

Labour Market Resilience*

Economic Crisis Has Diverse Impacts on Industry Work Hours

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First sentence, second sentence, third sentence.

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*Code and data are available at: https://github.com/ShadyEvan4830/Labour_Market_Resilience.git

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1 Introduction

2 Data

2.1 Source Data

For the analysis, we retrieved the following data as described in Table 1.

Table 1: Source data retrieved from GSS

Variable	New Name	Description	Example
response	work hours	Respondent’s response	23
year	year	The year of the survey recorded	2007

2.2 Data Cleaning

The data was downloaded and filtered for the selected variables from the selected data variables from GSS¹. The data cleaning was performed based on value definitions as defined in the GSS codebook (NORC 2018). One of the variable names `response` is renamed to be more informative Table 1.

The data was thus been cleaned by using the open source statistically programming language R (R Core Team 2024), with libraries `tidyverse` (Wickham et al. 2019), `ggplot2` (Wickham 2016), `dplyr` (Wickham et al. 2022), `readr` (Wickham, Hester, and Bryan 2022), `tibble` (Muller and Wickham 2022), `here` (Müller 2020), `kableExtra` (Zhu 2021), `janitor` (Firke 2023), and `knitr` (Xie 2014).

¹https://gss.norc.org/documents/stata/GSS_stata.zip

Table 2: Overview of the Categorized Data

Work Hours/Years	1998	2008	2021	Total
No Response	973	777	1901	30172
0-20	91	55	112	2092
21-40	335	247	342	7931
41-60	536	345	522	11024
61-80	107	77	79	2097
80+	21	14	20	526
Total	2834	2022	4034	72446

