



Higher School of Economics Seminar 2020

# SWORDS INTO BANK SHARES: FINANCIAL APPROACHES TO MITIGATING POLITICAL POLARIZATION AND CONFLICT

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# BRITAIN'S BREXIT HANGOVER, June 2016:



# BRITAIN'S BREXIT HANGOVER, June 2016:



Follow

"What is the EU?" is the second top UK question on the EU since the #EURefResults were officially announced

## TOP QUESTIONS ON THE EUROPEAN UNION

Google Trends

in the UK since Brexit result officially announced

- 1 What does it mean to leave the EU?
- 2 What is the EU?
- 3 Which countries are in the EU?
- 4 What will happen now we've left the EU?
- 5 How many countries are in the EU?

google.com/trends

4:25 AM - 24 Jun 2016

24,821 Retweets 17,160 Likes

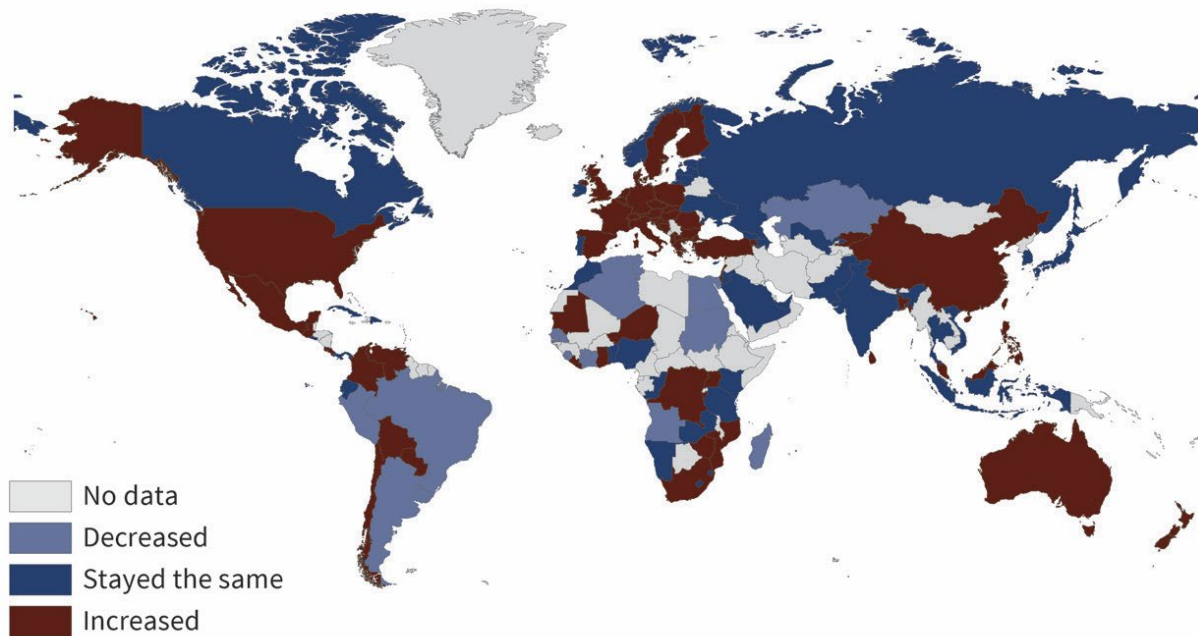


574 25K 17K



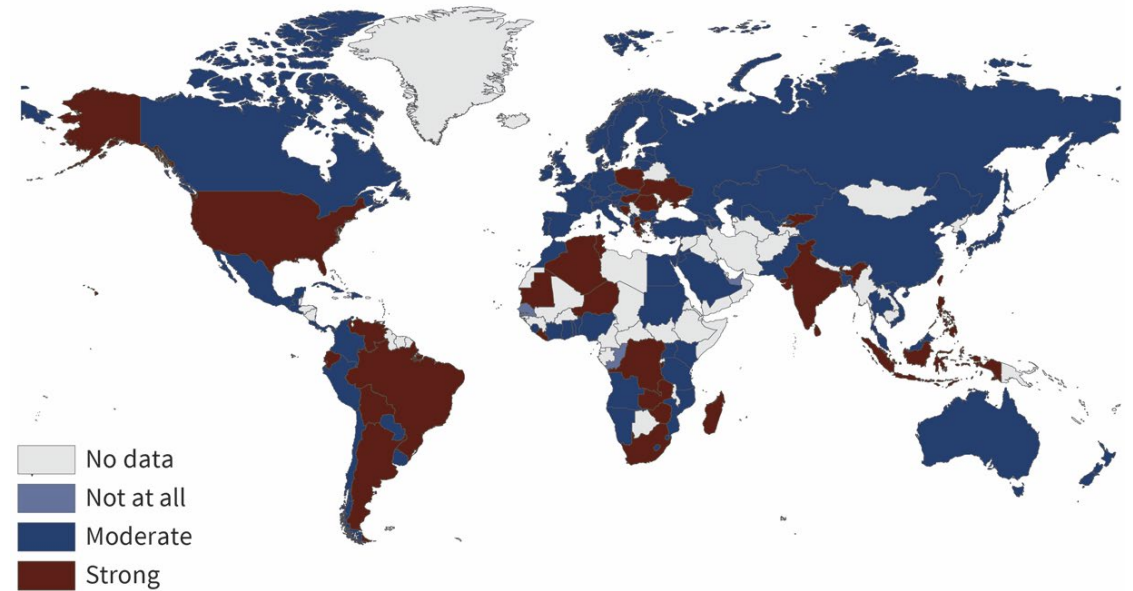
POPULISM IS ON THE RISE, ASSOCIATED WITH LARGE INCREASES IN POLICY UNCERTAINTY GLOBALLY IN LAST 5 YRS.

Change of Populism in the Last 5 Years

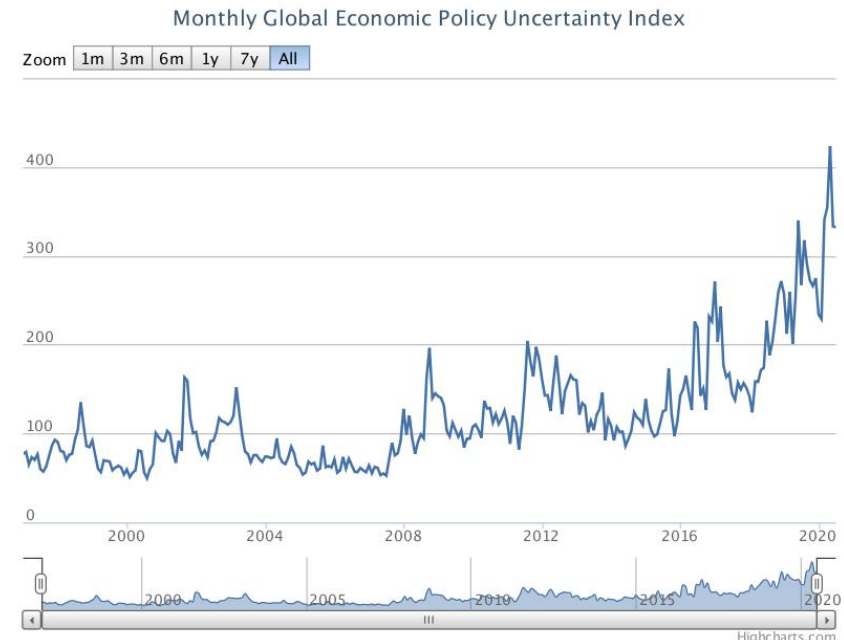


Source: ifo World Economic Survey (WES) II/2017.

Influence of Populism on Economic Policy Making



Source: ifo World Economic Survey (WES) II/2017.



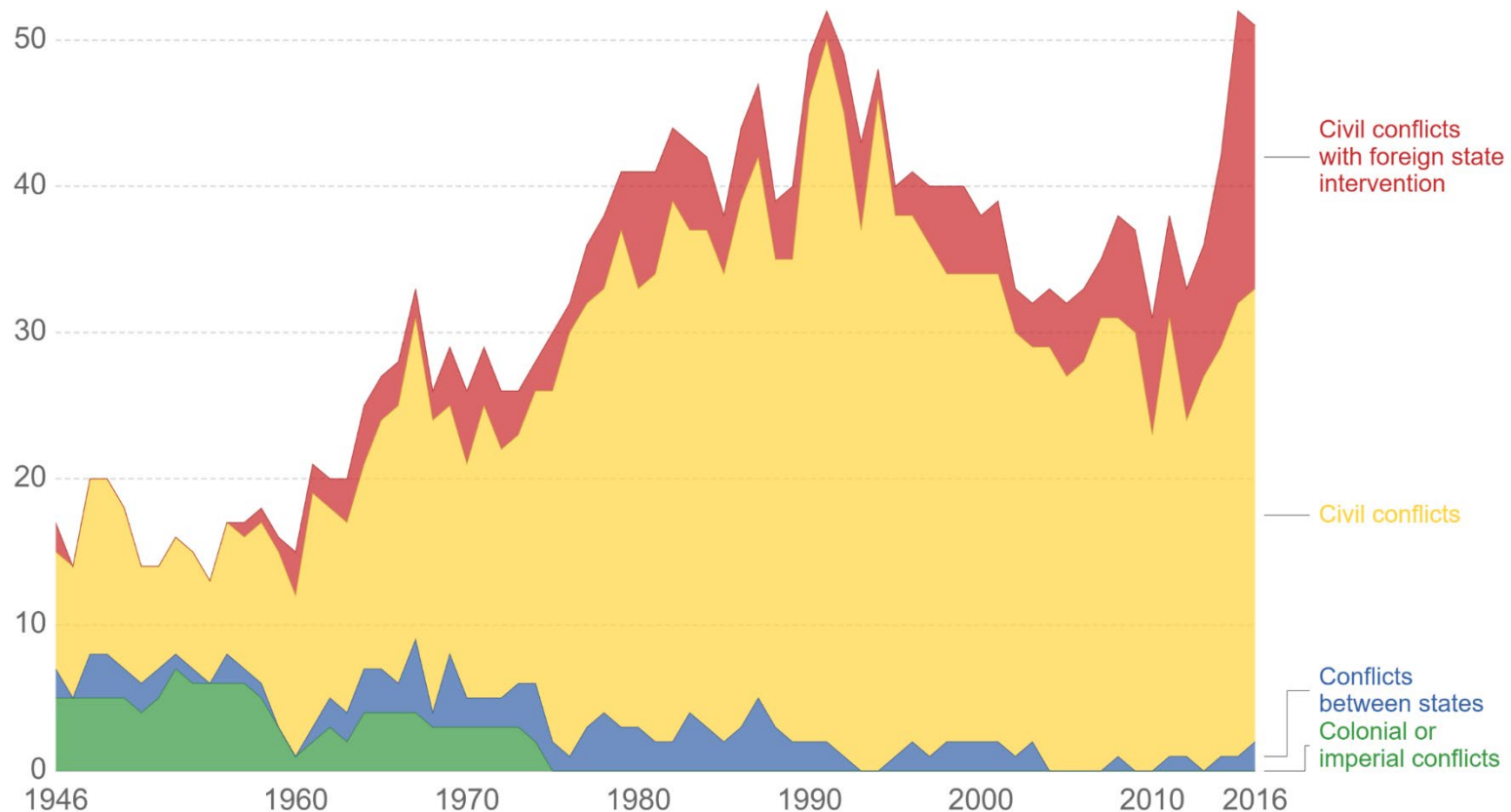
Source: Baker, Bloom and Davis, to end July 2020

# (CIVIL) CONFLICTS CONTINUE, PARTICULARLY IN THE POOREST STATES.

## State-based conflicts since 1946

Only conflicts in which at least one party was the government of a state are included. Ongoing conflicts are represented for every year in which they resulted in at least 25 battle-related deaths.

Our World  
in Data



Source: UCDP/PRIO Armed Conflict Dataset

Note: The war categories paraphrase UCDP/PRIO's technical definitions of 'Extrasystemic', 'Internal', 'Internationalised internal' and 'Interstate' respectively.

CC BY

# WITH INCREASING POLICY UNCERTAINTY, BASIC FINANCIAL LITERACY IS ARGUABLY EVEN MORE IMPORTANT. WOMEN TEND TO LAG BEHIND.

## `Big Three' Questions:

**Numeracy:** Suppose you had \$100 in a savings account and the interest rate was 2% per year. After 5 years, how much do you think you would have in the account if you left the money in the account for the entire period?

(i)  $> \$102$ ; (ii)  $= \$102$ ; (iii)  $< \$102$ ; (iv) DK.

**Compounding:** Suppose you had \$100 in a savings account and the interest rate is 20% per year and you never withdraw money or interest payments. After 5 years, how much would you have in this account in total?

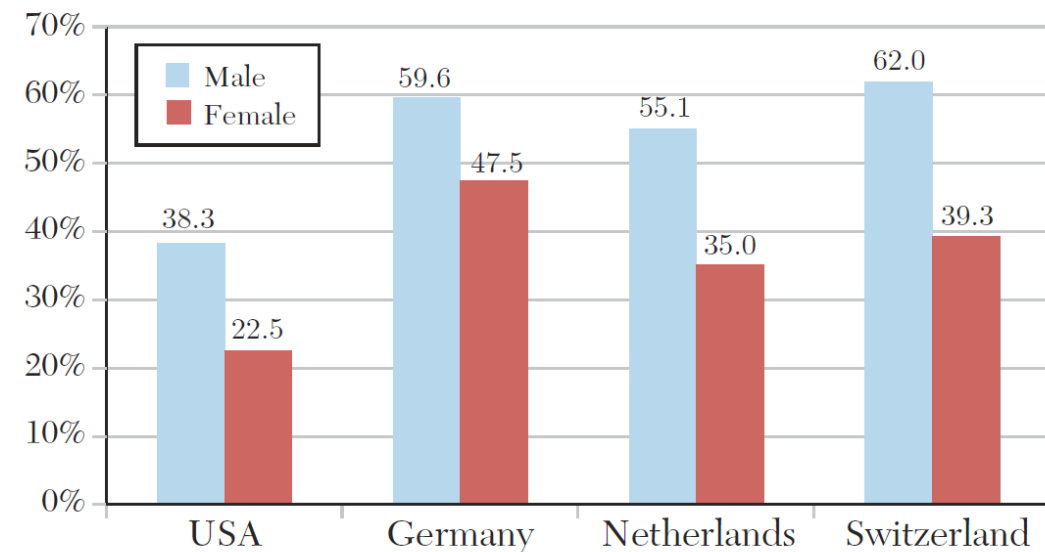
(i)  $> \$200$ ; (ii)  $= \$200$ ; (iii)  $< \$200$ ; (iv) DK

**Riskiness: Stocks vs Funds:** True or False:

Buying a single company's stock usually provides a safer return than a stock mutual fund.

