

Consumer Expenditure Interview Survey: Data Quality Assessment Pre vs. Post COVID-19



For
FCSM Virtual Conference

By
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Consumer Expenditure Survey

- Consumer Expenditure Survey (CEQ)
 - Designed to be an in-person survey
 - Personal visit is primary mode of data collection
 - Especially for respondents completing their first wave of the survey
- Covid-19 Pandemic
 - Halt of in-person data collection
- Goal for today is to examine the effect of the covid-19 pandemic on key indicators of data quality

Research Questions

- Did the covid-19 pandemic have a detrimental effect on data quality?
 - Does the effect of the pandemic differ for:
 - wave 1 respondents (who will not be interviewed in person)?
 - respondents who experienced a mode change from the previous wave (i.e., went from personal visit to telephone completion)?

Data and Methods

- July 2019 through June 2020
- 20,572 respondents
- Discontinuous growth curve models
 - A form of longitudinal modeling that allows you to examine how trends in an outcome change at a point of discontinuity (e.g., the emergence of the COVID-19 outbreak during March of 2020).
- Data Quality Indicators:
 - Total Expenditures
 - Number of Expenditures
 - Total Interview Time
 - Number of Edited Expenditures
 - Number of Rounded Expenditures

Table 1. Covariates

Variable	Type
Mode of completion	Binary
Mode change	Binary
Month	Continuous
Covid	Binary
Age of reference person	Continuous
Age of reference person squared	Continuous
Sex of reference person	Binary
Race of reference person	Categorical
Highest education level of reference person	Categorical
Family income	Categorical
Family size	Categorical
Housing tenure	Binary
Region	Categorical
Urbanicity	Binary
Income imputation	Binary
Record use	Categorical
Total interview time	Continuous
Number of expenditures reported	Continuous
Wave	Categorical

Results: Total Expenditures

Covariate	Baseline	Wave	Mode Change
Month	0.02***	-0.02***	-0.02***
Covid	-0.24***	-0.21**	-0.22***
Mode Change	-0.07*	-0.07	-0.04
Wave2	0.06	0.08	0.07
Wave3	-0.04	-0.00	-0.02
Wave4	-0.03	-0.04	-0.03
Covid*Wave2	-	-0.05	-
Covid*Wave3	-	-0.09	-
Covid*Wave4	-	0.03	-
Covid*Mode Change	-	-	-0.07

Results: Total Expenditures

Covariate	Baseline	Wave	Mode Change
Month	0.02***	-0.02***	-0.02***
Covid	-0.24***	-0.21**	-0.22***
Mode Change	-0.07*	-0.07	-0.04
Wave2	0.06	0.08	0.07
Wave3	-0.04	-0.00	-0.02
Wave4	-0.03	-0.04	-0.03
Covid*Wave2	-	-0.05	-
Covid*Wave3	-	-0.09	-
Covid*Wave4	-	0.03	-
Covid*Mode Change	-	-	-0.07

Results: Total Expenditures

Covariate	Baseline	Wave	Mode Change
Month	0.02***	-0.02***	-0.02***
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Mode Change	-0.07*	-0.07	-0.04
Wave2	0.06	0.08	0.07
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Wave4	-0.03	-0.04	-0.03
Covid*Wave2	-	-0.05	-
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Covid*Wave3	-	-0.09	-
Covid*Wave4	-	0.03	-
Covid*Mode Change	-	-	-0.07

Results: Number of Expenditures

Covariate	Baseline	Wave	Mode Change
Month	-0.02	-0.03	-0.00
Covid	-2.32***	-1.28*	-2.75***
Mode Change	0.02	0.06	0.44
Wave2	0.55**	0.54**	0.58**
Wave3	1.19***	1.41***	1.18***
Wave4	-0.22	0.10	-0.25
Covid*Wave2	-	-0.46	-
Covid*Wave3	-	-1.35*	-
Covid*Wave4	-	-1.44**	-
Covid*Mode Change	-	-	1.23***

Results: Number of Expenditures

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Month	-0.02	-0.03	-0.00
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Covid*Wave4	-	-1.44**	-
Covid*Mode Change	-	-	1.23***

Results: Total Interview Time

Covariate	Baseline	Wave	Mode Change
Month	0.00*	0.00*	0.00
Covid	0.04***	0.00	0.05***
Mode Change	-0.07***	-0.07***	-0.05***
Wave2	-0.24***	-0.24***	-0.25***
Wave3	-0.30***	-0.31***	-0.30***
Wave4	-0.17***	-0.18***	-0.17***
Covid*Wave2	-	0.00	-
Covid*Wave3	-	0.05*	-
Covid*Wave4	-	0.05*	-
Covid*Mode Change	-	-	-0.04*