2.3 Data Limitations

2.4 Survey Methodology

2.4.1 1998 Survey Methodology

1998 Survey Results

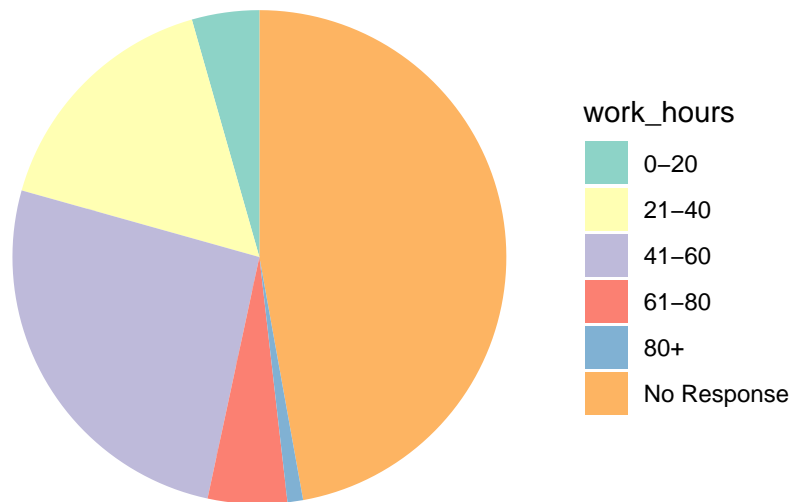


Figure 1

2.4.2 2008 Survey Methodology

2008 Survey Results

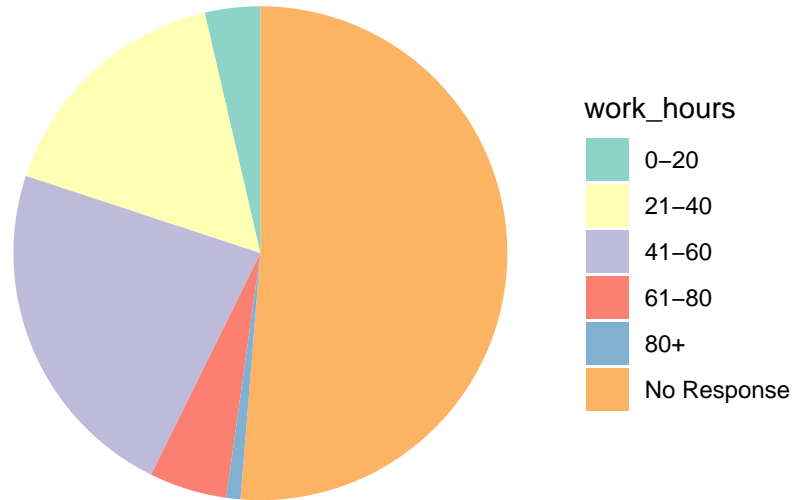


Figure 2

2.4.3 Gap in 2020 Data

2021 Survey Results

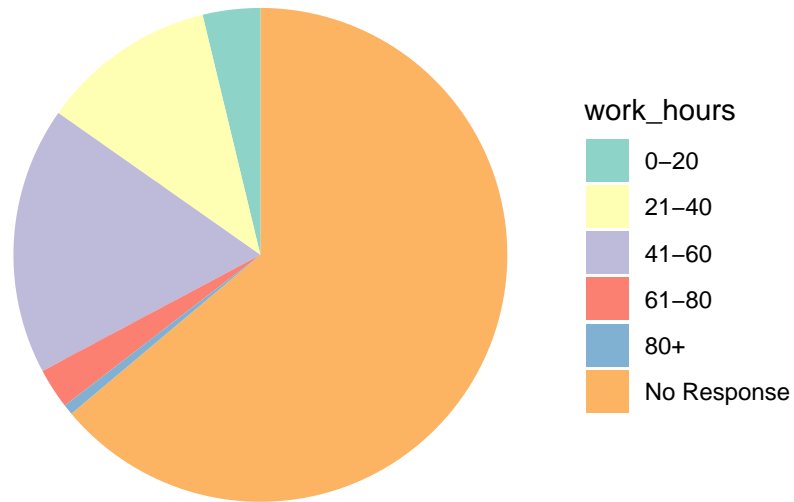


Figure 3

2.4.4 Non-responses

3 Results

3.1 Working Hour Comparison Between Financial Events

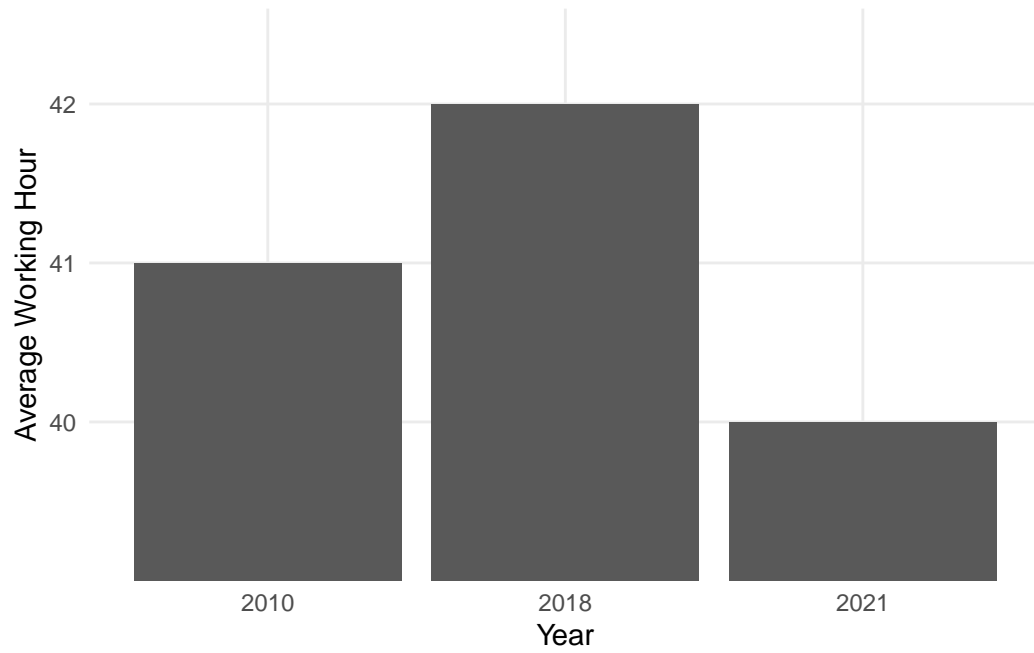


Figure 4: Average Working Hours Comparison between Financial Events

3.2 Nonreponse Rate

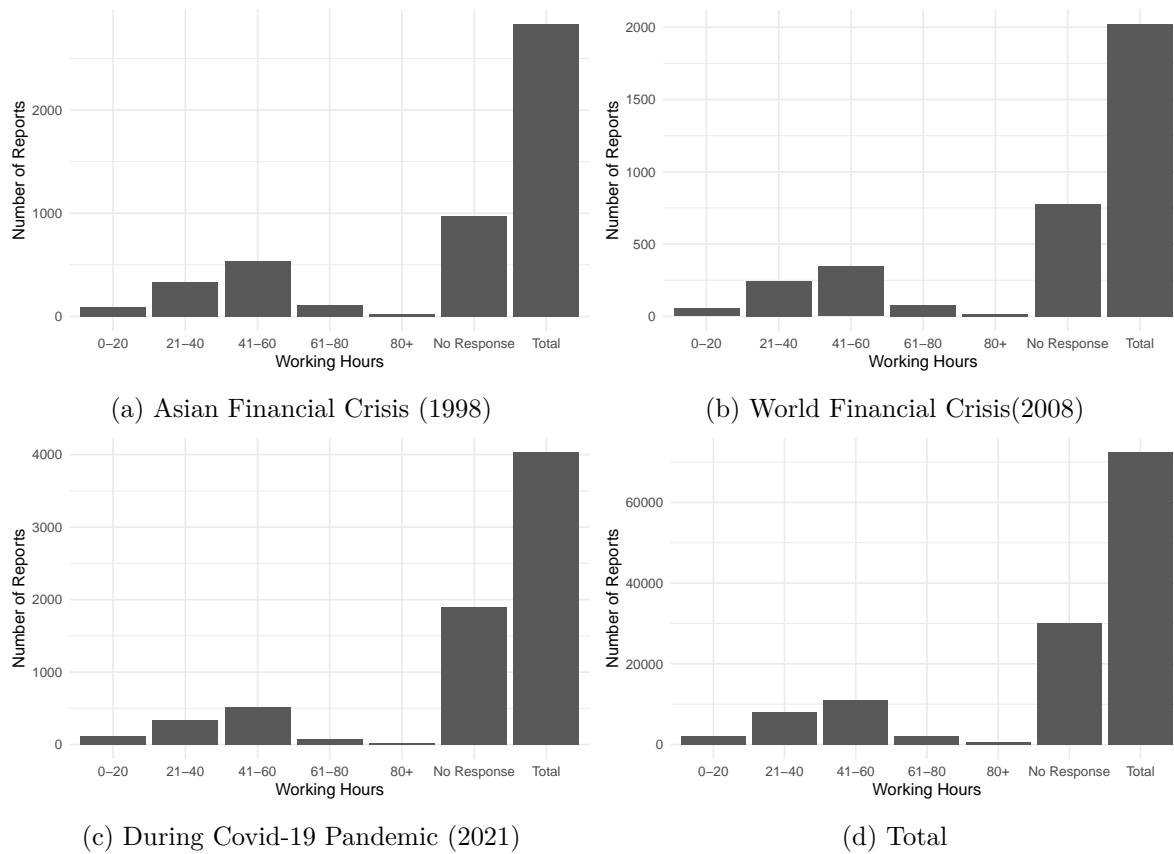


Figure 5: Categorical Working Hour Comparison between the Years

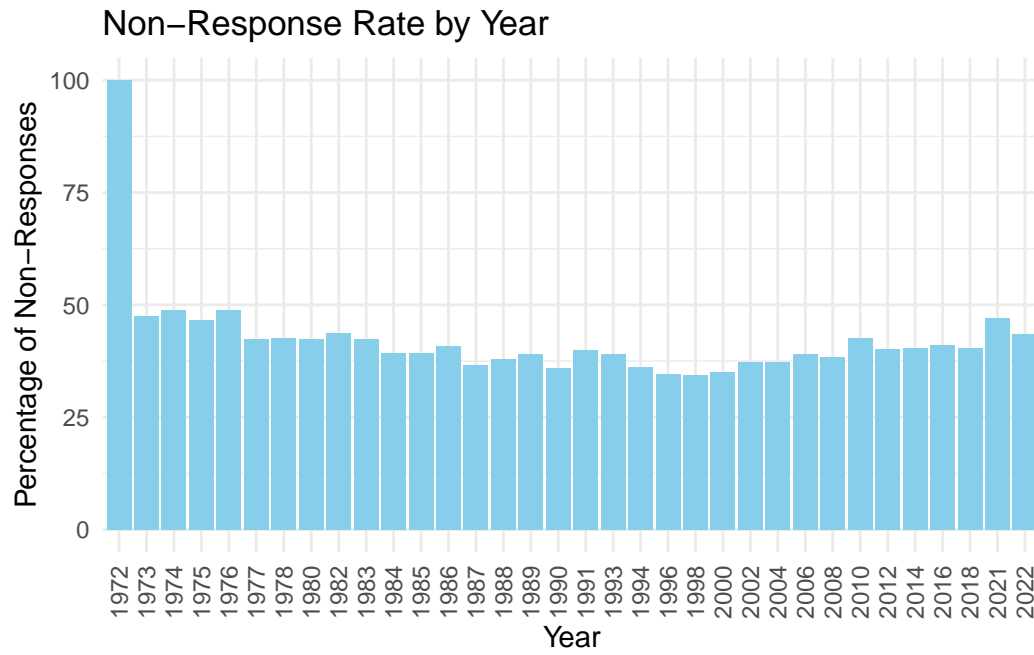


Figure 6: Nonresponse Rates

4 Discussion

4.1 Labour Market Response Across Economic Crises

4.2 Demographic Disparities in Labour Market Participation

4.2.1 Younger Workers and Educational Attainment

4.2.2 Women in the Labour Market

4.3 Political Affiliation and Labour Market Perceptions

4.4 Ethical Considerations and Bias

4.5 Limitations

4.6 Future Research

4.7 Journal Study: Directions on Non-response Rates

5 Conclusion

Appendix

.1 Survey Introduction

The supplemental survey is available here: [Google Form Link](#)

Welcome to our survey, which builds on our research analyzing the impact of economic downturns on labour dynamics in the U.S. from 1972 to 2022, based on the General Social Survey (GSS). The GSS collects information and historical records of respondents' attitudes and experiences. Our study has highlighted significant shifts in working hours, particularly during crises such as the 2008 Financial Crisis and the COVID-19 pandemic, affecting various demographic groups differently. This survey seeks to deepen our understanding of these impacts and gather more nuanced data on labour force participation across different economic conditions.

