GABRIEL SOLIS

Email: solisgab@usc.edu

Website: https://solisgab.wixsite.com/my-site

EDUCATION

University of Southern California, Dornsife College Expected May 2025

B.S., Economics and Mathematics GPA: 3.90

Selected Coursework: Real Analysis, Probability Theory, Linear Algebra and Differential Equations, Combinatorics; Intermediate Microeconomic Theory, Econometrics, Market Design

Activities: Sidney Harman Academy for Polymathic Study; USC Economics Association

University of Pennsylvania April 2023

IDDEAS@Wharton Scholar

A two-day professional development program to attract diverse, high-achieving undergraduates to business PhDs through immersive research activities, faculty mentorship, and doctoral seminars

RESEARCH EXPERIENCE

USC Security and Political Economy Research Lab January 2022 - Present

Research Team Lead, Talus Analytics Team *Los Angeles, CA*

Advisor: Benjamin A.T. Graham

- Manage a team of seven researchers, developing R training modules and facilitating weekly office hours for lab and IR students on data management, visualization, and statistical analysis
- Assist in developing of machine learning models that analyze LAPD body-worn camera footage from 30,000 traffic stops to evaluate patterns in officer communication and inform police training
- Collected data on 200,000 ASEAN manufacturing firms, investigating the impact of firms' social ties on their corporate political participation amid economic integration and regulatory challenges
- Manage the backend of the World Economics and Politics (WEP) Dataverse, a queryable data resource for international political economy, in collaboration with Princeton's Niehaus Center

American Economic Association Summer Program May 2024 - July 2024

Advanced-Track Fellow *Washington, D.C.*

Advisors: Sinem Hacioglu-Hoke & Christine L. Dobridge GPA: 4.0

- Participated in an intensive training program for aspiring economists that included advanced coursework in PhD-level Microeconomics, Econometrics, and Mathematical Methods
- Under the mentorship of Federal Reserve Board economists, I gained expertise in time-series econometrics, panel analysis, and statistical programming using Stata and R
- Researched the impact of GitHub open-source contributions on labor market outcomes by developing and empirically testing a Perfect Bayesian Equilibrium in a signaling game

Gateway Research Scholars January 2023 - August 2023

Independent Researcher *Los Angeles, CA*

Advisor: Alex P. Miller

- Engaged in graduate-level seminars on research methodologies, focusing on formulating research questions, empirical analysis, and effectively writing and presenting research findings
- Investigated the influence of GDPR-mandated digital consent mechanisms on competition through an online experiment measuring consumer willingness to accept or deny cookies based on firm characteristics (*Awarded $1,000 from Phi Kappa Phi*)

PRESENTATIONS

Signaling through Open Source: How GitHub Contributions Influence Labor Outcomes. American Economic Association Summer Mentoring Pipeline Conference. June 2024. Washington, District of Columbia

A Cookie Conundrum: An Investigation of Consumer Behavior and Online Privacy Regulations. Gateway Research Symposium at the University of Southern California. July 2023. Los Angeles, CA

LEADERSHIP AND INVOLVEMENT

Marshall ExCEL Study Abroad Program   May 2022 - June 2022
Global Business Leadership Scholar   *Rome, Italy*
- Studied abroad in Rome, gaining exposure to foreign business practices through interactions with local government officials, executives from top global companies, and local entrepreneurs

Water Drop LA   August 2021 - May 2022
Volunteer   *Los Angeles, CA*
- Coordinated with 20 volunteers each week to distribute clean water and essential supplies to Skid Row's unhoused community, raising awareness on water access and systemic homelessness
- Co-published "Art & Memoirs of Skid Row," a magazine that uplifts the stories and art of Skid Row

HONORS AND AWARDS

Provost's Undergraduate Research Fellowship, University of Southern California   2024
† *Award Amount: $1,000*

Phi Beta Kappa, University of Southern California   2023

Dornsife Fisher Fellowship, University of Southern California   2022
† *Award Amount: $10,000*

Norman Topping Student Aid Fund Scholarship, University of Southern California   2021

Neighborhood Academic Initiative Scholarship, University of Southern California   2021
† *Award Amount: Full-Tuition*