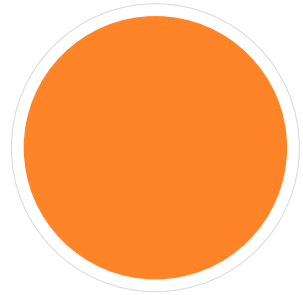
(i) T, (ii) F, (iii) DK

Panel 1B. By sex  
(percent providing correct answers to all three financial literacy questions)

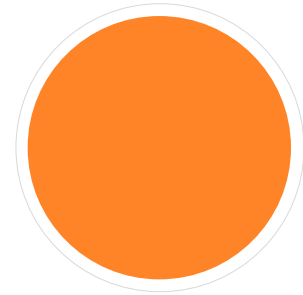


Source: Lusardi & Mitchell 2014

# TWO KEY QUESTIONS FOR GLOBAL DEVELOPMENT: CAN WE DESIGN INTERVENTIONS THAT:



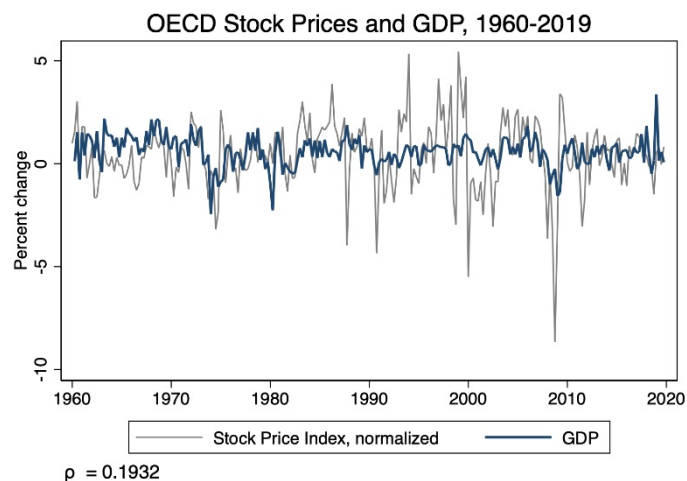
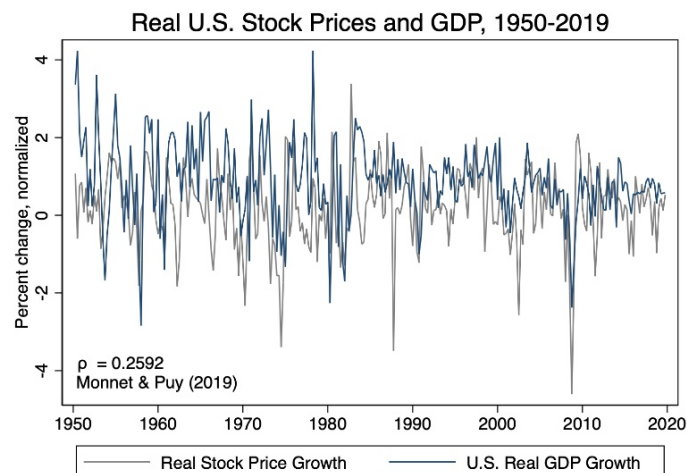
EMPOWER CITIZENS IN BOTH RICH  
AND POOR COUNTRIES,  
EQUIPPING THEM WITH TOOLS TO  
HELP MITIGATE THE RISKS OF THE  
MODERN ECONOMY?



AND BY EMPOWERING THEM, CAN  
WE MITIGATE POLITICAL  
POLARIZATION AND VIOLENT  
CONFLICT?

WHAT CAN THEORY AND HISTORY  
TEACH US?

# WHY MIGHT FINANCE BE A PROMISING AVENUE?



## ON THE INCENTIVE SIDE: SHARING THE FUTURE

1. BENCHMARK: MARKOWITZ: In the absence of transaction costs, elites and non-elites should all hold the same (market) portfolio of risky assets. Aligns incentives.

## QUALMS:

1. What about non-insurable risks? We can't trade ethnicity / human capital.
2. Won't potential losers mobilize to block reforms?
3. The -ve correlation with unemployment is weaker ( $\rho = -.16$ )
4. Listed firms today in the US: ~3.6K vs 7.3K in 1996.
5. Covid: 'the economy' vs health/lives.



# THE PROJECT:



## Natural Experiments/ Cases:

3 revolutionary states where financial innovations were key for solving political problems, and subsequently led the world in GDP growth:

17C UK, 18C US, 19C Japan

S. Africa, Malaysia, Namibia

(Jha, *Quarterly Journal of Economics* 2015, Jha *World Financial Review* 2014, Jha, Mitchener, Takashima in progress)

## Field Experiments:

``Valuing Peace``: Israel/  
Palestine Conflict

(Jha Shayo *Econometrica* 2019)

``Trading Stocks``:  
Financial Literacy and the  
Gender Confidence Gap

(Jha Shayo working paper)

``Remaining European``:  
Brexit Vote

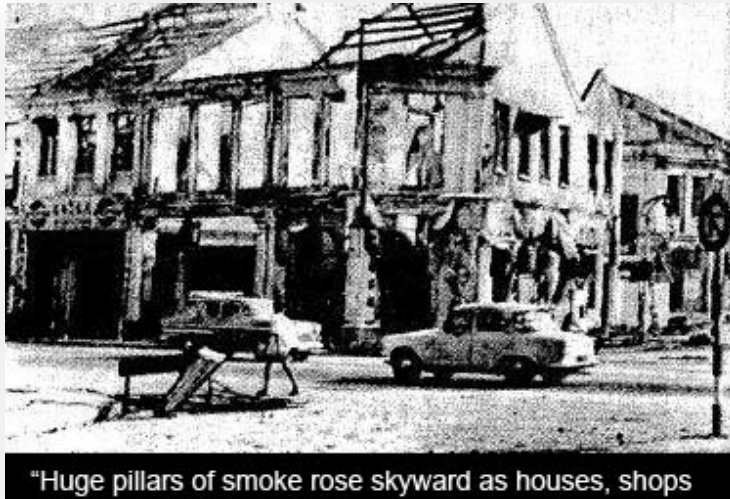
(Jha Margalit Shayo, in progress)

## Discussion:

The Conflict and Polarization  
Lab

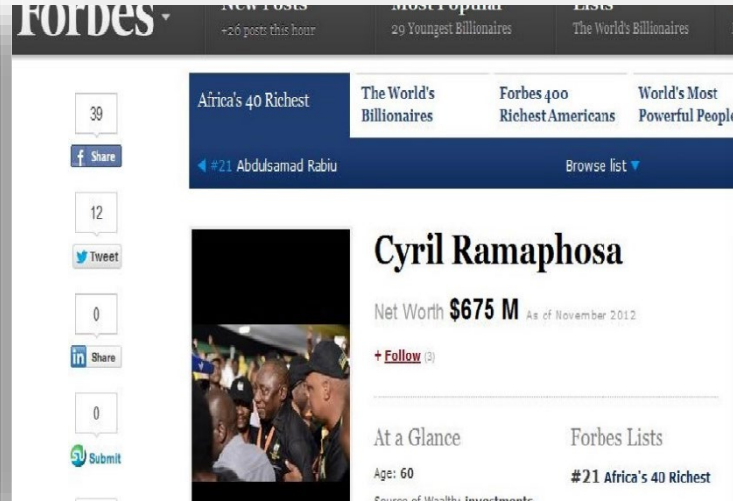
Alternative approaches?

# SHAREHOLDING APPROACHES TO MITIGATING CONFLICT



Malaysia, 1969:

NEP: 30% of ethnic Chinese profits go into trust redistributed to *bumiputras*



South Africa, 2001 onwards:

BEE: 20%+ Black ownership provides advantages in procurement



An Alternative: Japan, 1868.

1,800,000 samurai (endogamous) caste, hereditary warriors administrators, recently re-militarized, biggest potential losers to reforms

Japan 'one of the world's most fractured polities'

Yet, Japan succeeds in rapid modernization, centralization within a generation. How?

Note: Reinforce Ethnic Divisions.

Namibia: NEEEF

# 'SWORDS INTO BANK SHARES'

(Jha, Mitchener & Takashima, in progress)



1876

1877



Shibusawa Eiichi, Founder of Daichi Bank

01

310,971  
ex-samurai  
receive public  
bonds worth  
¥113 M.

02

Bank owners  
required to  
capitalize banks  
using 80%  
government  
(samurai) bonds,  
20% currency  
(from  
commoners)

03

**Dramatic  
expansion of  
bank branches:**  
7 to 150  
between  
1876-1878.

# 'SWORDS INTO BANK SHARES'

1876

1877



Shibusawa Eiichi, Founder of Daichi Bank

04

## Cross-ethnic institutions:

In 1878, 29,360 ex-samurai and nobles controlled ¥ 30.5 M in bank stock, compared with ¥ 8.8 M held by 4730 commoners.

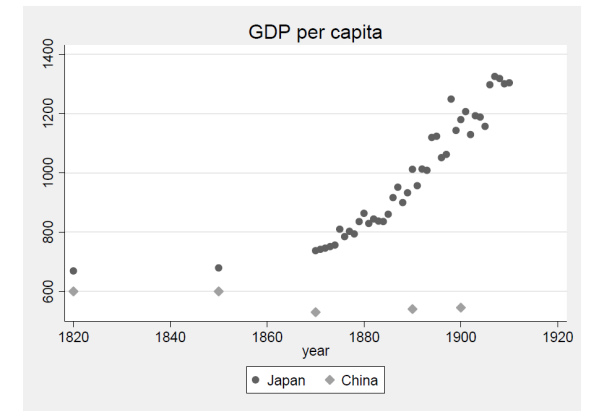
05

Violent samurai revolts end, "popular rights movements" in favor of constitutional rights.

06

Bank ownership aligns incentives of ex-samurai credibly with society against political risk!

**Note: Also undermines ethnic divisions.**





# "SWORDS INTO BANK SHARES": FINANCIAL SOLUTIONS TO THE THREAT OF POLITICAL VIOLENCE



source: Last Samurai, 2003

Theory + empirics to document how financial innovations which allow the risks and returns of human capital/ ethnicity to be shared have aligned incentives in favor of peace + broader reforms.

1. Japan (1876-77): 1.8M samurai and non-samurai => 80% Bonds/ National Banks=> peace (*Jha, Mitchener and Takashima, in progress*)

2. Britain (C17): merchants and non-merchants => Joint Stock Companies=> representative government, peace (*Jha Quarterly Journal of Economics 2015*)

3. US (1790s): veterans, bank speculators and politicians => lowered political risk (*Jha, in progress*)



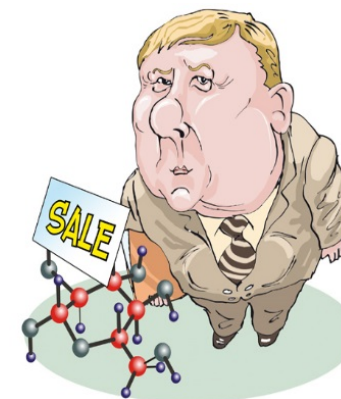
Shibusawa Eiichi, Founder, Dai-Ichi Bank, in 1876 (left), and 1877 (right)



Masayoshi.



Alexander.



Anatoly.

But can financial innovations mitigate contemporary ethnic conflict? (*Jha, World Financial Review 2013*)



# CAN FINANCIAL APPROACHES MITIGATE CONTEMPORARY ETHNIC CONFLICT?



Gaza, 2014

Jerusalem 2015



RAND:

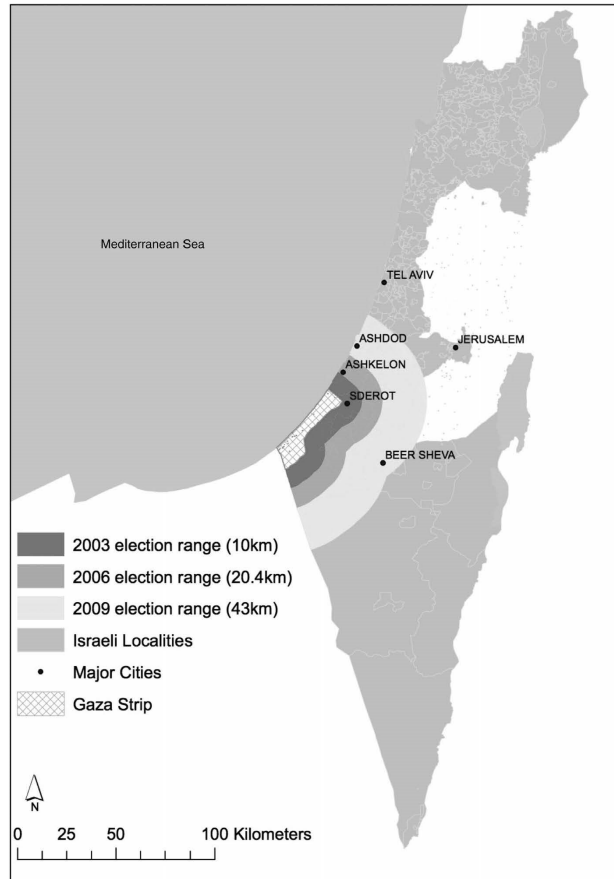
Two State Solution: +\$123 B for Israel, +\$50 B Palestine

Return to Widespread Conflict: -\$250 B for Israel, -\$46B Palestine

# CAN FINANCIAL APPROACHES MITIGATE CONTEMPORARY ETHNIC CONFLICT?

(Jha and Shayo, *Econometrica*, 2019)

FIGURE 1. Rocket Ranges, 2003–2009 Elections



Getmansky and Zeitzoff *APSR* 2014

1. Conflict costly. But making concessions for peace is also risky.

2. People have different personal exposure to risks and returns from conflict and peace, and may not internalize the gains from peace and risks faced by the country or region as a whole.

Can exposure to **financial markets**

-- that help individuals learn and internalize the economic costs of conflict --

change individuals' **attitudes towards war and peace**

... and even their **votes**?

And can this happen even in the context of a persistent ethnic conflict?

**In Israel, yes.**

# CAN EXPOSURE TO FINANCIAL MARKETS EFFECT INDIVIDUAL'S ATTITUDES TOWARDS PEACE AND EVEN THEIR VOTES?

- **Trading**

Endogenous in most observational data

✓ both who invests and in what assets

Also hard to randomize, with real asset prices at scale, particularly for novices.

- **First study to randomly assign financial assets, provide incentives to trade those assets and study effects on financial literacy and on political behavior.**
- **Randomly assign 1345 likely Jewish voters to a specific financial asset. Encourage them to trade on our own online platform during a period of 4-7 weeks**
  - Israeli stocks
  - Palestinian stocks
  - Voucher (tradable for stocks)
  - Control

- **Outcomes: attitudes and votes**

Main measure: vote in the March 2015 Israeli general elections

Other measures: self-reported attitudes towards peace deal

## MAIN RESULT (VALUING PEACE)

- Exposure to incentives to trade in financial markets **increases likelihood of voting for left parties (pro-peace initiatives) by 4-6 percentage points (relative to 25% vote share in control)**.
  - Similarly reduces probability for right parties by 4-5pp (relative to 36% vote share in control)
- Exposure also **increases willingness to support the making of deals for peace** and reduces opposition to specific costly concessions
- **Effects persist (and even cumulate) one year later.**

# MECHANISM

Consistent with **human capital formation: learning about both financial markets and the economic costs of conflict.**

Direct evidence for:

- Increases in **Financial Literacy** (based upon standard test questions- see next);  
(Self- reported) familiarity with the stock market
- **(Persistent) Increases in Consumption of Financial News** and knowledge of financial market performance.
- **Increased evaluation of Benefits of a Peace Settlement to the Israeli Economy** relative to status quo (particularly for the risk-averse)
- **Political Effects stronger for ex ante inexperienced investors, who become like those experienced investors in their votes and political attitudes.**

Find no evidence for, or can rule out other mechanisms, including:

- Direct Material Incentives.
- Wealth Effects/ Changes in Subjective Well-Being
- Change in Knowledge of Political Platforms / Facts
- Change in Overall Consumption or Slant of Non-Financial (Political) Media
- Short-term Attention

Exposure to **in-group vs out-group assets have similar overall political effects**, but appear to operate through **different learning channels.**



## FURTHER, IN *'TRADING STOCKS INCREASES FINANCIAL LITERACY AND COMPRESSES THE GENDER CONFIDENCE GAP'*, WE FIND:

Exposure to incentives to trade in financial markets **increases financial confidence, and reduces the gender gap between men and women**. Does so through in four ways:

### 1. Objective Financial Literacy

Raises probability of getting all "Big 3" (numeracy, compounding, relative risk of funds vs stocks) questions correct by 5.8pp (ITT)- 8.5pp (TOT), compared to mean of 50.1%.

### 2. Self-Assessed Financial Knowledge

### 3. Risk Tolerance

### 4. Investment Behavior

pre-treatment: 26% of women, 47% of men invested in stocks in long exposure sample.

post-treatment: 41% of women, 48% of men reinvest on platform (& report investing 2 months later.)