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Wave3	-0.30***	-0.31***	-0.30***
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Covid*Wave2	-	0.00	-
Covid*Wave3	-	0.05*	-
Covid*Wave4	-	0.05*	-
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Wave3	-0.30***	-0.31***	-0.30***
Wave4	-0.17***	-0.18***	-0.17***
Covid*Wave2	-	0.00	-
Covid*Wave3	-	0.05*	-
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Wave4	-0.17***	-0.18***	-0.17***
Covid*Wave2	-	0.00	-
Covid*Wave3	-	0.05*	-
Covid*Wave4	-	0.05*	-
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Wave2	-0.24***	-0.24***	-0.25***
Wave3	-0.30***	-0.31***	-0.30***
Wave4	-0.17***	-0.18***	-0.17***
Covid*Wave2	-	0.00	-
Covid*Wave3	-	0.05*	-
Covid*Wave4	-	0.05*	-
Covid*Mode Change	-	-	-0.04*

Results: Edited Expenditures

Covariate	Baseline	Wave	Mode Change
Month	-0.00	-0.00	-0.00
Covid	-0.06***	-0.08*	-0.05*
Mode Change	-0.04**	-0.05**	-0.03
Wave2	-0.03*	-0.04*	-0.03*
Wave3	-0.06***	-0.07***	-0.06***
Wave4	-0.09***	-0.09***	-0.09***
Covid*Wave2	-	0.05	-
Covid*Wave3	-	0.01	-
Covid*Wave4	-	0.01	-
Covid*Mode Change	-	-	-0.04

Results: Edited Expenditures

Covariate	Baseline	Wave	Mode Change
Month	-0.00	-0.00	-0.00
Covid	-0.06***	-0.08*	-0.05*
Mode Change	-0.04**	-0.05**	-0.03
Wave2	-0.03*	-0.04*	-0.03*
Wave3	-0.06***	-0.07***	-0.06***
Wave4	-0.09***	-0.09***	-0.09***
Covid*Wave2	-	0.05	-
Covid*Wave3	-	0.01	-
Covid*Wave4	-	0.01	-
Covid*Mode Change	-	-	-0.04

Results: Edited Expenditures

Covariate	Baseline	Wave	Mode Change
Month	-0.00	-0.00	-0.00
Covid	-0.06***	-0.08*	-0.05*
Mode Change	-0.04**	-0.05**	-0.03
Wave2	-0.03*	-0.04*	-0.03*
Wave3	-0.06***	-0.07***	-0.06***
Wave4	-0.09***	-0.09***	-0.09***
Covid*Wave2	-	0.05	-
Covid*Wave3	-	0.01	-
Covid*Wave4	-	0.01	-
Covid*Mode Change	-	-	-0.04

Results: Rounded Expenditures

Covariate	Baseline	Wave	Mode Change
Month	-0.00	-0.00	-0.00
Covid	-0.02***	-0.03**	-0.02***
Mode Change	-0.00	-0.00	-0.00
Wave2	-0.01	-0.01	-0.01
Wave3	-0.02***	-0.02***	-0.02***
Wave4	-0.03***	-0.03***	-0.03***
Covid*Wave2	-	-0.00	-
Covid*Wave3	-	0.00	-
Covid*Wave4	-	0.01	-
Covid*Mode Change	-	-	-0.01

Results: Rounded Expenditures

Covariate	Baseline	Wave	Mode Change
Month	-0.00	-0.00	-0.00
Covid	-0.02***	-0.03**	-0.02***
Mode Change	-0.00	-0.00	-0.00
Wave2	-0.01	-0.01	-0.01
Wave3	-0.02***	-0.02***	-0.02***
Wave4	-0.03***	-0.03***	-0.03***
Covid*Wave2	-	-0.00	-
Covid*Wave3	-	0.00	-
Covid*Wave4	-	0.01	-
Covid*Mode Change	-	-	-0.01

Results: Rounded Expenditures

Covariate	Baseline	Wave	Mode Change
Month	-0.00	-0.00	-0.00
Covid	-0.02***	-0.03**	-0.02***
Mode Change	-0.00	-0.00	-0.00
Wave2	-0.01	-0.01	-0.01
Wave3	-0.02***	-0.02***	-0.02***
Wave4	-0.03***	-0.03***	-0.03***
Covid*Wave2	-	-0.00	-
Covid*Wave3	-	0.00	-
Covid*Wave4	-	0.01	-
Covid*Mode Change	-	-	-0.01

Conclusions

- Examined the effect of covid on several indicators of data quality
 - Expenditures, number of expenditures, interview time and number of rounded and edited expenditures
- Effect of covid on data quality varies:
 - By outcome in question
 - To a lesser extent, by wave and mode change

Contact Information

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