WORK EXPERIENCE

Federal Reserve Bank of Boston   July 2024 - August 2024
Job Shadow Program   *Boston, MA*
- A week-long program designed for underrepresented aspiring economists to explore the Boston Fed's mission, interact with experts, and learn about economic policy and research in central banking

Ernst & Young   June 2022 - August 2022
Assurance and Tax Intern   *Los Angeles, CA*
- Assessed cash disbursements and receipts for Whatnot, a $1.5 billion live streaming marketplace
- Evaluated a high net-worth individual's partnerships using Schedule K-1s, ensuring compliance with current tax regulations

SKILLS AND SERVICE

Computer Languages	R, Stata, LaTeX, Python
Software Publication	Append IDs R package (with Jacob Tucker et al.)
Languages	Spanish (Proficient)
Service	Teaching Assistant for IR-413 (Applied Data Science)

Gabriel Solis

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Harvard Kennedy School
Malcolm Wiener Center for Social Policy
79 John F. Kennedy Street
Cambridge, MA 02138

Dear Professor Dobbie and Professor Yang,

I am writing to express my interest in the Predoctoral Research Fellow position at the Malcolm Wiener Center for Social Policy. As a senior at the University of Southern California, majoring in Economics and Mathematics, my academic and research experience has centered on applying data-driven methods to model economic decision-making and analyze disparities in social outcomes. This work has strengthened my passion for empirical research and honed my skills in statistical programming. I am particularly drawn to your work on race, discrimination, and the criminal justice system, as it aligns closely with my current research on policing outcomes and policy evaluation.

As Research Lead at USC's Security and Political Economy Lab, I manage a team of eight undergraduates conducting interdisciplinary research on security, economic development, and policing. My primary focus is the *Everyday Respect* project, where we use machine learning to analyze over 30,000 instances of LAPD body-worn camera footage, uncovering communication patterns and their effects on stop outcomes. I collaborated with Los Angeles stakeholders, including community members and LAPD officers, to inform an annotation manual reflecting demographic variations. Additionally, I analyzed LAPD Racial Identification and Profiling (RIPA) data to assess the impact of the 2022 pretextual stop policy, designed to reduce stops for minor infractions like equipment violations. Using RDiT and Synthetic DiD methods, I found a 9.6% reduction in stops after the policy change, with corroborating evidence of a 10% decline compared to other departments, highlighting measurable policy impacts on police practices.

In my sophomore year, I conducted independent research on the impact of digital consent mechanisms mandated by regulations such as the General Data Privacy Regulation (GDPR) on market competition. For this project, I designed a between-subjects online experiment that randomly assigned participants to four treatment conditions, each varying in firm size, brand legacy, and product mix, to measure their willingness to accept web-tracking technologies from a fictitious company. The results indicated that consumers tend to trust larger, established firms over smaller start-ups when making privacy decisions, suggesting that these consent mechanisms may unintentionally reinforce the competitive advantages of incumbent firms. This research was awarded a $1,000 prize from USC Libraries and Phi Kappa Phi for best original research.

My quantitative background is further bolstered by PhD-level coursework in microeconomic theory and econometrics through the American Economic Association Summer Program. During the program, I co-authored a paper under the guidance of two Federal Reserve Board economists, investigating the labor market outcomes of open-source contributors. Leveraging a stratified sample from GHTorrent, which tracks GitHub user activity and repository interactions since 2009, alongside Glassdoor salary data, we analyzed over 10 million observations spanning 139,829 individuals. Our panel regressions showed that signalers—contributors active before employment—demonstrated significantly higher post-hire productivity, averaging 437 additional commits compared to non-signalers, though signaling had minimal impact on wage premiums. I had the privilege of presenting this research at the AEA Mentorship Pipeline Conference.

I am deeply inspired by the Wiener Center's dedication to tackling pressing public policy challenges and would be honored to contribute to its impactful research. Thank you for considering my application.