Both men and women become more self-reliant in their decisions.

Different types of stock exposure can teach different things,

- e.g.: being exposed to Arab stocks increases propensity to invest in Arab stocks subsequently.
- Being exposed to index funds enhances understanding of their relative riskiness.

## SOME RELATED LITERATURES

First study to randomly assign financial assets, provide incentives to trade those assets and study effects on: 1. political behavior or 2. financial confidence and literacy.

### The Persistence of Ethnic Conflict/ Hatreds vs *Economic Complementarities and Ethnic Tolerance*

Lots, eg. Voigtlander & Voth *QJE* 2013, Shayo & Zussman *QJE* 2011, Sambanis and Shayo *APSR* 2013, Besley & Reynal-Querol *APSR* 2014, Montesquieu 1748, Hirschman 1977, Polachek & Sieglie 2006, Martin, Mayer & Thoenig *ReStud* 2008, Rohner, Thoenig & Zilibotti *ReStud* 2013, Jha *APSR* 2013, Jha *JEBO* 2014, Diaz-Cayeros & Jha 2020

### Financial Inclusion and Literacy [and the Gender Gap]

eg Microfinance (lots), Bursztyn et al *ECMA* 2015, Lusardi and Mitchell *JEL* 2014, Van Rooij, Lusardi and Alessie *JFinE* 2011, Bucher-Koenen et al *NBER* 2014, Hastings et al *Ann Rev Econ* 2014, Carpena et al 2015, Hsu 2015, Mullainathan, Noeth and Schoar 2012, Niederle and Vesterlund

### Familiarity, Learning by Doing, Home Bias and Attrition in Financial Markets

eg Coval and Moskowitz 1999, Huberman, 2001, van Nieuwerburgh and Veldkamp 2009, Nicolosi et al. *JFM* 2009, Seru et al. *RFS* 2009 and Campbell et al. 2013, Anagol, et al. 2019

### Conflict as Bargaining Failures/ the Political Coase Theorem

eg Acemoglu & Robinson *AER* 2000, Fearon 1996 and related literature.

## EXPERIMENTAL DESIGN

Population: Jewish Israeli citizens that participate in a large internet panel

~60,000 internet panel, nationally representative in terms of age and sex. Commonly used for commercial market research, political opinion polling and academic studies.

Not a lot of super-rich (but effects similar for both rich and poor).

Invited to a study on investor behavior

Consent; complete baseline survey

Enter a lottery to win financial assets that track Israeli and foreign stocks from the region.

If wins: notified on asset allocation and quizzed on understanding rules

- המניות כוללות בנקים וחברות תקשורת.
- המדדים עוקבים אחר הערך של כמה מהחברות הציבוריות הגדולות בכל מדינה (בדרך כלל מדד מסוים כולל בין 20 ל-30 חברות).

שימי לב במיוחד לנכס שבו זכית ולמספר המניות שברשותך. אותו מספר המניות יעמוד לרשותך גם בשבוע הבא. לפיכך, אם המחיר של הנכס יעלה - ערך הנכסים שלך יעלה בהתאם. אם המחיר של הנכס יירד - ערך הנכסים שלך יירד בהתאם. הרשימה מסודרת בסדר אלפביתי לפי סימול המניה או המדד באנגלית.

- Here is a list of all the assets participating...
- Both company stocks and index funds (explained).

- Note the asset you won and the # of shares you own.
- If the price of your asset increases, the value of your assets will increase accordingly. If the price goes down...

| שם   | שם באנגלית                          | סימול   | מטבע | מחיר הנכס היום (במטבע מקומי) | מספר המניות שברשותי | ערך הנכסים שלי / כמחצית (מקומי) | ערך הנכסים שלי (בש"ח) |
|--|-------------------------------------|---------|------|------------------------------|---------------------|---------------------------------|-----------------------|
| בנק אקבנק, טורקיה                                | Akbank Turkey                       | AKBNK   | TRY  | 8.55                         |                     |                                 |                       |
| מדד של בורסת רבת עמון בירדן                      | Amman SE General Index Fund         | AMGNRLX | JOD  | 2,186.18                     |                     |                                 |                       |
| בזק (חברת תקשורת ישראלית)                        | Bezeq                               | BEZQ    | ILS  | 663.10                       |                     |                                 |                       |
| בנק ירדן   | Bank Of Jordan                      | BOJX    | JOD  | 2.80                         |                     |                                 |                       |
| בנק פלסטין                                       | Bank Of Palestine                   | BOP     | JOD  | 2.78                         |                     |                                 |                       |
| מדד של 20 המניות הגדולות בקפריסין                | Cyprus/FTSE Top 20 Index Fund       | CYFT    | EURO | 44.44                        |                     |                                 |                       |
| מדד של 30 המניות הגדולות בבורסת קהיר במצרים      | Egypt EGX 30 Index Fund             | EGX30   | EGP  |                              |                     |                                 |                       |
| מצרים טלקום                                      | Telecom Egypt                       | ETEL    | EGP  |                              |                     |                                 |                       |
| ירדן טלקום                                       | Jordan Telecom                      | JTEL    | JOD  | 5.56                         |                     |                                 |                       |
| בנק לאומי לישראל                                 | Bank Leumi                          | LUMI    | ILS  | 1,288.00                     |                     |                                 |                       |
| פלסטין טלקומוניקיישן (חברת תקשורת פלסטינית)      | Palestine Telecommunications        | PALTEL  | JOD  | 5.94                         | 6.122               | 36.36                           | 200                   |
| מדד של הבורסה הפלסטינית בשכם                     | Palestine Stock Exchange Index Fund | PLE     | JOD  | 504.76                       |                     |                                 |                       |
| מדד תל-אביב 25                                   | Tel Aviv TA-25 Index Fund           | TA25    | ILS  | 1,452.46                     |                     |                                 |                       |
| טורקסל (חברת תקשורת טורקית)                      | Turkcell                            | TCELL   | TRY  | 14.80                        |                     |                                 |                       |
| בנק יוניון הלאומי של מצרים                       | Union National Bank of Egypt        | UNBE    | EGP  | 5.90                         |                     |                                 |                       |
| מדד של 30 המניות הגדולות בבורסת איסטנבול בטורקיה | Borsa Istanbul 30 Index Fund        | XU030   | TRY  | 106,359.21                   |                     |                                 |                       |
| כסף מזומן  | CASH                                | CASH    | ILS  | 1.00                         |                     |                                 |                       |

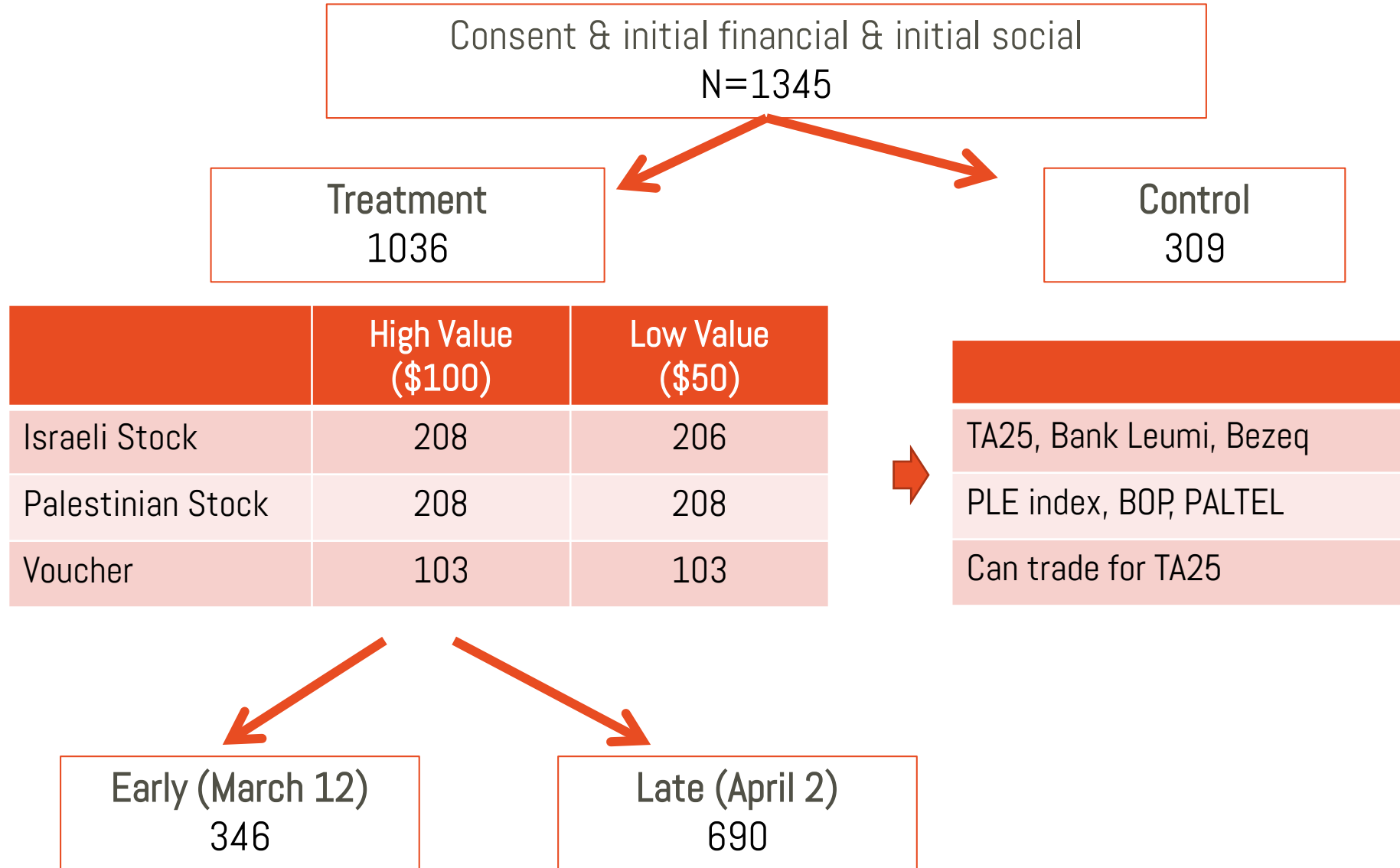
total value in NIS

total value in JOD

# shares

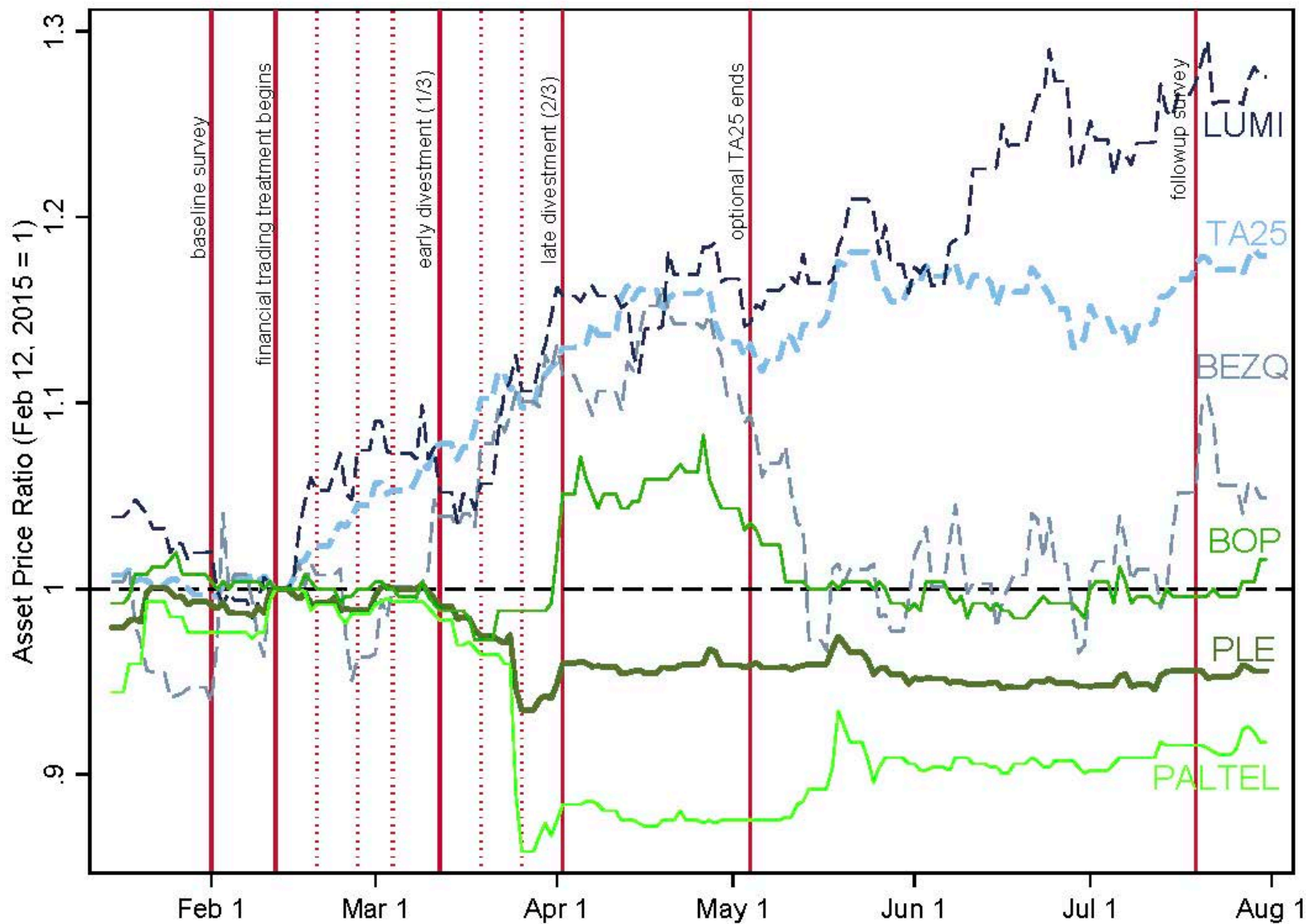
current price in JOD

# (SUB-) TREATMENTS





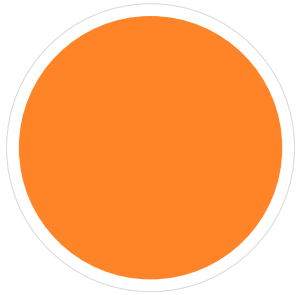
# TIMELINE OF THE EXPERIMENT



## (SUB-) TREATMENTS (cont.d)

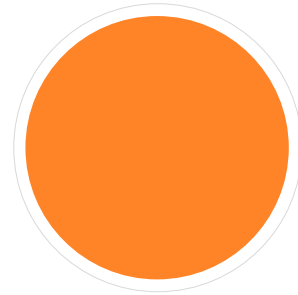
- Treatment Group: weekly trades of 10% of portfolio.
  - Stock treatments can sell (and later buy back)
  - Voucher treatment can buy TA25 (and later sell)
  - Even if traded out every week, portfolio has more than 60% in the assigned asset
  - Trade when markets closed (Thurs-Sun): prices constant and easily verifiable
- Incentives for engagement:
  - If don't enter a weekly decision, lose the 10%.
  - OK to decide not to buy nor sell
  - No commission
  - Questions on 3 year past performance and on forecasts.
- Exposure to post-treatment price changes also exogenous since assignment to asset was random.
  - Better performance likely to increase stock market participation (Malmendier & Nagel *QJE 2008*).

## 'GAMIFICATION' PRINCIPLES (Fogg, 2009)



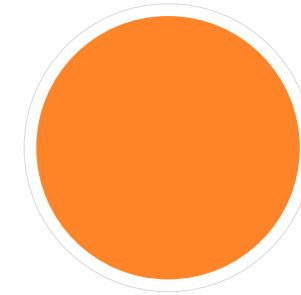
### *Clear motivation.*

a financial stake of  
\$50/\$100



### *Ability to perform the task.*

simplified investment  
implemented through our  
own platform, conducted on  
the weekend.



