorize employees and report wages for reference week

- Behavior coding (Ridolfo and Edgar - 2015)

Findings: Non-standardized administration of survey

Current Research

- Explore the impact of interviewer behavior on data quality by assessing respondents' response process when presented with previously reported data (PRD).
- Explore the impact of seam effects on data quality by assessing the magnitude of difference for various variables.

Seam Effects

- Between-study variation tends to be higher than within-study variation
 - “On seam” months (April and July)
 - “Off seam” months (July and October)
- Respondent-Driven: memory retrieval or proxy reporting

Methods

- Cognitive Interviews
 - 17 interviews (9 in-person and 8 phone)
- Quantitative Analysis
 - Used Ag Labor data from 2014-2016 to evaluate seam effects

Example of PRD Question

Original: How many field workers were paid during that week?

Response: “9”

PRD: You paid [9] field workers that week?

Response: “More in July due to seasonal help. I would say 12”.

Responses to PRD

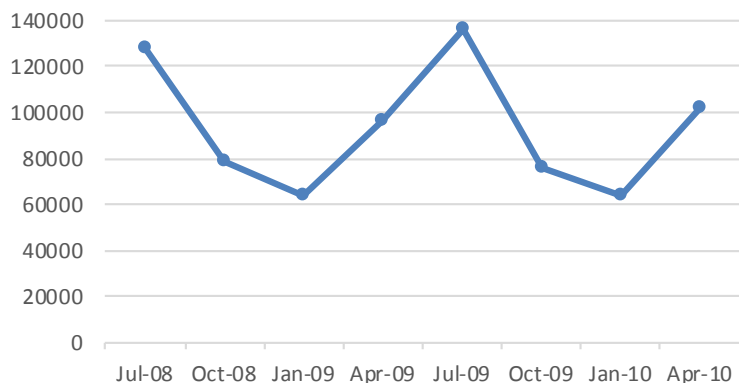
	Simple	Elaborated	Clarification	Corrected
Expect change in reporting	52%	22%	8%	18%
Do not expect change in reporting	64%	20%	3%	13%

Cognitive Interview Results

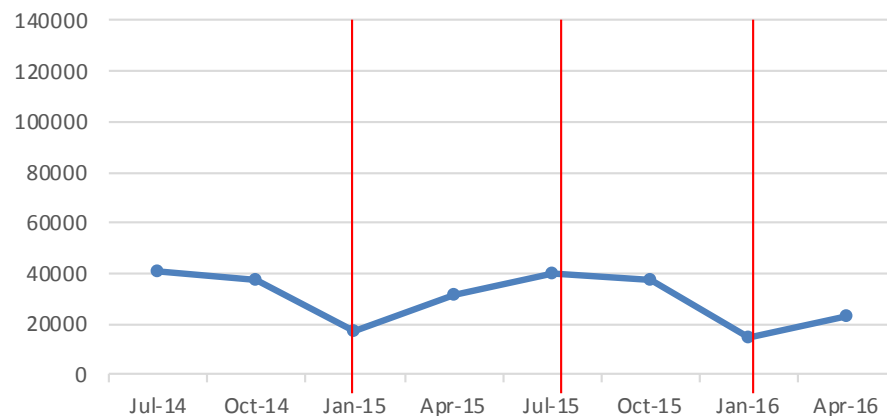
- Change in workers
 - Varies by farm type and seasons/monthly
- Use of records
 - More time, more effort
- Possible mode effects
 - Less willing to use records over the phone
 - Some satisfied with PRD over the phone

Seam Effect Results

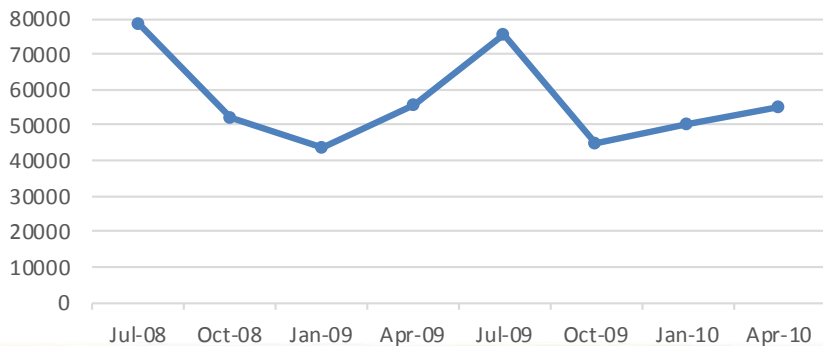
Number of Paid Workers
Nursery 2008 - 2010