Sincerely,

Gabriel Solis

OASIS | Unofficial Transcript

ID#: 2489843642

ask**USC** Knowledge Base **Start Here**

Last Name	First Name
Solis	Gabriel

Unofficial Transcript

Current Degree Objective

	Degree Name	Degree Title
MAJOR	Bachelor of Science	Economics/Mathematics

Cumulative GPA through 20243

	Uatt	Uern	Uavl	Gpts	GPAU	GPA
UGrad	108.0	108.0	108.0	414.00	106.0	3.90
Grad	0.0	0.0	0.0	0.00	0.0	0.00
Law	0.0	0.0	0.0	0.00	0.0	0.00
Other	0.0	0.0	0.0	0.00	0.0	0.00

Definition of Grades

Summer Term 2021

Course	Units Earned	Grade	Course Description
ENST-100g	4.0	A	Introduction to Environmental Studies

Fall Term 2021

Course	Units Earned	Grade	Course Description
WRIT-150	4.0	A	Writing and Critical Reasoning-- Thematic Approaches
BUAD-304	4.0	A	Organizational Behavior and Leadership

Course	Units Earned	Grade	Course Description
AMST-274mgw	4.0	A	Exploring Ethnicity Through Film
MATH-118xg	4.0	A	Fundamental Principles of Calculus

Spring Term 2022

Course	Units Earned	Grade	Course Description
CTAN-200g	4.0	A	The Rise of Digital Hollywood
BUAD-104	2.0	CR	Learning About International Commerce
GESM-120g	4.0	A	Seminar in Humanistic Inquiry
ECON-351x	4.0	A	Microeconomics for Business
BUAD-307	4.0	A	Marketing Fundamentals

Fall Term 2022

Course	Units Earned	Grade	Course Description
BUAD-312g	4.0	A	Statistics and Data Science for Business
BUAD-302	4.0	A-	Communication Strategy in Business
PSYC-100Lg	4.0	A	Introduction to Psychology
ECON-352x	4.0	A	Macroeconomics for Business

Spring Term 2023

Course	Units Earned	Grade	Course Description
SWMS-212gp	4.0	A	Introduction to Gender and Sexuality: American Perspectives
SPAN-150	4.0	A	Spanish II
AMST-392	2.0	A	Undergraduate Research Methods
MATH-126g	4.0	A-	Calculus II
ECON-303	4.0	A	Intermediate Microeconomic Theory

Fall Term 2023

Course	Units Earned	Grade	Course Description
MATH-395	2.0	A	Seminar in Problem Solving
SPAN-220	4.0	A	Spanish III
MATH-226g	4.0	A-	Calculus III
MATH-432	4.0	B-	Applied Combinatorics
ECON-318	4.0	A	Introduction to Econometrics

Spring Term 2024

Course	Units Earned	Grade	Course Description

ITP-116	2.0	A	Accelerated Programming in Python
ECON-305	4.0	A	Intermediate Macroeconomic Theory
MATH-425A	4.0	A	Fundamental Concepts of Analysis
MATH-407	4.0	A-	Probability Theory
ECON-464	4.0	A	The Principles of Market Design

Office of the Registrar
128 Sproul Hall #5404
Berkeley, CA 94720-5404

University of California, Berkeley

Sarah Reed
Sarah Reed, University Registrar

Name: Solis,Gabriel
Birthdate: September 12

Beginning of Undergraduate Coursework

2023 Summer

Program: Undergrad Non-Degree/NonFinAid
Major: Undeclared Summer Session Visitor

Course		Title	Att	Earned	Grade	Points
MATH	W54	LIN ALG & DIFF EQNS	4.0	4.0	A-	14.80

			Att	Earned	Gr Units	Points
Term GPA	3.700	Term Totals	4.00	4.00	4.00	14.80
Cum GPA	3.700	Cum Totals	4.00	4.00	4.00	14.80

Undergraduate Career Totals			Att	Earned	Gr Units	Points
Cum GPA	3.700	Cum Totals	4.00	4.00	4.00	14.80

End of UC Berkeley Undergraduate Coursework

Print Date: 10/15/2024

Student No:@03161225

Date Issued:14-AUG-2024 **OFFICIAL**

Record of   : Gabriel Solis

Current Name:Gabriel Solis

** Warning - No Address **

Issued To : GABRIEL SOLIS

Course Level : Undergraduate

Current Program
Degree : Undetermined
Program : No Degree
College : No College Designated
Campus : Main