### *A trigger:*

nudge them to complete  
their next decision just as  
they receive feedback on the  
week before.

## EXPERIMENTAL DESIGN, cont.d

### Two parallel sets of surveys:

Weekly financial surveys – which acted as a trading platform.

✓ Informed of performance; enter trading decisions – 10% of portfolio only (okay to hold).

Social/political surveys and an information survey.

### Participants did not associate the social surveys to the financial surveys

They were among many survey invitations they received over this period from a variety of different anonymous sources.

Participating company stocks not exceptionally related to politics or the conflict (banks and telecoms)

How can we verify this?

## OPEN QUESTIONS (FINAL FINANCIAL SURVEY)

*“To conclude, we would appreciate it if you could share your thoughts about this study.*

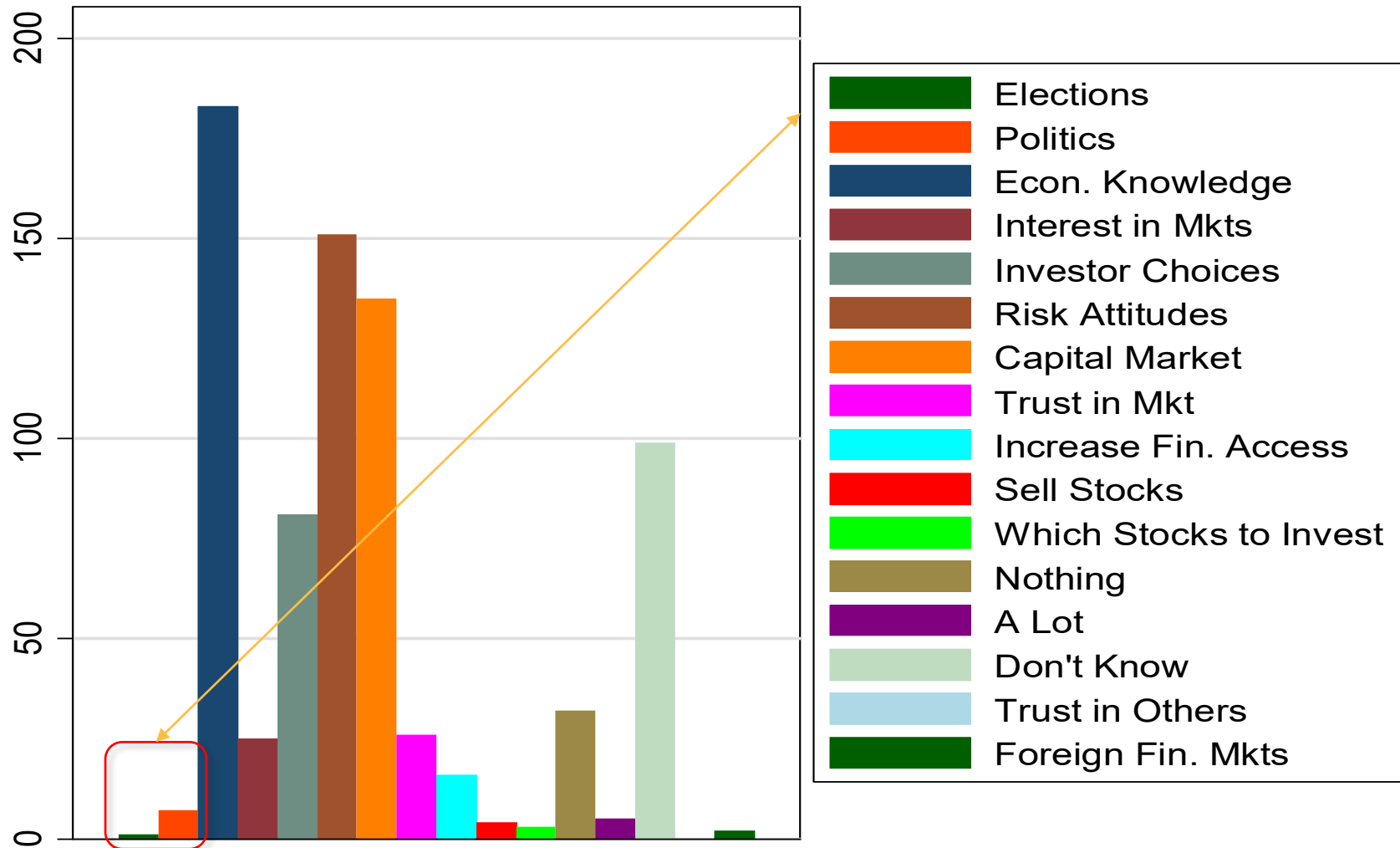
1. *What have you learned during this study?*

2. *What do you think the researchers can learn from this study?*

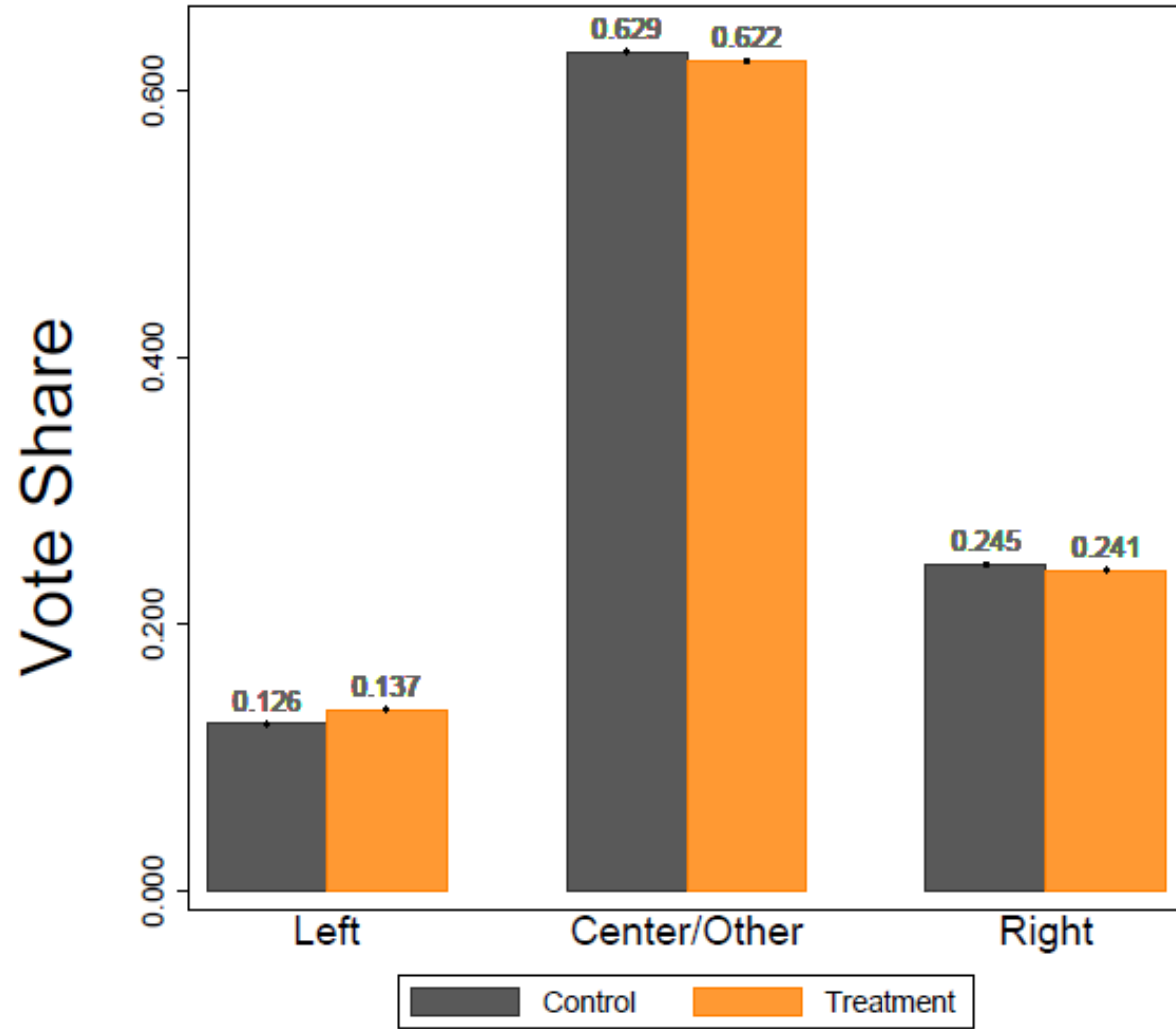
3. *If you have other comments or suggestions – we would love to hear!”*



# WHAT CAN THE RESEARCHERS LEARN FROM THE STUDY?



### 2013 Elections

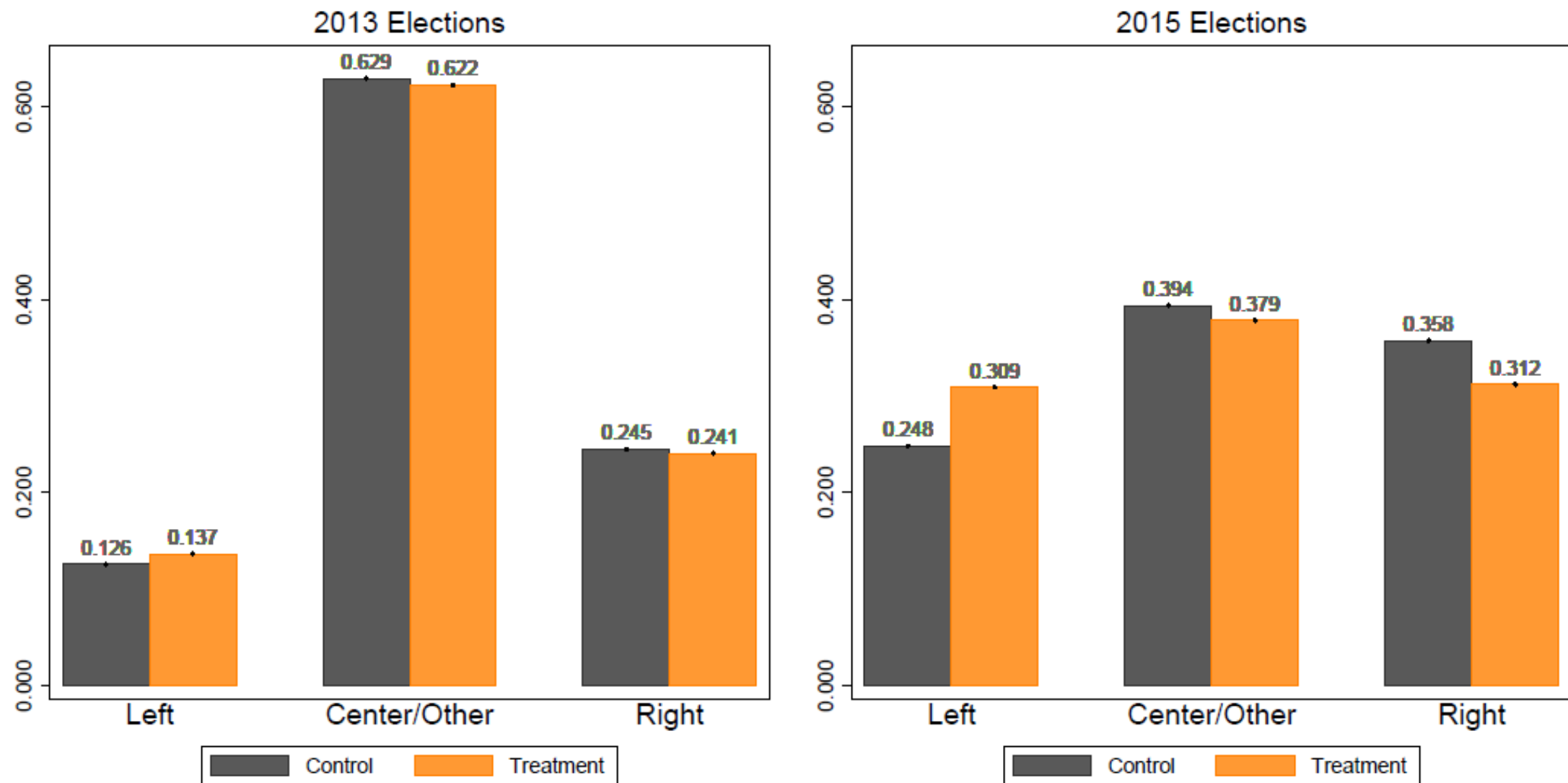


Note:

1. Balance between Treatment & Control
2. Swing Voters x2

N=1311. The 'other' bars include 71 and 17 individuals who voted for for other parties in 2013 and 2015, respectively, as well as 1 and 27 individuals who did not vote in 2013 and 2015, respectively.

Vote Share



N=1311. The 'other' bars include 71 and 17 individuals who voted for for other parties in 2013 and 2015, respectively, as well as 1 and 27 individuals who did not vote in 2013 and 2015, respectively.

# BASIC RESULT: VALUING PEACE

|  | Vote for Left Party in 2015 |                   |                     |                   | Vote for Right Party in 2015 |                   |                     |                   |
|--|-----------------------------|-------------------|---------------------|-------------------|------------------------------|-------------------|---------------------|-------------------|
|  | ITT                         | ITT               | ITT                 | TOT               | ITT                          | ITT               | ITT                 | TOT               |
|  | (1)                         | (2)               | (3)<br>(reweighted) | (4)               | (5)                          | (6)               | (7)<br>(reweighted) | (8)               |
| Asset Treatment                            | 0.061<br>(0.029)            | 0.059<br>(0.023)  | 0.043<br>(0.020)    | 0.073<br>(0.029)  | -0.045<br>(0.031)            | -0.044<br>(0.024) | -0.051<br>(0.027)   | -0.054<br>(0.029) |
| Voted Right '13                            |                             | -0.254<br>(0.091) | -0.201<br>(0.083)   | -0.272<br>(0.094) |                              | 0.492<br>(0.122)  | 0.473<br>(0.127)    | 0.505<br>(0.120)  |
| Voted Left '13                             |                             | 0.596<br>(0.091)  | 0.614<br>(0.090)    | 0.608<br>(0.090)  |                              | -0.222<br>(0.088) | -0.249<br>(0.088)   | -0.231<br>(0.092) |
| Bought/Sold Shares in<br>Last 6 Mths [0/1] |                             | 0.018<br>(0.040)  | 0.015<br>(0.035)    | 0.015<br>(0.041)  |                              | 0.030<br>(0.040)  | 0.024<br>(0.043)    | 0.032<br>(0.041)  |
| Traditional                                |                             | -0.138<br>(0.032) | -0.155<br>(0.029)   | -0.133<br>(0.033) |                              | 0.102<br>(0.032)  | 0.128<br>(0.036)    | 0.099<br>(0.032)  |
| Religious                                  |                             | -0.166<br>(0.032) | -0.162<br>(0.031)   | -0.165<br>(0.032) |                              | 0.241<br>(0.049)  | 0.232<br>(0.049)    | 0.240<br>(0.049)  |
| Ultra-Orthodox                             |                             | -0.221<br>(0.039) | -0.208<br>(0.037)   | -0.222<br>(0.040) |                              | 0.056<br>(0.086)  | 0.033<br>(0.088)    | 0.057<br>(0.086)  |
| Post Secondary                             |                             | 0.068<br>(0.033)  | 0.063<br>(0.027)    | 0.066<br>(0.033)  |                              | -0.060<br>(0.034) | -0.046<br>(0.037)   | -0.059<br>(0.034) |
| BA Student                                 |                             | 0.088<br>(0.038)  | 0.072<br>(0.032)    | 0.088<br>(0.039)  |                              | -0.041<br>(0.039) | -0.025<br>(0.042)   | -0.041<br>(0.039) |
| BA Graduate and                            |                             | 0.062<br>(0.030)  | 0.038<br>(0.026)    | 0.062<br>(0.030)  |                              | -0.044<br>(0.032) | -0.021<br>(0.035)   | -0.045<br>(0.032) |
| Willing to Take Risks<br>[1-10]            |                             | -0.001<br>(0.005) | 0.002<br>(0.004)    | -0.001<br>(0.005) |                              | 0.007<br>(0.005)  | 0.008<br>(0.005)    | 0.007<br>(0.005)  |
| Time preference above<br>median            |                             | 0.012<br>(0.022)  | 0.009<br>(0.018)    | 0.010<br>(0.022)  |                              | 0.004<br>(0.021)  | 0.004<br>(0.024)    | 0.005<br>(0.021)  |
| Financial Literacy,<br>%Correct            |                             | 0.000<br>(0.000)  | 0.000<br>(0.000)    | 0.000<br>(0.000)  |                              | -0.001<br>(0.001) | -0.001<br>(0.001)   | -0.001<br>(0.001) |
| Strata FE                                  | NO                          | YES               | YES                 | YES               | NO                           | YES               | YES                 | YES               |
| Demographic Controls                       | NO                          | YES               | YES                 | YES               | NO                           | YES               | YES                 | YES               |
| Observations                               | 1,311                       | 1,311             | 1,311               | 1,311             | 1,311                        | 1,311             | 1,311               | 1,311             |
| R-squared                                  | 0.003                       | 0.447             | 0.570               | 0.443             | 0.002                        | 0.518             | 0.556               | 0.518             |