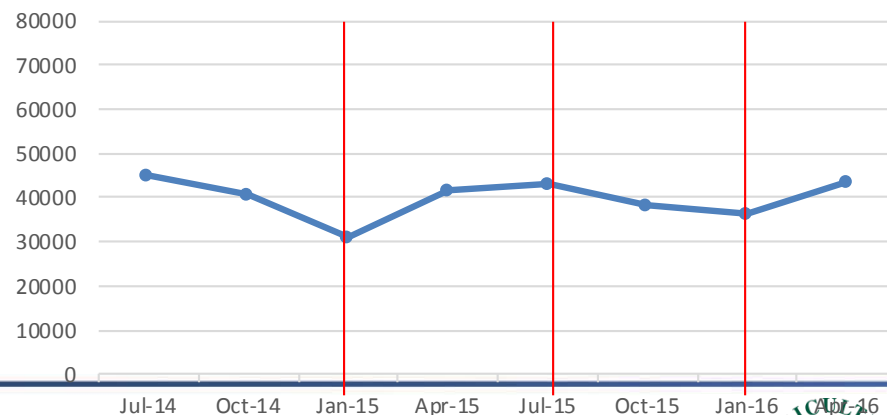
Number of Paid Workers
Nursery 2014 - 2016



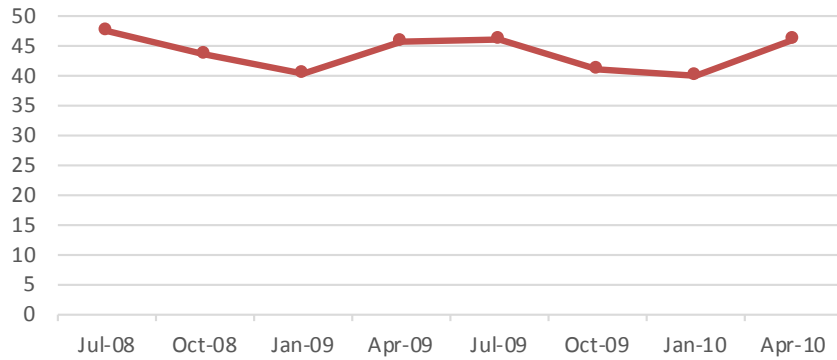
Number of Paid Workers
Cattle and Calves 2008 - 2010



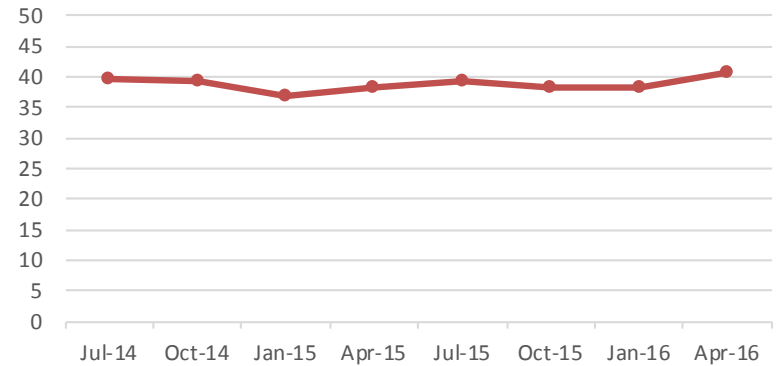
Number of Paid Workers
Cattle and Calves 2014 - 2016



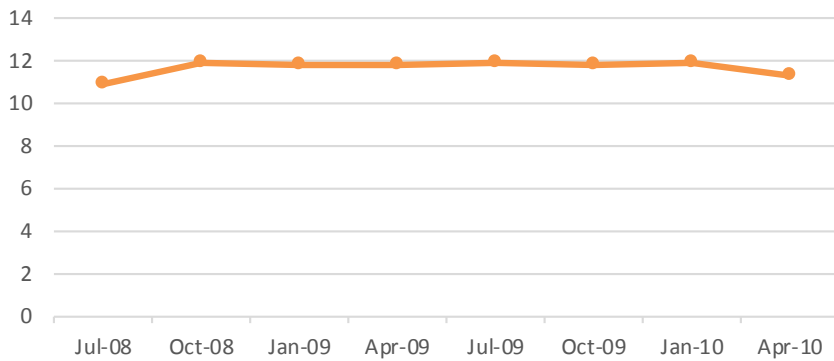
Average Hours Worked
Nursery 2008 - 2010



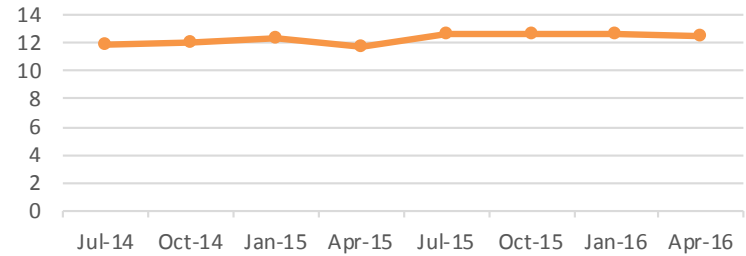
Average Hours Worked
Nursery 2014 - 2016