Subj	No.	C	Title	Cred	Grade	Pts	R

INSTITUTION CREDIT:

Summer 2024
No College Designated
Undetermined
Special Program

Subj	No.	C	Title	Cred	Grade	Pts
ECON	121	M	Advanced Microeconomics	3.00	A	12.00
ECON	122	M	Mathematics for Economists	3.00	A	12.00
ECON	124	M	Econometrics II	3.00	A	12.00
ECON	181	M	Stat Prog Financial Lit	3.00	A	12.00

Earned Hrs	GPA-Hrs	QPts	GPA
12.00	12.00	48.00	4.00

Transcript Totals	Earned Hrs	GPA Hrs	Points	GPA
TOTAL INSTITUTION	12.00	12.00	48.00	4.00
TOTAL TRANSFER	0.00	0.00	0.00	0.00
OVERALL	12.00	12.00	48.00	4.00

------------------END OF TRANSCRIPT------------------

Gabriel Solis

Los Angeles, CA 90089 | 323-536-5258 | solisgab@usc.edu | https://solisgab.wixsite.com/my-site

Writing Sample

Title: *The Cookie Conundrum: An Investigation Of Consumer Behavior And Online Privacy Regulations*

Faculty Advisor: Alex P. Miller, Assistant Professor of Marketing, USC Marshall School of Business

The attached writing sample is an excerpt from my research paper conducted during my sophomore year under the guidance of my advisor, Alex P. Miller. This paper examines how recent privacy regulations, such as the European Union's General Data Privacy Regulation (GDPR) and the California Consumer Privacy Act (CCPA), influence consumer behavior. Specifically, it explores whether the consent-based mechanisms mandated by these regulations disproportionately benefit large incumbents over smaller firms.

Through a randomized experiment involving 153 participants, I investigated how firm characteristics—such as size, legacy, and product mix—affect consumers' willingness to share personal data. The results indicate that consumers exhibit a stronger tendency to trust larger, established firms when making privacy decisions. These findings highlight a significant regulatory challenge: although consent mechanisms are designed to enhance consumer protection, they may unintentionally benefit large incumbents, ultimately reducing competition and diminishing consumer welfare by reinforcing market concentration. The sections I have included focus on the experimental design, methodology, and key findings of the study.

Please note that this writing sample **does not include** the following sections:

- **Survey results:** This section discusses differences in consumer trust between large firms and small start-ups, revealing that consumers tend to trust larger, established firms more than smaller, newer ones. It also includes data on general awareness of privacy regulations like the GDPR and CCPA, which suggests a significant gap in public awareness.

- **General discussion:** This part elaborates on the complexity of regulating privacy, showing how certain regulations might unintentionally favor larger firms and exacerbate competition issues.

- **Limitations:** This section highlights the limitations of the study, such as the small sample size and potential survey fatigue, which could have impacted the generalizability and statistical power of the findings.

- **Conclusion:** This final section ties the findings back to broader regulatory and competitive issues, emphasizing the potential consequences of privacy regulations that inadvertently benefit larger firms.

The writing sample is focused on the core experimental aspects of the research and does not include these sections on trust differences, consumer awareness of privacy regulations, or the broader discussion and implications of the results.

I. Method

A. Overview

We conducted a between-subjects online experiment to investigate consumers' behavior in response to cookie consent requests. Data was collected through CloudResearch (formerly TurkPrime), a third-party platform facilitating online participant recruitment. The study consisted of two main components: (1) an online experiment examining how company characteristics influence consumers' willingness to accept cookies; and (2) a post-experiment survey assessing attitudes towards privacy regulations and factors impacting cookie consent behavior.