**DO POLICY PREFERENCES CHANGE?:  
PEACE CONCESSIONS [March 17] vs  
ECON POLICY [Jul 15]**

|                       | <i>Full Sample</i> |                     |                        | <i>Inexperienced</i>                         |                     |                        |  |
|-----------------------|--------------------|---------------------|------------------------|--|---------------------|------------------------|--|
|                       | Mean<br>[SD]       | Treatment<br>Effect | Obs.<br>R <sup>2</sup> | R <sup>2</sup> /<br>Pseudo<br>R <sup>2</sup> | Treatment<br>Effect | Obs.<br>R <sup>2</sup> | R <sup>2</sup> /<br>Pseudo<br>R <sup>2</sup> |
|                       | (1)                | (2)                 | (3)                    | (4)  | (5)                 | (6)                    | (7)  |
| <b>Indices (OLS)</b>  |                    |                     |                        |  |                     |                        |  |
| Peace Index           | 0.066<br>[0.833]   | 0.110<br>(0.044)    | 1,277                  | 0.455  | 0.157<br>(0.054)    | 819                    | 0.479  |
| Economic Policy Index | -0.019<br>[0.598]  | -0.026<br>(0.041)   | 1,111                  | 0.210  | -0.104<br>(0.054)   | 697                    | 0.209  |

**Specific Outcomes (ordered probits):** Extent that you agree / disagree with following criteria for solving the conflict between Israelis and Palestinians [1- Disagree, 4- Agree]

|   |                   |                   |       |       |                   |     |       |
|---|-------------------|-------------------|-------|-------|-------------------|-----|-------|
| Two states for two peoples  | 2.522<br>[1.140]  | 0.101<br>(0.079)  | 1,277 | 0.231 | 0.230<br>(0.102)  | 819 | 0.265 |
| 1967 borders with a possibility of land exchanges   | 2.164<br>[1.083]  | 0.164<br>(0.079)  | 1,277 | 0.213 | 0.278<br>(0.102)  | 819 | 0.238 |
| Jerusalem will be split into two separate cities - Arab and Jewish                              | 1.822<br>[1.039]  | 0.189<br>(0.086)  | 1,277 | 0.206 | 0.213<br>(0.110)  | 819 | 0.238 |
| Palestinian refugees will get compensation & allowed to return to Palestine only                | 2.135<br>[1.075]  | 0.194<br>(0.077)  | 1,277 | 0.079 | 0.262<br>(0.099)  | 819 | 0.084 |
| Incomes in Israel should be made more equal (vs. need larger diffs as incentives).[1-10]        | -4.249<br>[2.302] | -0.009<br>(0.076) | 1,110 | 0.044 | -0.057<br>(0.102) | 697 | 0.050 |
| Services and industries should be owned by the Government (vs. privatized). [1-10]              | 4.530<br>[2.429]  | 0.033<br>(0.073)  | 1,111 | 0.052 | -0.037<br>(0.097) | 697 | 0.070 |
| Government responsible for helping the poor (vs. people should take care of themselves). [1-10] | -3.299<br>[2.087] | -0.162<br>(0.077) | 1,110 | 0.052 | -0.291<br>(0.101) | 696 | 0.062 |
| Oppose reducing capital gains tax on investments in the stock market (vs. Support). [1-10]      | 2.652<br>[0.999]  | 0.053<br>(0.080)  | 1,104 | 0.073 | -0.029<br>(0.107) | 692 | 0.076 |



# CONSEQUENCES OF 2- STATE SOLN?

(OLS/Ordered Probits) [March 2015]

Suppose Israel reaches a permanent agreement with the Palestinians on the principle of two states for two peoples. How do you think this will affect... [1 (worsen a lot), 2 (worsen somewhat), 3 (no change), 4 (improve somewhat), 5(improve a lot)]

## Sociotropic Index (OLS)

|   | Mean  | SD      | All              |         | Inexperienced    |         |
|---|-------|---------|------------------|---------|------------------|---------|
|   |       |         | Treatment Effect | SE      | Treatment Effect | SE      |
|   | 0.011 | [0.948] | 0.041            | (0.054) | 0.130            | (0.068) |
| Israel's Economic Situation?<br>(O. Probit) | 3.294 | [1.329] | 0.126            | (0.073) | 0.223            | (0.094) |
| Israel's Security?<br>(O. Probit)           | 2.956 | [1.392] | -0.010           | (0.076) | 0.097            | (0.097) |

## Personal Index (OLS)

|   |        |         |        |         |       |         |
|---|--------|---------|--------|---------|-------|---------|
|   | -0.013 | [0.929] | 0.003  | (0.056) | 0.030 | (0.070) |
| Your Own Economic Situation?<br>(O. Probit) | 3.048  | [1.047] | -0.013 | (0.077) | 0.005 | (0.101) |
| Your Own Personal Security?<br>(O. Probit)  | 2.888  | [1.237] | -0.002 | (0.075) | 0.059 | (0.094) |

Observations

1281 / 1282

823

## FURTHER, IN *'TRADING STOCKS INCREASES FINANCIAL LITERACY AND COMPRESSES THE GENDER CONFIDENCE GAP'*, WE FIND:

Exposure to incentives to trade in financial markets **increases financial confidence, and reduces the gender gap between men and women**. Does so through in four ways:

### 1. Objective Financial Literacy

Raises probability of getting all "Big 3" (numeracy, compounding, relative risk of funds vs stocks) questions correct by 5.8pp (ITT)- 8.5pp (TOT), compared to mean of 50.1%.

### 2. Self-Assessed Financial Knowledge

### 3. Risk Tolerance

### 4. Investment Behavior

pre-treatment: 26% of women, 47% of men invested in stocks in long exposure sample.

post-treatment: 41% of women, 48% of men reinvest on platform (& report investing 2 months later.)

Both men and women become more self-reliant in their decisions.

Different types of stock exposure can teach different things,

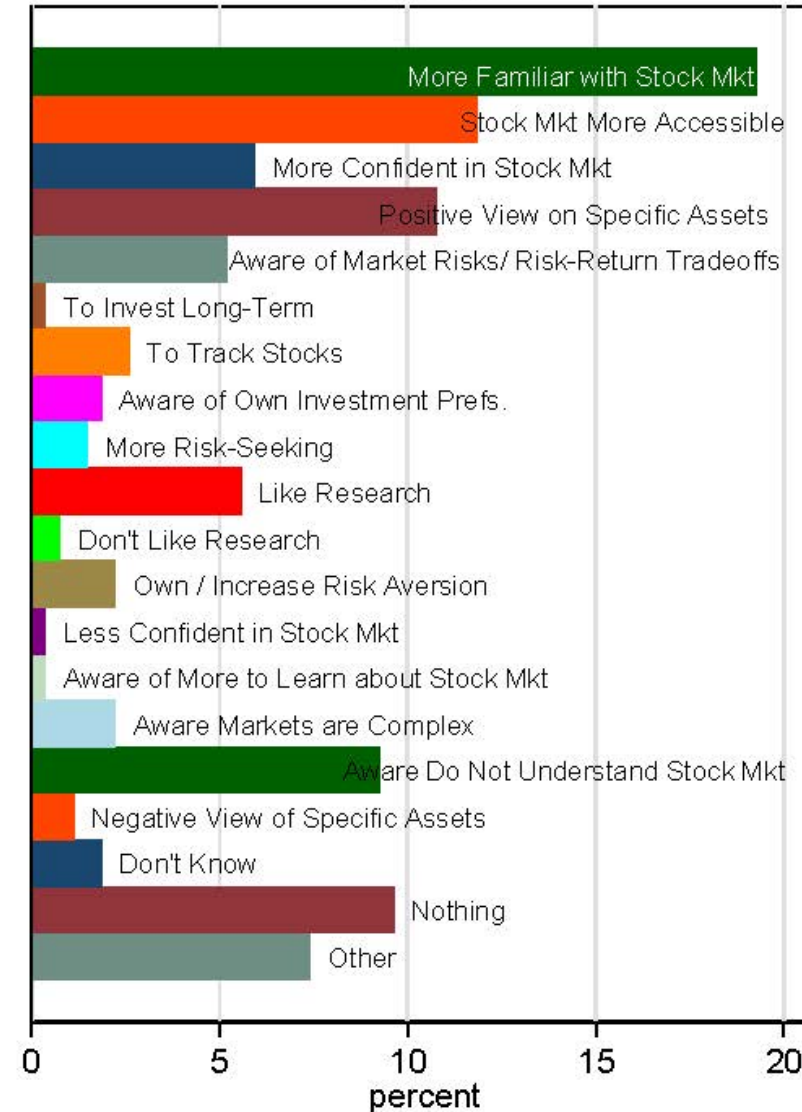
- e.g.: being exposed to Arab stocks increases propensity to invest in Arab stocks subsequently.
- Being exposed to index funds enhances understanding of their relative riskiness.

# WHAT DID YOU LEARN FROM THE STUDY?

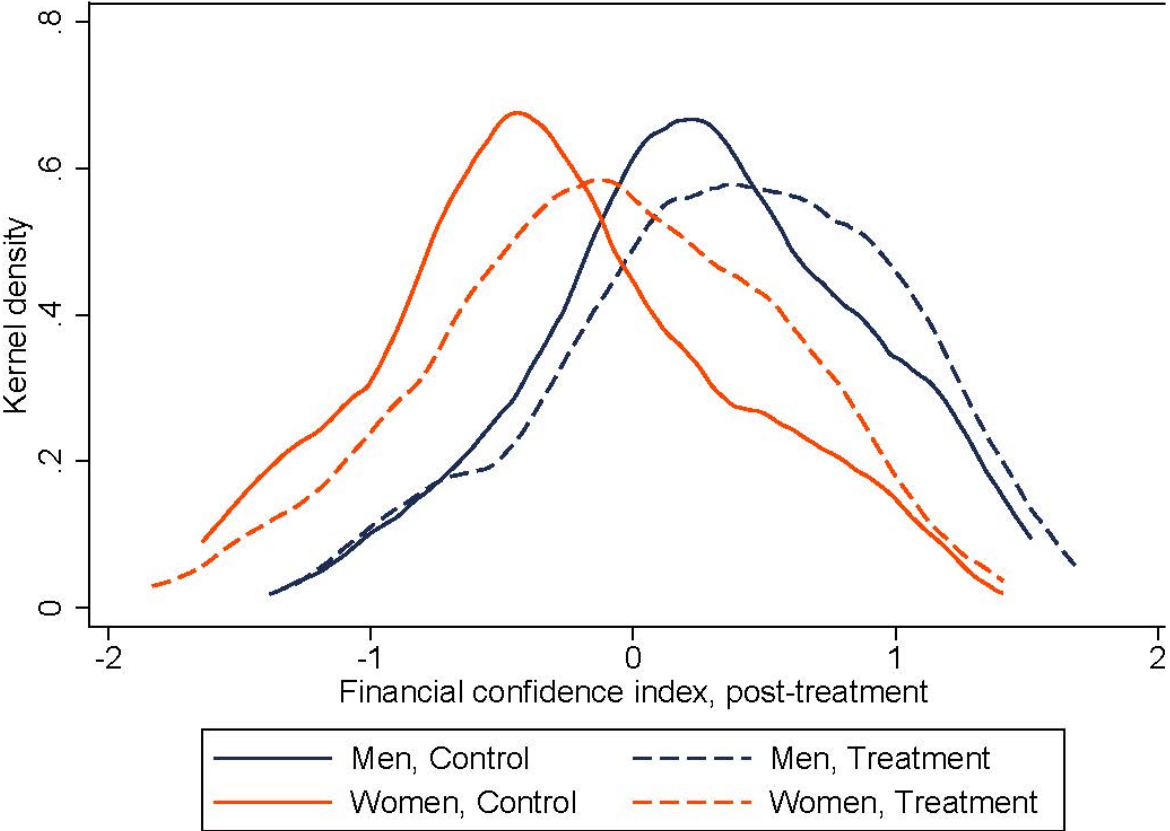
## Men



## Women

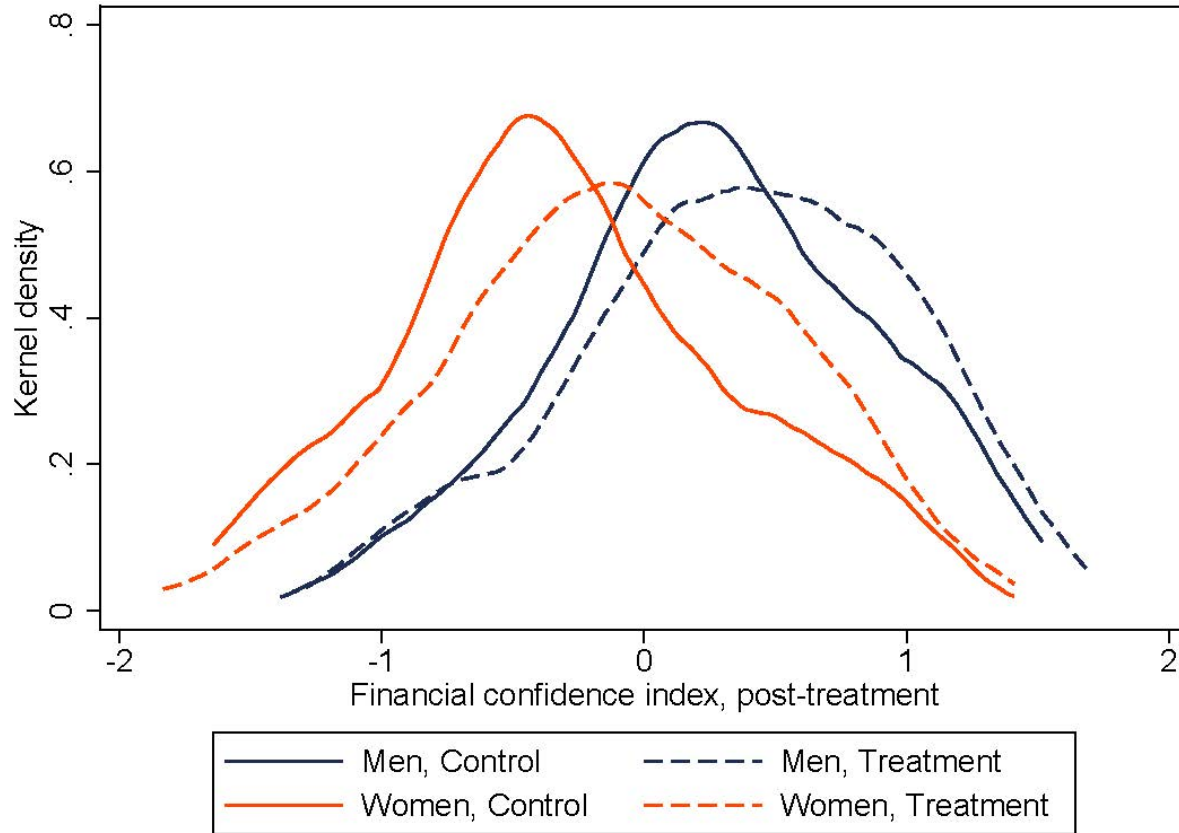


# FINANCIAL CONFIDENCE



- COMPONENTS:
- 1. Financial Literacy Score
  - 2. Self-Assessed Financial Knowledge
  - 3. Risk Tolerance
  - 4. Stock Market Participation