Your participation is voluntary and confidential. You may skip any question or withdraw at any time. Responses are anonymized and will be used solely for research purposes. For any inquiries or additional information, please contact us at evan.hao@mail.utoronto.ca, mingjia.chen@mail.utoronto.ca, and/or catherine.punnoose@mail.utoronto.ca.

.2 Survey Questions

- Demographic Information:
 1. What is your age group?
 - Under 18
 - 18-24
 - 25-34
 - 35-44
 - 45-54
 - 55-64
 - 65+
 2. What is your highest level of education?
 - High school graduate
 - Bachelor's degree
 - Graduate or professional degree
 3. Please specify your gender:
 - Male
 - Female
 - Non-binary
 - Prefer not to say
- Employment Status and Industry:
 1. What is your current employment status?
 - Employed full-time
 - Employed part-time
 - Unemployed
 - Retired
 - Student
 2. If employed, what industry do you work in?
 - Manufacturing

- Construction
- Retail
- Hospitality
- Healthcare
- Education
- Information Technology
- Professional Services
- Other (please specify)
- Impact of Economic Downturns:
 1. How did the 2008 financial crisis and/or the COVID-19 pandemic affect your working hours? Did your hours:
 - Increase
 - Decrease
 - Stay the same
 - Not applicable/I wasn't employed during these times
 2. Did you have to switch to remote work during the COVID-19 pandemic?
 - Yes
 - No
 - Not applicable
- Responses to Economic Downturns:
 1. In times of economic downturn, what support measures do you believe are most effective for workers?
 - Unemployment benefits
 - Skills retraining programs
 - Direct financial aid
 - Flexible work arrangements
 - Other (please specify)

.3 Survey Completion Message

Thank you for participating in our survey. Your insights are invaluable to our ongoing research into labour market dynamics and the effects of economic downturns on working hours. Your contribution helps us identify areas for targeted interventions and policy recommendations to support vulnerable labour market groups.

References

- Firke, Sam. 2023. *Janitor: Simple Tools for Examining and Cleaning Dirty Data*. <https://CRAN.R-project.org/package=janitor>.
- Muller, Kirill, and Hadley Wickham. 2022. *Tibble: Simple Data Frames*. <https://CRAN.R-project.org/package=tibble>.
- Müller, Kirill. 2020. *Here: A Simpler Way to Find Your Files*. <https://CRAN.R-project.org/package=here>.
- NORC. 2018. *1972-2018 GSS Cros-Section Codebook*. https://gss.norc.org/Documents/codebook/GSS_Codebook.pdf.
- R Core Team. 2024. *R: A Language and Environment for Statistical Computing*. Toronto, Canada: R Foundation for Statistical Computing. <https://www.R-project.org/>.
- Wickham, Hadley. 2016. *Ggplot2: Elegant Graphics for Data Analysis*. Springer-Verlag New York. <https://ggplot2.tidyverse.org>.
- Wickham, Hadley, Mara Averick, Jennifer Bryan, Winston Chang, Lucy D'Agostino McGowan, Romain François, Garrett Golemund, et al. 2019. "Welcome to the tidyverse." *Journal of Open Source Software* 4 (43): 1686. <https://doi.org/10.21105/joss.01686>.
- Wickham, Hadley, Romain Francois, Lionel Henry, and Kirill Muller. 2022. *Dplyr: A Grammar of Data Manipulation*. <https://CRAN.R-project.org/package=dplyr>.
- Wickham, Hadley, Jim Hester, and Jennifer Bryan. 2022. *Readr: Read Rectangular Text Data*. <https://CRAN.R-project.org/package=readr>.
- Xie, Yihui. 2014. "Knitr: A Comprehensive Tool for Reproducible Research in R." In *Implementing Reproducible Computational Research*, edited by Victoria Stodden, Friedrich Leisch, and Roger D. Peng. Chapman; Hall/CRC.
- Zhu, Hao. 2021. *kableExtra: Construct Complex Table with 'Kable' and Pipe Syntax*. <https://CRAN.R-project.org/package=kableExtra>.