B. Experimental Design

Participants were introduced to a fictitious company, *Zenith Computing*, and were asked to interact with its cookie consent screen. We intentionally chose the name Zenith Computing to avoid associations with well-known technology companies, minimizing potential bias in participants' responses. The website featured common elements of a corporate tech site, such as tabs for 'About Us,' 'Our Services,' and 'Careers'. The cookie consent banner, inspired by industry-standard designs, provided clear information on data collection for security, functionality, and targeted advertising, and presented participants with the option to 'Accept' or 'Decline' cookies (see Figure 1). The website and interface were consistent across all experimental conditions, ensuring that only the independent variables—firm size, legacy, and product mix—varied. This design allowed us to isolate the effects of these variables on participants' willingness to accept cookies, without interference from other confounding factors.

The study used a between-subjects design with four conditions, each defined by three binary factors: firm size, legacy, and product mix. We defined *size* as either a small firm with 100 employees or a large firm with 25,000 employees. *Legacy* was categorized based on the firm's age—either a newer company with less than five years in business or an established firm with 25 years of experience. Lastly, firms were classified by *product mix*, with some selling physical products such as phones, headphones, and watches, while others derived revenue primarily from digital advertising. Participants were randomly assigned to one of the following four experimental conditions:
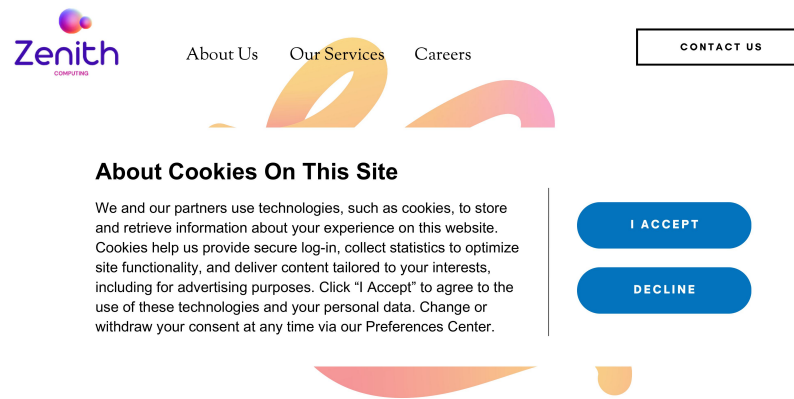
FIGURE 1. ZENITH COMPUTING'S COOKIE CONSENT BANNER

1) Large-legacy-digital: Large firm with 25,000 employees, established for 25 years, operating with a digital advertising business model.

2) Large-legacy-hardware: Large firm with 25,000 employees, established for 25 years, operating with a hardware and physical products business model.

3) Large-new-digital: Large firm with 25,000 employees, established for less than 4 years, operating with a digital advertising business model.

4) Small-legacy-digital: Small firm with 100 employees, established for 25 years, operating with a digital advertising business model.

Hypothesis: *Consumers will exhibit a significantly lower willingness to accept data-tracking consent to small start-up firms compared to large incumbent firms.*

C.   Participants and Procedure

A total of 153 participants successfully finished both the experiment and survey (Mage = 42.4, SD = 14.9; 44.1% female). Refer to table 1 for a more detailed overview of partipants. We recruited participants through CloudResearch. They were compensated $1 for the completion of the survey. All participants resided in the United States during the time of this study. We removed 52 responses using attention-check questions for a total sample of 101.

TABLE 1—SUMMARY STATISTICS OF SURVEY RESPONDENTS

Demographic Variables	Frequency (%)
Gender	
Male	66 (43.14%)
Female	84 (54.90%)
Other/Prefer not to say	3 (1.96%)
Political Affiliation	
Liberal/Very Liberal	52 (33.99%)
Conservative/Very Conservative	43 (28.10%)
Moderate/No Preference	58 (37.91%)
Education	
High School or less	45 (29.41%)
Some College/Trade School	11 (7.19%)
Bachelor's Degree	59 (38.56%)
Master's Degree or higher	35 (22.88%)
Prefer not to say	3 (1.96%)
Annual Household Income	
$0-$49,999	61 (39.87%)
$50,000-$99,999	54 (35.29%)
$100,000-$149,999	22 (14.38%)
$150,000 or more	9 (5.88%)
Prefer not to say	7 (4.58%)