# FINANCIAL CONFIDENCE

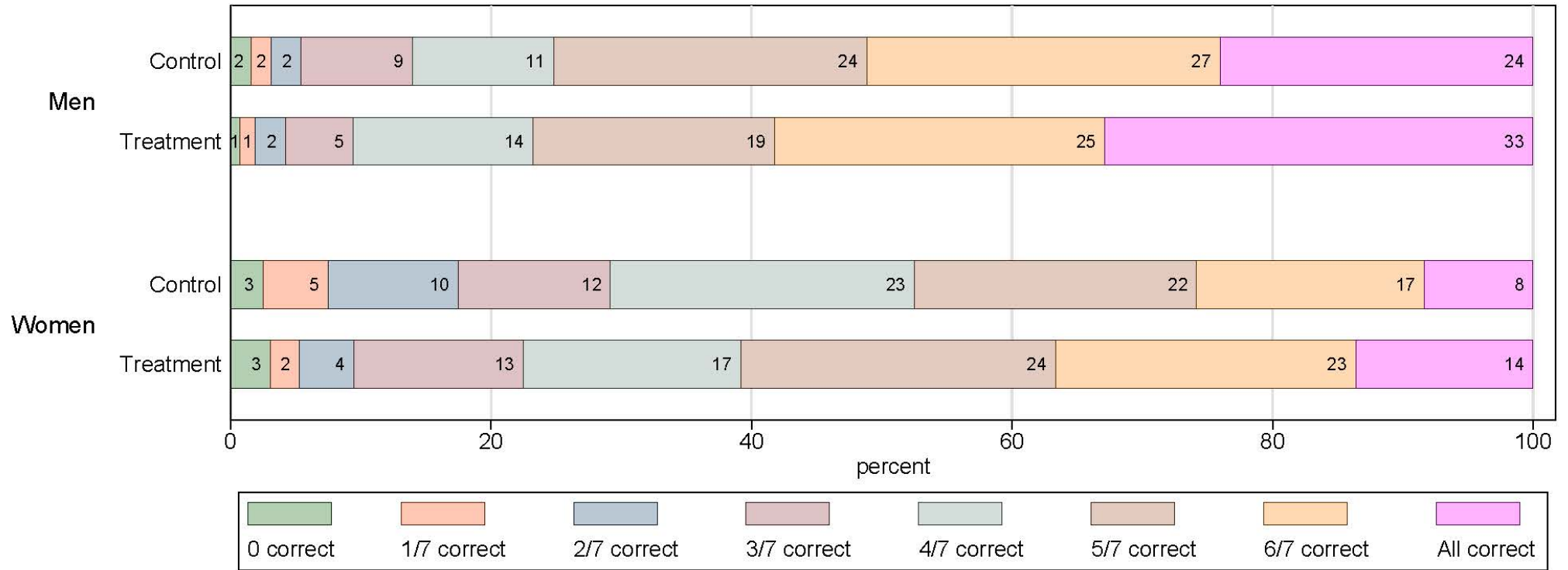


- COMPONENTS: 1. Financial Literacy Score  
2. Self-Assessed Financial Knowledge  
3. Risk Tolerance  
4. Stock Market Participation

| Financial Confidence Z-Score Index                 | (1)<br>All<br>ITT   | (2)<br>All<br>ITT   | (3)<br>All<br>TOT   | (4)<br>All<br>TOT   | (5)<br>Males<br>TOT | (6)<br>Females<br>TOT |
|--|---------------------|---------------------|---------------------|---------------------|---------------------|-----------------------|
| Treatment  | 0.119***<br>(0.042) | 0.142***<br>(0.036) | 0.150***<br>(0.035) |                     | 0.094**<br>(0.043)  | 0.214***<br>(0.058)   |
| Treatment x Male                                   |                     |                     |                     | 0.083*<br>(0.045)   |                     |                       |
| Treatment x Female                                 |                     |                     |                     | 0.232***<br>(0.061) |                     |                       |
| Male   |                     | 0.234***<br>(0.078) | 0.229***<br>(0.073) | 0.317***<br>(0.085) |                     |                       |
| Bought/Sold Shares in Last 6 Mths [0/1]            |                     | 0.407***<br>(0.064) | 0.401***<br>(0.060) | 0.398***<br>(0.060) | 0.315***<br>(0.112) | 0.645***<br>(0.140)   |
| Age [Yrs]  |                     | -0.008<br>(0.013)   | -0.008<br>(0.012)   | -0.008<br>(0.012)   | -0.013<br>(0.016)   | -0.005<br>(0.018)     |
| Age [Yrs] Squared                                  |                     | 0.000<br>(0.000)    | 0.000<br>(0.000)    | 0.000<br>(0.000)    | 0.000<br>(0.000)    | 0.000<br>(0.000)      |
| Post Secondary Education                           |                     | 0.031<br>(0.054)    | 0.029<br>(0.050)    | 0.028<br>(0.050)    | -0.035<br>(0.068)   | 0.133*<br>(0.076)     |
| BA Student   |                     | 0.020<br>(0.064)    | 0.019<br>(0.060)    | 0.019<br>(0.061)    | 0.053<br>(0.083)    | -0.041<br>(0.092)     |
| BA Graduate and Above                              |                     | 0.015<br>(0.049)    | 0.018<br>(0.046)    | 0.016<br>(0.046)    | 0.072<br>(0.066)    | -0.016<br>(0.065)     |
| Married  |                     | 0.042<br>(0.037)    | 0.041<br>(0.035)    | 0.043<br>(0.035)    | -0.010<br>(0.049)   | 0.118**<br>(0.053)    |
| Family Income [10,000s NIS]                        |                     | 0.053<br>(0.034)    | 0.049<br>(0.032)    | 0.047<br>(0.032)    | 0.074*<br>(0.042)   | 0.002<br>(0.051)      |
| Traditional  |                     | 0.050<br>(0.048)    | 0.053<br>(0.045)    | 0.049<br>(0.046)    | -0.095*<br>(0.055)  | 0.170**<br>(0.071)    |
| Religious  |                     | -0.069<br>(0.070)   | -0.070<br>(0.065)   | -0.072<br>(0.065)   | -0.086<br>(0.090)   | -0.090<br>(0.093)     |
| Ultra-Orthodox                                     |                     | -0.039<br>(0.095)   | -0.044<br>(0.090)   | -0.046<br>(0.089)   | 0.033<br>(0.100)    | -0.082<br>(0.177)     |
| Tel Aviv   |                     | 0.047<br>(0.054)    | 0.050<br>(0.051)    | 0.055<br>(0.051)    | 0.008<br>(0.065)    | 0.067<br>(0.088)      |
| Willing to Take Risks [1-10]                       |                     | 0.089***<br>(0.007) | 0.089***<br>(0.007) | 0.088***<br>(0.007) | 0.070***<br>(0.009) | 0.115***<br>(0.011)   |
| Time preference above median                       |                     | -0.000<br>(0.034)   | -0.000<br>(0.032)   | 0.002<br>(0.032)    | 0.031<br>(0.041)    | -0.008<br>(0.051)     |
| Pre-Treat Financial Literacy Score Fixed Effects   | Yes                 | Yes                 | Yes                 | Yes                 | Yes                 | Yes                   |
| p-value ( $\chi^2$ : Treatment [x Male= x Female]) |                     |                     |                     | 0.0577              |                     |                       |
| Mean Dependent Variable (Control Group)            | 0.00                | 0.00                | 0.00                | 0.00                | 0.269               | -0.291                |
| SD   | 0.679               | 0.679               | 0.679               | 0.679               | 0.598               | 0.643                 |
| R-squared  | 0.288               | 0.582               | 0.579               | 0.384               | 0.358               | 0.374                 |
| Observations                                       | 1,037               | 1,037               | 1,037               | 1,037               | 555                 | 482                   |

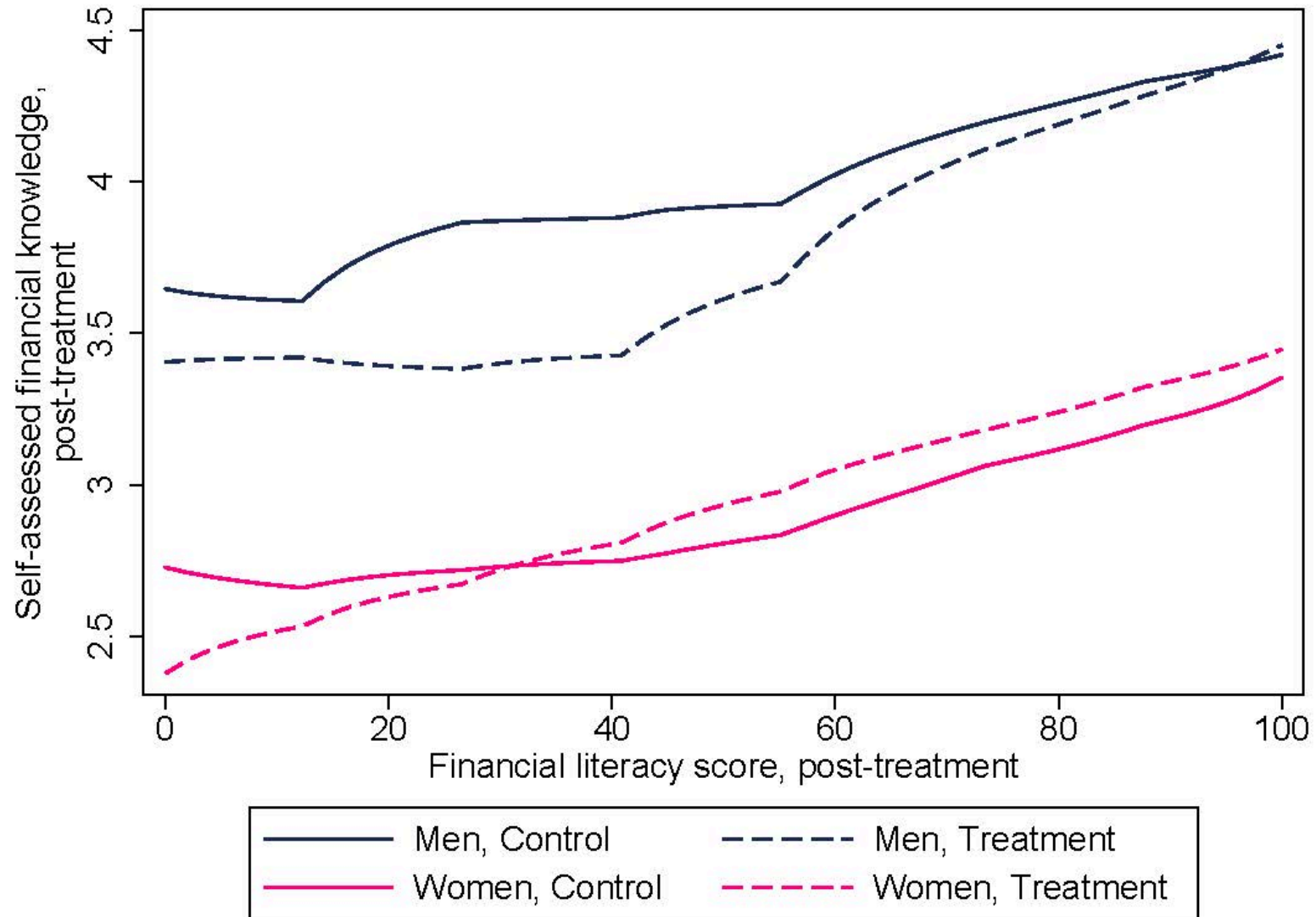


# FINANCIAL LITERACY TEST: RELATIVE GAINS BY SEX



N=1035.

# FINANCIAL LITERACY AND CONFIDENCE: RELATIVE GAINS BY SEX



## BEHAVIORAL MEASURES 2: RE-INVESTED IN TA-25?

|   | Sample                     | Females |        | Males |        |
|---|----------------------------|---------|--------|-------|--------|
|   |                            | Obs     | %      | Obs   | %      |
| Pre- Experiment:  |                            |         |        |       |        |
| Bought/ Sold Any Stocks within 6 Mths Prior to Expt.<br>(July 2014- Feb 2015) |                            |         |        |       |        |
|   | Full                       | 533     | 26.64% | 579   | 44.39% |
|   | Long Exposure<br>Compliers | 289     | 25.95% | 368   | 46.74% |
| Post Experiment:  |                            |         |        |       |        |
| Re-Invested Any of Portfolio in TA25<br>(Apr- May 2015)                       |                            |         |        |       |        |
|   | Long Exposure<br>Compliers | 289     | 40.83% | 368   | 48.10% |
| (Self- Reported) Actively Invested in Financial Assets<br>(May - July 2015)   |                            |         |        |       |        |
|   | Long Exposure<br>Compliers | 250     | 38.00% | 326   | 49.66% |

Notes: In April 2015, at the end of the trading experiment, we asked compliers within the long (7 weeks) exposure condition whether they would like to re-invest a portion of their portfolios in the TA 25 index for a month, or instead divest entirely. This table compares the responses of men and women in the long exposure complier sample to the pre-experimental shares that reported investing in any stocks, and the share that reported that they had invested since May (after the experiment) in the July 2015 follow-up survey.