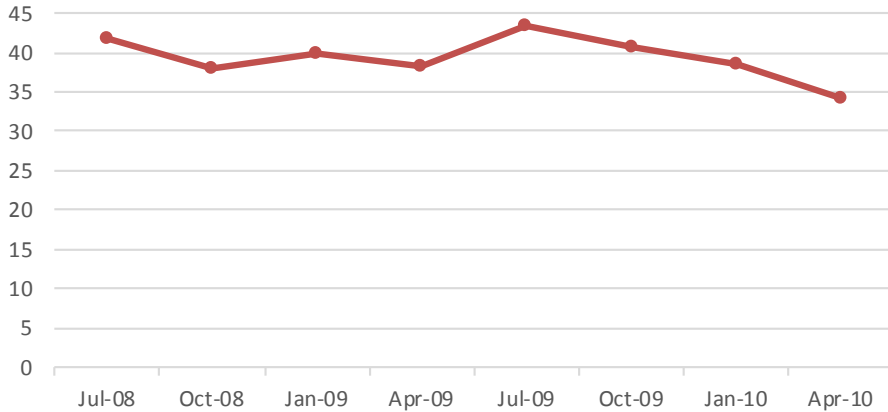
Average Wages
Nursery 2008 - 2010



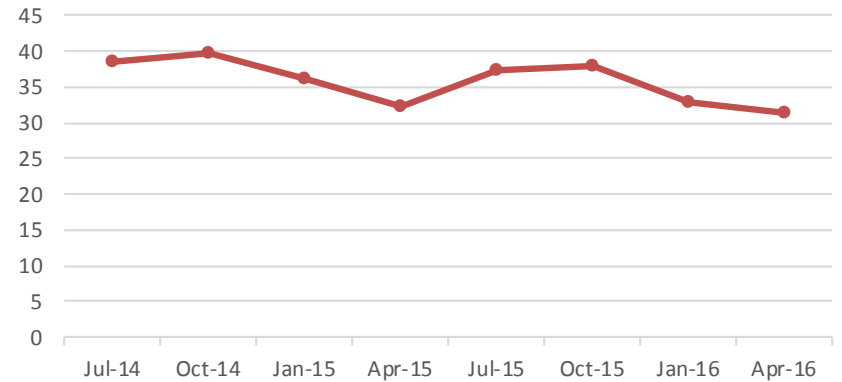
Average Wages
Nursery 2014 - 2016



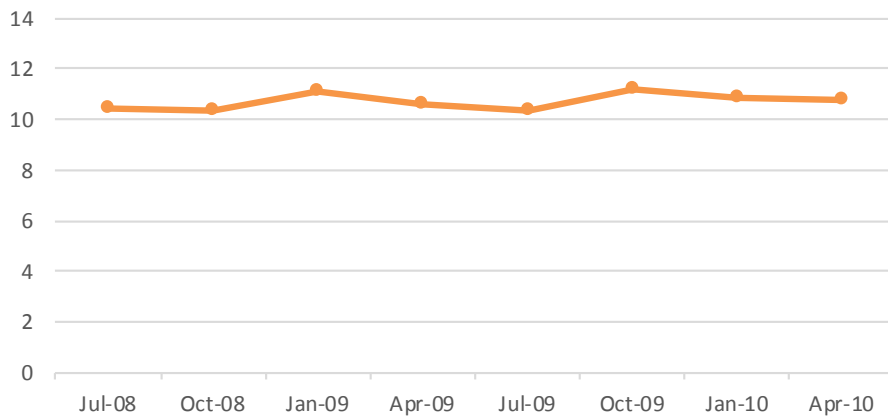
Average Hours Worked
Cattle and Calves 2008 - 2010



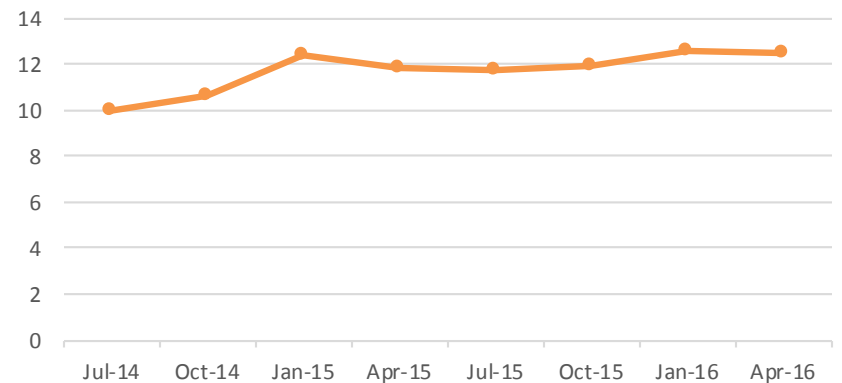
Average Hours Worked
Cattle and Calves 2014 - 2016



Average Wages
Cattle and Calves 2008 - 2010



Average Wages
Cattle and Calves 2014 - 2016



Conclusions

- Expectation of change
 - Varies by farm type and season
 - Temptation to satisfice when presented with PRD
- Change between quarters are larger for quarterly administration versus biannual administration

Discussion

- Reduce cost
 - Data quality maybe effected
- Exploration of data quality from Total Survey Error perspective
 - Questionnaire changes affect respondent behavior AND interviewer behavior

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