Participants were notified and given an informed consent page before proceeding with the study. After reading and agreeing to participate in the study, participants were randomly assigned and given a short description of Zenith Computing according to one of the four experimental conditions described above. On the same screen, all participants were shown a simulated interface of Zenith Computing's homepage with a cookie consent banner shown in Figure 1. Once read, the participants were asked on a seven-point Likert scale how much they agreed to the statement that they would click 'I accept' cookies, considering the information provided about the company. This was our primary dependent variable. Immediately after answering this question, participants were asked a series of similar questions around comfortability and trust with Zenith Computing using cookies. These questions were used as a composite measure and based on a seven-point Likert scale with endpoints "strongly disagree" and "strongly agree." This concluded the first section of our survey experiment (i.e., the experiment).

II.   Results

A.   Experimental results.

In our experiment, participants were asked to rate their likelihood of clicking "I accept" on Zenith Computing's cookie consent request using a seven-point Likert scale, ranging from "strongly disagree" to "strongly agree." Upon comparing the average Likert scores across the experimental conditions, no statistically significant differences were found between the primary treatment group (large, established firms) and the other three conditions. However, it is important to acknowledge the limited sample sizes within these groups, which may have impacted the statistical power of the analysis. Table 2 presents a summary of the t-test results.

TABLE 2—EXPERIMENTAL RESULTS BY STIMULUS

Stimulus	Test Statistic	p-value	Difference	95% Lower Bound	N
Large-old-products	0.05	0.479	0.033	(-1.03)	24
Large-new-ads	0.24	0.407	0.171	(-1.04)	17
Small-old-ads	1.12	0.135	0.625	(-0.317)	40

Although the results are not statistically significant, the directional trends observed in this experiment offer valuable insights into how consumers perceive privacy and consent across different brand conditions (Figure 3). The highest average Likert score (4.70), associated with large, established brands, suggests that consumers are generally more comfortable accepting data tracking from well-known, long-standing companies. This is consistent with the hypothesis that larger firms are seen as more trustworthy due to their market presence and perceived reliability. The minimal change in the Likert score when the product dimension shifts from advertising to physical products (4.70 to 4.67) indicates that the type of offering, whether abstract (ads) or tangible (products), has little influence on consumer decisions regarding cookie consent. This suggests that brand perception, rather than the nature of the product, may play a larger role in shaping privacy-related decisions.

A more meaningful shift occurs when the brand legacy changes from old to new (4.70 to 4.53), implying that a brand's longevity has a measurable impact on consumer trust. Newer companies, regardless of size, may be perceived as less reli-
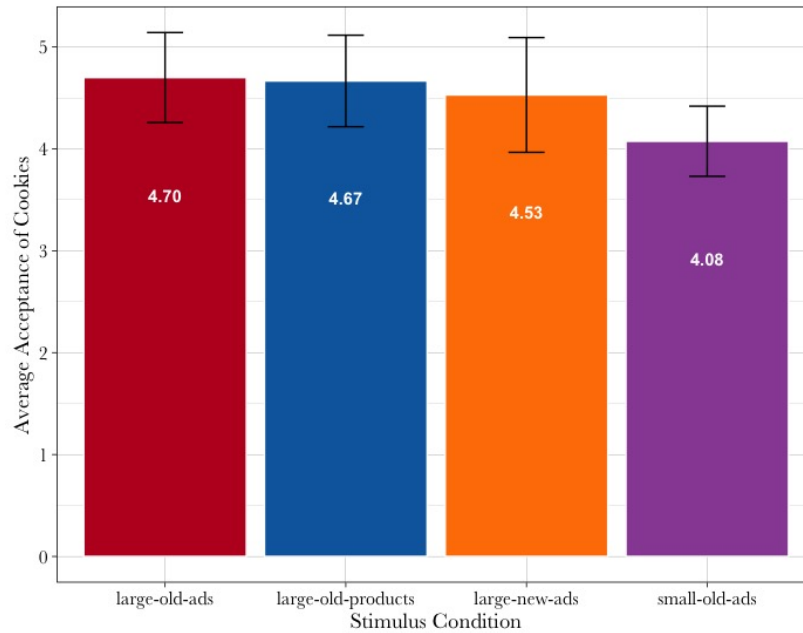
FIGURE 2. DIFFERENCE IN AVERAGE LIKERT RESPONSE ACROSS STIMULI