## INVESTED IN STOCKS TWO MONTHS LATER...

|   | All                |                   | Males             | Females          |
|---|--------------------|-------------------|-------------------|------------------|
|   | (1)                | (2)               | (3)               | (4)              |
| Treatment                                 | 0.079**<br>(0.033) |                   | 0.079*<br>(0.042) | 0.070<br>(0.051) |
| Treatment x Male                          |                    | 0.079*<br>(0.044) |                   |                  |
| Treatment x Female                        |                    | 0.078<br>(0.053)  |                   |                  |
| Male                                      | 0.053<br>(0.079)   | 0.052<br>(0.091)  |                   |                  |
| p-value (t[Treatment>0])                  | 0.00820            |                   | 0.0309            | 0.0841           |
| R-squared                                 | 0.130              | 0.130             | 0.098             | 0.133            |
| <i>Mean Dependent Var (Control Group)</i> | <i>0.421</i>       | <i>0.421</i>      | <i>0.505</i>      | <i>0.333</i>     |
| <i>SD</i>                                 | <i>0.495</i>       | <i>0.495</i>      | <i>0.502</i>      | <i>0.474</i>     |
| Observations                              | 933                | 933               | 500               | 433              |

## RISK TOLERANCE

|  | All                 |                     | Males               | Females             |
|--|---------------------|---------------------|---------------------|---------------------|
|  | (1)                 | (2)                 | (3)                 | (4)                 |
| Treatment  | 0.516***<br>(0.136) |                     | 0.462***<br>(0.178) | 0.639***<br>(0.203) |
| Treatment x Male                                   |                     | 0.399**<br>(0.187)  |                     |                     |
| Treatment x Female                                 |                     | 0.657***<br>(0.217) |                     |                     |
| Male   | 0.357<br>(0.288)    | 0.511<br>(0.340)    |                     |                     |
| p-value ( $\chi^2$ : Treatment [x Male= x Female]) |                     | 0.385               |                     |                     |
| R-squared  | 0.355               | 0.354               | 0.350               | 0.366               |
| <i>Mean Dependent Var (Control Group)</i>          | 4.365               | 4.365               | 4.907               | 3.783               |
| <i>SD</i>  | 2.166               | 2.166               | 2.127               | 2.063               |
| Observations                                       | 1,036               | 1,036               | 555                 | 481                 |



# WHOM DID YOU CONSULT WHEN MAKING FIN. DECISIONS? (TOT)

|                      | (1)              | (2)       | (3)       | (4)                          | (5)       | (6)       | (7)               | (8)       | (9)       |
|----------------------|------------------|-----------|-----------|------------------------------|-----------|-----------|-------------------|-----------|-----------|
| <b>A. People</b>     | Family           |           |           | Friends                      |           |           | Financial Advisor |           |           |
|                      | All              | Males     | Females   | All                          | Males     | Females   | All               | Males     | Females   |
| Treatment            | -0.234***        | -0.259*** | -0.211*** | -0.223***                    | -0.262*** | -0.126*** | -0.416***         | -0.365*** | -0.450*** |
|                      | (0.033)          | (0.041)   | (0.051)   | (0.029)                      | (0.042)   | (0.036)   | (0.031)           | (0.043)   | (0.042)   |
| Male                 | -0.152**         |           |           | 0.118**                      |           |           | -0.102*           |           |           |
|                      | (0.066)          |           |           | (0.059)                      |           |           | (0.060)           |           |           |
| R-squared            | 0.120            | 0.188     | 0.139     | 0.149                        | 0.211     | 0.117     | 0.326             | 0.295     | 0.413     |
| Mean DV (Control)    | 0.382            | 0.341     | 0.425     | 0.277                        | 0.357     | 0.192     | 0.438             | 0.403     | 0.475     |
| SD                   | 0.487            | 0.476     | 0.496     | 0.448                        | 0.481     | 0.395     | 0.497             | 0.492     | 0.501     |
| <b>B. Sources</b>    | Investing.com    |           |           | Other Web Financial Newsites |           |           | Newspapers        |           |           |
|                      | All              | Males     | Females   | All                          | Males     | Females   | All               | Males     | Females   |
| Treatment            | 0.149***         | 0.169***  | 0.136***  | -0.157***                    | -0.187*** | -0.100*** | -0.028            | -0.034    | -0.002    |
|                      | (0.016)          | (0.022)   | (0.024)   | (0.030)                      | (0.043)   | (0.037)   | (0.021)           | (0.032)   | (0.026)   |
| Male                 | 0.003            |           |           | 0.063                        |           |           | 0.040             |           |           |
|                      | (0.048)          |           |           | (0.057)                      |           |           | (0.045)           |           |           |
| R-squared            | 0.077            | 0.102     | 0.132     | 0.066                        | 0.109     | 0.068     | 0.040             | 0.065     | 0.067     |
| Mean DV (Control)    | 0.00402          | 0         | 0.00833   | 0.269                        | 0.364     | 0.167     | 0.100             | 0.140     | 0.0583    |
| SD                   | 0.0634           | 0         | 0.0913    | 0.444                        | 0.483     | 0.374     | 0.301             | 0.348     | 0.235     |
| <b>C. Other/None</b> | Other News Sites |           |           | Other                        |           |           | No One            |           |           |
|                      | All              | Males     | Females   | All                          | Males     | Females   | All               | Males     | Females   |
| Treatment            | -0.036           | -0.061    | -0.007    | -0.009                       | -0.020    | -0.005    | 0.435***          | 0.421***  | 0.414***  |
|                      | (0.024)          | (0.037)   | (0.028)   | (0.009)                      | (0.014)   | (0.010)   | (0.032)           | (0.043)   | (0.049)   |
| Male                 | 0.017            |           |           | -0.014                       |           |           | 0.099             |           |           |
|                      | (0.045)          |           |           | (0.026)                      |           |           | (0.064)           |           |           |
| R-squared            | 0.023            | 0.032     | 0.073     | 0.047                        | 0.100     | 0.080     | 0.215             | 0.256     | 0.220     |
| Mean DV (Control)    | 0.124            | 0.163     | 0.0833    | 0.0161                       | 0.0233    | 0.00833   | 0.185             | 0.171     | 0.200     |
| SD                   | 0.331            | 0.371     | 0.278     | 0.126                        | 0.151     | 0.0913    | 0.389             | 0.378     | 0.402     |



# REMAINING EUROPEAN: FINANCIAL MARKET EFFECTS ON THE BREXIT VOTE

Saumitra Jha

Stanford GSB

Yotam Margalit

Tel Aviv

Moses Shayo

Hebrew University





# WHAT ABOUT LEARNING ABOUT THE EFFECTS OF ECONOMIC POLICIES? BRITAIN'S BREXIT HANGOVER, June 2016:



 **GoogleTrends**   
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"What is the EU?" is the second top UK question on the EU since the #EURefResults were officially announced

**TOP QUESTIONS ON THE EUROPEAN UNION**   
in the UK since Brexit result officially announced

- 1 What does it mean to leave the EU?
- 2 What is the EU?
- 3 Which countries are in the EU?
- 4 What will happen now we've left the EU?
- 5 How many countries are in the EU?

google.com/trends

4:25 AM - 24 Jun 2016

24,821 Retweets 17,160 Likes 

 574  25K  17K 

# SAMPLE AND RECRUITMENT



Population: British citizens  
resident in England, participating  
in a large internet panel

~40,000 nationally, good coverage in  
terms of age, sex and education.

Anonymous to us.

Used for academic studies, commercial  
market research and political polling.



May 2016: Invited to a study on  
investor behavior

Informed consent; complete baseline  
surveys

Enter a lottery to win £50 to buy stocks.

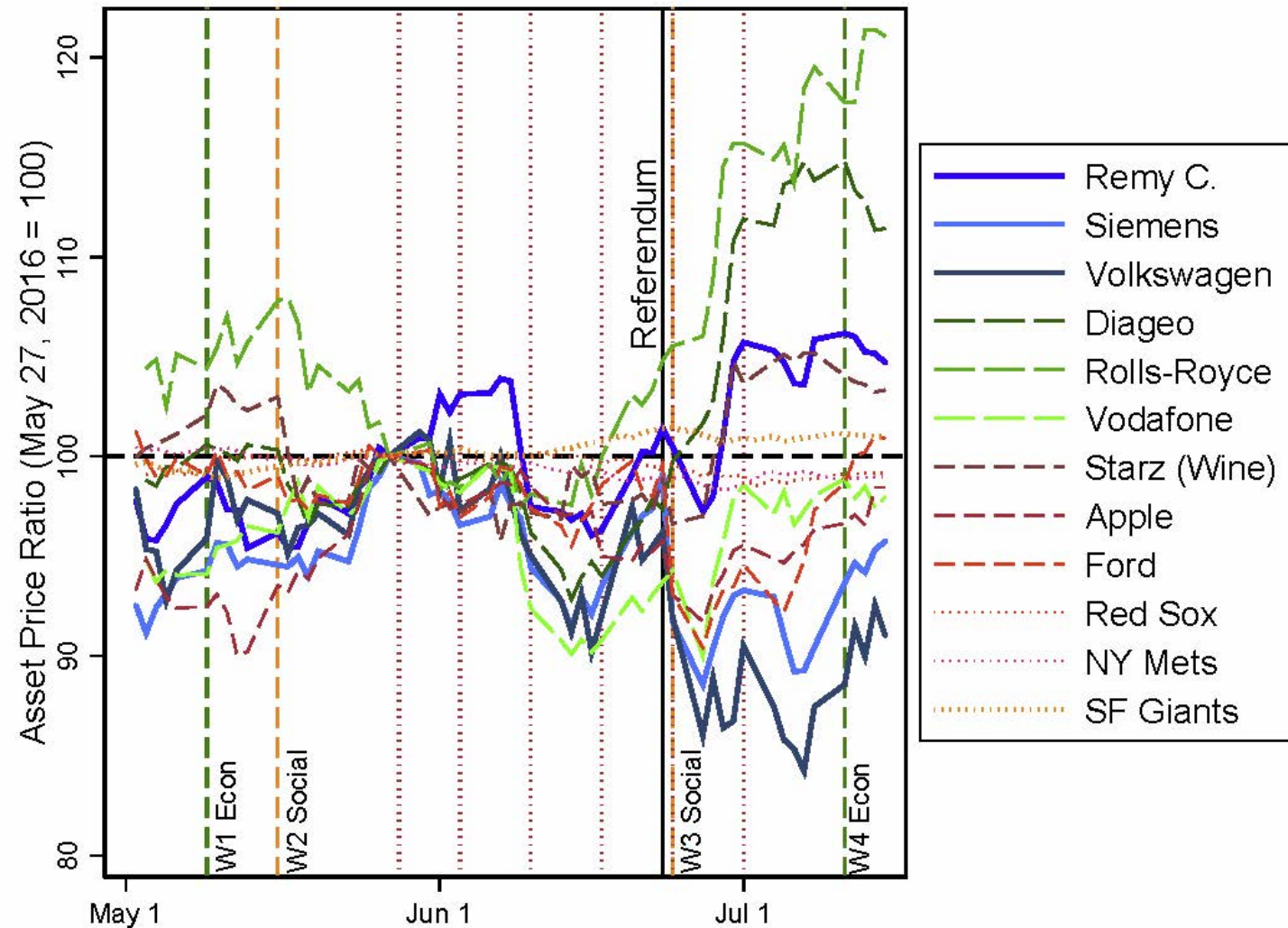
If win: notified on stock portfolio and  
quizzed on understanding rules

## BASIC DESIGN

- 1 2,183 individuals assigned a portfolio of 3 assets
- 2 Receive £50 allocate investments across the assets. (311 only get "Fantasy" money)
- 3 For 6 weeks, able to trade 100% of portfolio. Trade when markets closed (Sat-Sun): prices constant and easily verifiable.
- 4 Incentivized to enter weekly: otherwise, lose 10% of portfolio.  
Take home the full worth of the portfolio at the end of the study.

# REMAINING EUROPEAN:

(Jha, Margalit and Shayo, in progress)



Exposure to trade between 3 firms that complement the UK economy

EU: Remy Cointreau, Siemens, VW

non- EU (US): Robert Mondavi, Apple, Ford

... and 3 UK firms that complement the EU

Diageo (Johnnie Walker/ Bells),

Vodafone, Rolls-Royce

- UK Short condition

- UK Fantasy

- US Baseball

Main findings: EU complementary assets have greatest effect, raising support for Remain by 6pp, followed by UK assets (Long and Short) 4pp.



# ONLINE TRADING PLATFORM

You will now have the opportunity to make your investment decisions for the coming week. Here, once again, is the table showing how your investments performed over the past week. Remember: these are the real prices of real stocks. You may click on the name of each asset to learn more about the stock:

| Asset  | Price      | Percent change from last week | Value of your holdings |
|--|------------|-------------------------------|------------------------|
| <a href="#">Vodafone</a>                           | ↑<br>229.2 | +4.5%                         | £0.0                   |
| <a href="#">Diageo</a>                             | ↑<br>2107  | +12.2%                        | £28.1                  |
| <a href="#">Rolls-Royce</a>                        | ↑<br>711.5 | +9.6%                         | £27.5                  |
| <b>The total value of your portfolio is £55.64</b> |            |                               |                        |

**You have a total of £55.64 to invest.** Now, please choose how to invest your money. Indicate what percent of your total funds you wish to invest in each stock. In making your investment decisions, remember that the total allocation across all stocks cannot exceed 100%

The numbers below reflect the investments you made last week and the change in the price of the assets. However, you are free to change the numbers as you see fit.

#### Decision:

|   |                                    |
|---|------------------------------------|
| Vodafone - Of my total £55.64, I wish to invest:    | <input type="text" value="0"/> %   |
| Diageo - Of my total £55.64, I wish to invest:      | <input type="text" value="51"/> %  |
| Rolls-Royce - Of my total £55.64, I wish to invest: | <input type="text" value="49"/> %  |
| Total   | <input type="text" value="100"/> % |

BALANCE:

INSIDE  
AND  
OUTSIDE



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|                                   |                    | Inside London      |       | Outside London     |       |
|-----------------------------------|--------------------|--------------------|-------|--------------------|-------|
|                                   | Control Mean       | Beta [Treatment]   | p     | Beta [Treatment]   | p     |
| Brexit Intentions: Leaning Remain | 0.353<br>(0.479)   | 0.000<br>(0.002)   | 0.912 | 0.002<br>(0.002)   | 0.288 |
| Brexit Intentions: No Idea        | 0.113<br>(0.317)   | 0.005<br>(0.013)   | 0.736 | 0.005<br>(0.014)   | 0.720 |
| Brexit Intentions: Leaning Leave  | 0.534<br>(0.499)   | (0.005)<br>(0.013) | 0.723 | (0.007)<br>(0.014) | 0.594 |
| Identity: British Only            | 0.700<br>(0.459)   | 0.014<br>(0.021)   | 0.526 | 0.020<br>(0.022)   | 0.356 |
| Voted Labour in 2015              | 0.276<br>(0.448)   | 0.022<br>(0.024)   | 0.363 | 0.022<br>(0.025)   | 0.375 |
| Voted Tory in 2015                | 0.358<br>(0.480)   | (0.015)<br>(0.025) | 0.561 | (0.010)<br>(0.026) | 0.715 |
| Voted UKIP in 2015                | 0.161<br>(0.368)   | 0.008<br>(0.018)   | 0.663 | 0.006<br>(0.020)   | 0.742 |
| Log Household Income              | 9.970<br>(1.007)   | (0.061)<br>(0.066) | 0.357 | (0.052)<br>(0.068) | 0.448 |
| Age (Years)                       | 50.072<br>(14.354) | (0.053)<br>(0.728) | 0.942 | 0.126<br>(0.751)   | 0.867 |
| Female                            | 0.510<br>(0.501)   | 0.011<br>(0.026)   | 0.668 | 0.005<br>(0.027)   | 0.842 |
| Education: GCSEs or Equiv         | 0.310<br>(0.463)   | (0.027)<br>(0.024) | 0.256 | (0.021)<br>(0.025) | 0.416 |
| Education: Academic Degree        | 0.284<br>(0.451)   | 0.032<br>(0.024)   | 0.187 | 0.023<br>(0.025)   | 0.356 |

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# TREATMENT EFFECT: VOTED REMAIN

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| Voted Remain      | (1)<br>ITT<br>All | (2)<br>ITT<br>Outside London | (3)<br>ITT         |
|-------------------|-------------------|------------------------------|--------------------|
| Treatment         | 0.029*<br>(0.017) | 0.040**<br>(0.017)           |                    |
| EU                |                   |                              | 0.053**<br>(0.023) |
| UK Assets         |                   |                              | 0.038*<br>(0.020)  |
| Fantasy Treatment |                   |                              | 0.046*<br>(0.025)  |
| US Assets         |                   |                              | 0.030<br>(0.020)   |
| Mean (DV)         | 0.398             | 0.385                        | 0.385              |
| Observations      | 2,322             | 2,112                        | 2,112              |
| R-squared         | 0.672             | 0.677                        | 0.677              |