able in handling personal data, reflecting consumers' tendency to trust established firms over newcomers, likely due to familiarity or reputation. The most notable result comes from the comparison between small, established brands and the main treatment group, which highlights a significant decrease in consumers' willingness to accept cookies. This suggests that consumers may not simply equate size with trustworthiness; rather, a brand's legacy and reputation also significantly affect their comfort with data sharing. The gap between these conditions emphasizes that while larger, well-known firms benefit from consumer trust, smaller brands—even those with an established presence—may face challenges in convincing consumers to consent to data tracking.

While not statistically significant, these results reveal important directional trends in how consumers make privacy decisions based on firm characteristics. Consumers appear to place less emphasis on a brand's product mix but are more influenced by factors such as brand legacy and size. The observed heterogeneity in privacy choices suggests that firm attributes play a key role in data-tracking consent decisions. Future research with larger sample sizes is needed to confirm these trends and provide a more definitive understanding of their impact.

```
*********************************************************************
*
* Gabriel Solis                                                    *
* Midterm for PhD Econometrics Course (AEA Summer Program)         *
* Date: July 1, 2024                                               *
*
*
* Description: This script demonstrates my ability to apply advanced   *
* econometric techniques, including robust standard errors, hypothesis *
* testing, model specification, and instrument variable regression.    *
*********************************************************************
*


        // Question 1 //
***********************************
***********************************
clear

import delimited "fertil2.csv", clear

// Q1a //

*gen ageSq = age^2

reg children age agesq educ electric urban

reg children age agesq educ electric urban, robust


// Q1b //
regress children age agesq educ electric urban spirit protest catholic

test spirit = protest = catholic = 0

regress children age agesq educ electric urban spirit protest catholic,
robust
test spirit = protest = catholic = 0



// Q1c //
predict yhat, xb
```

```
predict yhat, xb
predict uhat, residuals

gen yhat2 = yhat^2
gen uhat2 = uhat^2

regress uhat2 yhat yhat2

test yhat = yhat2 = 0

        // Question 2 //
************************************
************************************
clear
use Movies

** Qa
* i.

generate ln_assaults = ln(assaults)
reg ln_assaults year2-year10 month2-month12
test month2 = month3 = month4 = month5 = month6 = month7 = month8 =
month9 = month10 = month11 = month12 = 0
test year2 = year3 = year4 = year5 = year6 = year7 = year8 = year9 =
year10 = 0

* ii.
gen attend = attend_v + attend_m + attend_n
reg attend year2-year10 month2-month12
test month2 = month3 = month4 = month5 = month6 = month7 = month8 =
month9 = month10 = month11 = month12 = 0
test year2 = year3 = year4 = year5 = year6 = year7 = year8 = year9 =
year10 = 0



** Qb
reg ln_assaults attend_v attend_m attend_n year2-year10 month2-month12 h_
* w_*



* i. Increase assaults and yes significant
test attend_v = 0

* ii.
test attend_v - attend_m = 0
test attend_v - attend_n = 0
```

```
* iii.
qui reg ln_assaults attend_v attend_m attend_n year2-year10 month2-
month12 w_* h_*
local attend_v = _b[attend_v]
local attend_m = _b[attend_m]
local attend_n = _b[attend_n]
local delta_y = (`attend_v'*(6) + `attend_m'*(-2) + `attend_n'*(-1))
test attend_v*6 + attend_m*(-2) - attend_n*1 = 0
local delta_y_se = abs(`delta_y') / sqrt(`r(F)')
local delta_y_95_lb = `delta_y' - 1.96*`delta_y_se'
local delta_y_95_ub = `delta_y' + 1.96*`delta_y_se'
di "delta_y = " `delta_y'
di "SE for delta_y: " `delta_y_se'
di "95% CI for delta_y: " `delta_y_95_lb' " to " `delta_y_95_ub'


** Qc
ssc install ivreg2
ivreg2 ln_assaults (attend_v attend_m attend_n = pr_attend_v pr_attend_m
pr_attend_n) year2-year10 month2-month12 h_* w_*

* i. Yes by -.0038385
test attend_v = 0

* ii.
test attend_v - attend_m = 0
test attend_v - attend_n = 0

* iii.
sum attend_v
local attend_v_mean = r(mean) + 6
sum attend_m
local attend_m_mean = r(mean) - 2
sum attend_n
local attend_n_mean = r(mean) - 1
margins, at(attend_v = (`attend_v_mean') attend_m = (`attend_m_mean')
attend_n = (`attend_n_mean')) dydx(*)


** Qd
ivreg2 ln_assaults (attend_v attend_m attend_n = attend_v_f attend_m_f
attend_n_f attend_v_b attend_m_b attend_n_b) year2-year10 month2-month12
h_* w_*

* i. No
test attend_v = 0
```

```
* ii.
test attend_v - attend_m = 0
test attend_v - attend_n = 0

* iii.
local attend_v = _b[attend_v]
local attend_m = _b[attend_m]
local attend_n = _b[attend_n]
local delta_y = (`attend_v'*(6) + `attend_m'*(-2) + `attend_n'*(-1))
test attend_v*6 + attend_m*(-2) + attend_n*1 = 0
local delta_y_se = abs(`delta_y') / sqrt(`r(F)')
local delta_y_95_lb = `delta_y' - 1.96*`delta_y_se'
local delta_y_95_ub = `delta_y' + 1.96*`delta_y_se'
di "delta_y = " `delta_y'
di "SE for delta_y: " `delta_y_se'
di "95% CI for delta_y: " `delta_y_95_lb' " to " `delta_y_95_ub'

** Qe
* Need to answer 2b/c/diii

bysort year month wkd_ind:generate week = _n

regress ln_assaults year


        // Question 3 //
***********************************
***********************************
clear

// Load the time-varying data //
import excel "timevar-1", sheet("Sheet1") firstrow clear
save timevar, replace

// Load the time-invariant data //
import excel "timeinvar-1", sheet("Sheet1") firstrow clear
save timeinvar, replace

// Mergining the two datasets //
use timevar
merge m:1 id using timeinvar
***********************************

    ** Question a **
// Generating dummies for educ //
gen HS = 0
replace HS = 1 if edu <=12
```

```
gen Col = 0
replace Col = 1 if  edu >12 & edu <=16

gen Grad = 0
replace Grad = 1 if edu > 16

reg lwag edu ability exper meduc feduc brokenhome siblings
reg lwage Col Grad ability exper meduc feduc brokenhome siblings
graph twoway scatter lwage edu

***********************************

   ** Question b **

gen eduSq = (edu)^2
reg lwage Col Grad edu eduSq ability exper meduc feduc brokenhome siblings
test eduSq = 0
graph twoway scatter lwage edu


   ** Question c **
gen EduAb = edu * ability
reg lwage edu EduAb ability exper meduc feduc brokenhome siblings

reg lwage edu ability EduAb exper meduc feduc brokenhome siblings
margins, dydx(*) at(ability(means))


** Question D

reg lwage edu eduSq EduAb ability exper meduc feduc brokenhome siblings

** Low Ability
reg lwage edu eduSq ability EduAb exper meduc feduc brokenhome siblings
if ability < 0.052374
margins, dydx(*) at(ability=(-0.798563))
graph twoway scatter lwage edu if ability < 0.052374


** High Ability
reg lwage edu eduSq ability EduAb exper meduc feduc brokenhome siblings
if ability > 0.052374
margins, dydx(*) at(ability=(0.717891))
graph twoway scatter lwage edu if ability > 0.052374


   ** Question e **
threshold lwage edu exper meduc feduc brokenhome siblings, threshvar(edu)
```

```
threshold lwage edu exper meduc feduc brokenhome siblings, threshvar(edu)

        // Question 4 //
***********************************
***********************************
clear

import excel "CASchools2", sheet("Sheet1") firstrow

nl(testscr = {b0 = .1} * (1-exp(-1 * {b1 = .1} * (avginc - {b2 = .1}))))
```

References

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