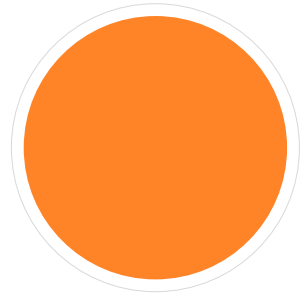
# TREATMENT EFFECT: VOTED REMAIN

| Voted Remain      | (1)<br>ITT<br>All | (2)<br>ITT<br>Outside London | (3)<br>ITT         | (4)<br>TOT<br>All | (5)<br>TOT<br>Outside London | (6)<br>TOT         |
|-------------------|-------------------|------------------------------|--------------------|-------------------|------------------------------|--------------------|
| Treatment         | 0.029*<br>(0.017) | 0.040**<br>(0.017)           |                    | 0.038*<br>(0.021) | 0.053**<br>(0.021)           |                    |
| EU                |                   |                              | 0.053**<br>(0.023) |                   |                              | 0.068**<br>(0.027) |
| UK Assets         |                   |                              | 0.038*<br>(0.020)  |                   |                              | 0.048**<br>(0.024) |
| Fantasy Treatment |                   |                              | 0.046*<br>(0.025)  |                   |                              | 0.074*<br>(0.039)  |
| US Assets         |                   |                              | 0.030<br>(0.020)   |                   |                              | 0.040<br>(0.026)   |
| Mean (DV)         | 0.398             | 0.385                        | 0.385              | 0.398             | 0.385                        | 0.385              |
| Observations      | 2,322             | 2,112                        | 2,112              | 2,322             | 2,112                        | 2,112              |
| R-squared         | 0.672             | 0.677                        | 0.677              | 0.173             | 0.170                        | 0.170              |

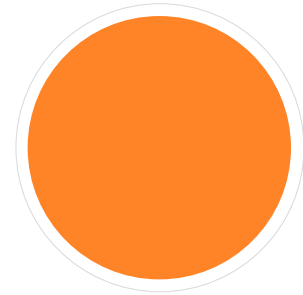
# TREATMENT EFFECT: VOTED LEAVE

| Voted Leave       | (1)<br>ITT<br>All | (2)<br>ITT<br>Outside London | (3)<br>ITT           | (4)<br>TOT<br>All | (5)<br>TOT<br>Outside London | (6)<br>TOT           |
|-------------------|-------------------|------------------------------|----------------------|-------------------|------------------------------|----------------------|
| Treatment         | -0.021<br>(0.016) | -0.028*<br>(0.017)           |                      | -0.028<br>(0.020) | -0.037*<br>(0.021)           |                      |
| EU                |                   |                              | -0.058***<br>(0.022) |                   |                              | -0.074***<br>(0.027) |
| UK Assets         |                   |                              | -0.023<br>(0.020)    |                   |                              | -0.029<br>(0.023)    |
| Fantasy Treatment |                   |                              | -0.035<br>(0.026)    |                   |                              | -0.057<br>(0.039)    |
| US Assets         |                   |                              | -0.009<br>(0.020)    |                   |                              | -0.012<br>(0.025)    |
| Mean (DV)         | 0.540             | 0.556                        | 0.556                | 0.540             | 0.556                        | 0.556                |
| Observations      | 2,322             | 2,112                        | 2,112                | 2,322             | 2,112                        | 2,112                |
| R-squared         | 0.688             | 0.693                        | 0.694                | 0.213             | 0.219                        | 0.220                |

## OTHER FINDINGS



Short = Long  
(consistent with learning)



Financial Literacy also improves,  
again the effect is outside London,  
less so inside.



# DOES IDENTITY MATTER?

|                        | (1)                | (2)                 |
|------------------------|--------------------|---------------------|
|                        | Voted Remain       |                     |
|                        | ITT                | TOT                 |
| EU Assets              | 0.109**<br>(0.044) | 0.140***<br>(0.053) |
| UK Assets              | 0.060<br>(0.038)   | 0.074*<br>(0.045)   |
| UK Fantasy             | 0.046<br>(0.048)   | 0.074<br>(0.076)    |
| US Assets              | 0.049<br>(0.042)   | 0.065<br>(0.053)    |
| Identity: British Only | 0.054<br>(0.038)   | 0.051<br>(0.035)    |
| Brit Only x EU         | -0.078<br>(0.052)  | -0.101*<br>(0.061)  |
| Brit Only x UK         | -0.032<br>(0.044)  | -0.038<br>(0.052)   |
| Brit Only x Fantasy    | 0.000<br>(0.056)   | -0.002<br>(0.089)   |
| Brit Only x US         | -0.026<br>(0.048)  | -0.034<br>(0.060)   |
| Mean                   | 0.385              | 0.385               |
| SD                     | 0.487              | 0.487               |
| Observations           | 2,122              | 2,122               |
| R-squared              | 0.678              | 0.171               |

# DOES IDENTITY MATTER?

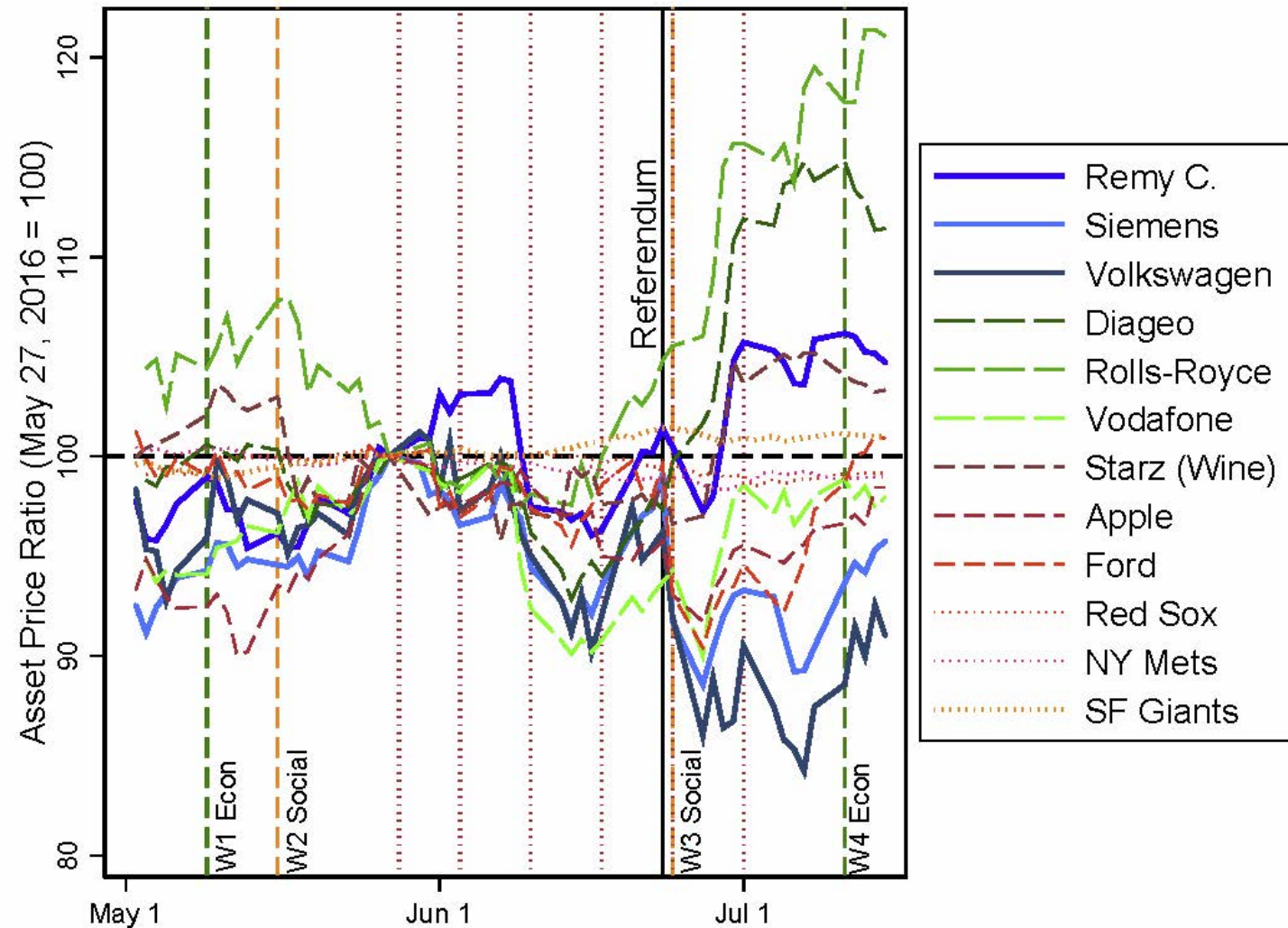
|                        | (1)                | (2)                 | (3)                  | (4)                  |
|------------------------|--------------------|---------------------|----------------------|----------------------|
|                        | Voted Remain       |                     | Econ in Top 2        |                      |
|                        | ITT                | TOT                 | ITT                  | TOT                  |
| EU Assets              | 0.109**<br>(0.044) | 0.140***<br>(0.053) | 0.145**<br>(0.060)   | 0.181***<br>(0.069)  |
| UK Assets              | 0.060<br>(0.038)   | 0.074*<br>(0.045)   | -0.009<br>(0.054)    | -0.013<br>(0.063)    |
| UK Fantasy             | 0.046<br>(0.048)   | 0.074<br>(0.076)    | 0.053<br>(0.069)     | 0.094<br>(0.116)     |
| US Assets              | 0.049<br>(0.042)   | 0.065<br>(0.053)    | -0.003<br>(0.058)    | -0.005<br>(0.074)    |
| Identity: British Only | 0.054<br>(0.038)   | 0.051<br>(0.035)    | 0.126**<br>(0.053)   | 0.128***<br>(0.049)  |
| Brit Only x EU         | -0.078<br>(0.052)  | -0.101*<br>(0.061)  | -0.186***<br>(0.070) | -0.232***<br>(0.081) |
| Brit Only x UK         | -0.032<br>(0.044)  | -0.038<br>(0.052)   | -0.043<br>(0.063)    | -0.054<br>(0.074)    |
| Brit Only x Fantasy    | 0.000<br>(0.056)   | -0.002<br>(0.089)   | -0.130<br>(0.080)    | -0.218<br>(0.133)    |
| Brit Only x US         | -0.026<br>(0.048)  | -0.034<br>(0.060)   | -0.004<br>(0.067)    | -0.004<br>(0.084)    |
| Mean                   | 0.385              | 0.385               | 0.410                | 0.410                |
| SD                     | 0.487              | 0.487               | 0.492                | 0.492                |
| Observations           | 2,122              | 2,122               | 2,045                | 2,045                |
| R-squared              | 0.678              | 0.171               | 0.440                | 0.186                |

# DOES IDENTITY MATTER?

|                        | (1)<br>Voted Remain | (2)                 | (3)<br>Econ in Top 2 | (4)                  | (5)<br>Security     | (6)<br>Migrants   | (7)<br>Benefits   | (8)<br>Borders      | (9)<br>Global<br>Position | (10)<br>Live in<br>EU |
|------------------------|---------------------|---------------------|----------------------|----------------------|---------------------|-------------------|-------------------|---------------------|---------------------------|-----------------------|
|                        | ITT                 | TOT                 | ITT                  | TOT                  | TOT                 | TOT               | TOT               | TOT                 | TOT                       | TOT                   |
| EU Assets              | 0.109**<br>(0.044)  | 0.140***<br>(0.053) | 0.145**<br>(0.060)   | 0.181***<br>(0.069)  | -0.078<br>(0.057)   | -0.019<br>(0.051) | -0.003<br>(0.033) | -0.112**<br>(0.056) | 0.044<br>(0.066)          | 0.050<br>(0.072)      |
| UK Assets              | 0.060<br>(0.038)    | 0.074*<br>(0.045)   | -0.009<br>(0.054)    | -0.013<br>(0.063)    | -0.060<br>(0.052)   | 0.002<br>(0.047)  | 0.053<br>(0.036)  | -0.035<br>(0.052)   | 0.128**<br>(0.055)        | 0.003<br>(0.056)      |
| UK Fantasy             | 0.046<br>(0.048)    | 0.074<br>(0.076)    | 0.053<br>(0.069)     | 0.094<br>(0.116)     | -0.199**<br>(0.095) | -0.100<br>(0.087) | -0.052<br>(0.063) | 0.093<br>(0.100)    | 0.153<br>(0.100)          | 0.016<br>(0.101)      |
| US Assets              | 0.049<br>(0.042)    | 0.065<br>(0.053)    | -0.003<br>(0.058)    | -0.005<br>(0.074)    | -0.103*<br>(0.059)  | -0.006<br>(0.055) | 0.017<br>(0.044)  | -0.090<br>(0.062)   | 0.196***<br>(0.069)       | 0.008<br>(0.064)      |
| Identity: British Only | 0.054<br>(0.038)    | 0.051<br>(0.035)    | 0.126**<br>(0.053)   | 0.128***<br>(0.049)  | -0.082*<br>(0.042)  | 0.016<br>(0.043)  | 0.016<br>(0.032)  | -0.029<br>(0.045)   | 0.087**<br>(0.040)        | -0.072*<br>(0.041)    |
| Brit Only x EU         | -0.078<br>(0.052)   | -0.101*<br>(0.061)  | -0.186***<br>(0.070) | -0.232***<br>(0.081) | 0.125*<br>(0.069)   | -0.040<br>(0.068) | 0.057<br>(0.049)  | 0.096<br>(0.071)    | -0.100<br>(0.073)         | 0.012<br>(0.078)      |
| Brit Only x UK         | -0.032<br>(0.044)   | -0.038<br>(0.052)   | -0.043<br>(0.063)    | -0.054<br>(0.074)    | 0.058<br>(0.063)    | 0.014<br>(0.062)  | -0.024<br>(0.047) | 0.089<br>(0.065)    | -0.174***<br>(0.062)      | 0.038<br>(0.062)      |
| Brit Only x Fantasy    | 0.000<br>(0.056)    | -0.002<br>(0.089)   | -0.130<br>(0.080)    | -0.218<br>(0.133)    | 0.199*<br>(0.110)   | 0.170<br>(0.107)  | 0.121<br>(0.083)  | -0.147<br>(0.122)   | -0.134<br>(0.113)         | 0.061<br>(0.110)      |
| Brit Only x US         | -0.026<br>(0.048)   | -0.034<br>(0.060)   | -0.004<br>(0.067)    | -0.004<br>(0.084)    | 0.174**<br>(0.070)  | -0.055<br>(0.070) | 0.002<br>(0.055)  | 0.124*<br>(0.073)   | -0.214***<br>(0.076)      | 0.035<br>(0.070)      |
| Mean                   | 0.385               | 0.385               | 0.410                | 0.410                | 0.170               | 0.409             | 0.115             | 0.430               | 0.164                     | 0.182                 |
| SD                     | 0.487               | 0.487               | 0.492                | 0.492                | 0.376               | 0.492             | 0.319             | 0.495               | 0.370                     | 0.386                 |
| Observations           | 2,122               | 2,122               | 2,045                | 2,045                | 2,045               | 2,045             | 2,045             | 2,045               | 2,045                     | 2,045                 |
| R-squared              | 0.678               | 0.171               | 0.440                | 0.186                | 0.179               | 0.217             | 0.115             | 0.197               | 0.173                     | 0.221                 |

# REMAINING EUROPEAN:

(Jha, Margalit and Shayo, in progress)



Exposure to trade between 3 firms that complement the UK economy

EU: Remy Cointreau, Siemens, VW

non- EU (US): Robert Mondavi, Apple, Ford

... and 3 UK firms that complement the EU

Diageo (Johnnie Walker/ Bells),

Vodafone, Rolls-Royce

- UK Short condition
- UK Fantasy
- US Baseball

Main findings: EU complementary assets have greatest effect, raising support for Remain by 6pp, followed by UK assets (Long and Short) 4pp.

Those that respond do so because of a changed perception of effects on the economy.

# SWORDS INTO BANK SHARES: SOME BASIC TAKEAWAYS

1

Financial markets can provide a **non-partisan** and objective (albeit imperfect) **metric** for individuals to **assess the impact of policies on the economy, a domain where we all may benefit, and one over which no political party has a franchise.**

2

Designing interventions to help citizens to learn-by-trading in the financial markets can **empower them to make better financial decisions in their own lives**, while also providing a useful **non-partisan gauge for how policies affect the common good.**

3

All three benefits of well-designed financial market exposure:

- 1) **sharing common gains and exposure,**
- 2) **sharing common metrics and**
- 3) **increased focus of attention on the common good,**

**can be potent ways to reduce political polarization and conflict.**

# Staying in Touch...

1

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