Rockets and Votes

Yael Elster

Harvard University

July 2019

Motivation

- Citizens in many countries make their political decisions in the midst of violence

Motivation

- Citizens in many countries make their political decisions in the midst of violence
- In particular, Israeli citizens have been exposed to massive rocket attacks since 2001

Motivation

- Citizens in many countries make their political decisions in the midst of violence
- In particular, Israeli citizens have been exposed to massive rocket attacks since 2001
- Analyzing the effects of rocket attacks on voting behavior in Israeli national elections can contribute to understanding the relationship between acts of violence and political decision-making worldwide

Research Question

- Whether and which features of rocket attacks from the Gaza Strip affect voting patterns in Israeli elections between 1999 and 2015?

Preview of the Results

- Relying on a micro-level dataset of claims for rocket-related property damages as a proxy for the severity of the rocket attacks, I find that an additional 1,000 claims in a locality increases right-bloc parties' vote-share by 4 percentage points

Preview of the Results

- Relying on a micro-level dataset of claims for rocket-related property damages as a proxy for the severity of the rocket attacks, I find that an additional 1,000 claims in a locality increases right-bloc parties' vote-share by 4 percentage points
- This finding is highly robust to various changes, including in the set of election rounds and localities included in the analysis

Preview of the Results

- Relying on a micro-level dataset of claims for rocket-related property damages as a proxy for the severity of the rocket attacks, I find that an additional 1,000 claims in a locality increases right-bloc parties' vote-share by 4 percentage points
- This finding is highly robust to various changes, including in the set of election rounds and localities included in the analysis
- Rocket attacks closer to election date, initial exposure of the locality to direct rocket fire, greater geographical proximity to the impact point and large-scale attacks all yield stronger effects on election outcomes

Related Literature

- Effectiveness of terrorism

Related Literature

- Effectiveness of terrorism
  - Pape (2003); Abrahms (2006; 2012)

Related Literature

- Effectiveness of terrorism
  - Pape (2003); Abrahms (2006; 2012)
  - the Israeli-Palestinian context: Berrebi and Klor (2006), Bueno de Mesquita and Dickson (2007), Jaeger et al. (2012), Gould and Klor (2010)

Related Literature

- Effectiveness of terrorism
  - Pape (2003); Abrahms (2006; 2012)
  - the Israeli-Palestinian context: Berrebi and Klor (2006), Bueno de Mesquita and Dickson (2007), Jaeger et al. (2012), Gould and Klor (2010)
- Electoral effects of politically-motivated violence

Related Literature

- Effectiveness of terrorism
  - Pape (2003); Abrahms (2006; 2012)
  - the Israeli-Palestinian context: Berrebi and Klor (2006), Bueno de Mesquita and Dickson (2007), Jaeger et al. (2012), Gould and Klor (2010)
- Electoral effects of politically-motivated violence
  - Karol and Miguel (2007), Montalvo (2011), Kibris (2011), Berrebi and Klor (2008)

Related Literature

- Effectiveness of terrorism
  - Pape (2003); Abrahms (2006; 2012)
  - the Israeli-Palestinian context: Berrebi and Klor (2006), Bueno de Mesquita and Dickson (2007), Jaeger et al. (2012), Gould and Klor (2010)
- Electoral effects of politically-motivated violence
  - Karol and Miguel (2007), Montalvo (2011), Kibris (2011), Berrebi and Klor (2008)
- Political effects of the mere threat of terrorist attacks vs. the effects of actual attacks

Related Literature

- Effectiveness of terrorism
  - Pape (2003); Abrahms (2006; 2012)
  - the Israeli-Palestinian context: Berrebi and Klor (2006), Bueno de Mesquita and Dickson (2007), Jaeger et al. (2012), Gould and Klor (2010)
- Electoral effects of politically-motivated violence
  - Karol and Miguel (2007), Montalvo (2011), Kibris (2011), Berrebi and Klor (2008)
- Political effects of the mere threat of terrorist attacks vs. the effects of actual attacks
  - Brodeur (2015), Jones and Olken (2009)

Threat vs. Actual Exposure

- The effect of rockets on electoral outcomes might reflect either the direct damage they cause, the mere threat of an attack or both

Threat vs. Actual Exposure

- The effect of rockets on electoral outcomes might reflect either the direct damage they cause, the mere threat of an attack or both
- Getmansky and Zeitzoff (2014) examine this issue by exploiting the expanding range of the rocket arsenal held by terrorist organizations in the Gaza Strip over time

Threat vs. Actual Exposure

- The effect of rockets on electoral outcomes might reflect either the direct damage they cause, the mere threat of an attack or both
- Getmansky and Zeitzoff (2014) examine this issue by exploiting the expanding range of the rocket arsenal held by terrorist organizations in the Gaza Strip over time
- Only municipalities within rocket range are under the threat of an attack

Threat vs. Actual Exposure

- The effect of rockets on electoral outcomes might reflect either the direct damage they cause, the mere threat of an attack or both
- Getmansky and Zeitzoff (2014) examine this issue by exploiting the expanding range of the rocket arsenal held by terrorist organizations in the Gaza Strip over time
- Only municipalities within rocket range are under the threat of an attack
- They find that voters in municipalities which entered rocket range between 1999 and 2009, increased their support for right-bloc parties by 2 to 6 percentage points

Threat vs. Actual Exposure

- Crucially, however, Getmansky and Zeitzoff (2014) did not have data on actual rocket attacks

Threat vs. Actual Exposure

- Crucially, however, Getmansky and Zeitzoff (2014) did not have data on actual rocket attacks
- The data I use on claims for rocket-related property damages allow me to proxy for the severity of the attacks across different locations within rocket range

Threat vs. Actual Exposure

- Crucially, however, Getmansky and Zeitzoff (2014) did not have data on actual rocket attacks
- The data I use on claims for rocket-related property damages allow me to proxy for the severity of the attacks across different locations within rocket range
- I find that what makes Israelis move to the right politically is exposure to actual rocket attacks and not the mere threat of an attack

Timeline

May 17, 1999

January 28, 2003

March 28, 2006

February 10, 2009

January 22, 2013

March 17, 2015

Timeline

May 17, 1999	
April 12, 2001	First rocket hit in southern Israel
January 28, 2003	
August 15, 2005	Pullout from Gaza
March 28, 2006	
December 27, 2008	Operation “Cast Lead” (23 days)
February 10, 2009	
November 14, 2012	Operation “Pillar of Defense” (8 days)
January 22, 2013	
July 8, 2014	Operation “Protective Edge” (50 days)
March 17, 2015	

Timeline

May 17, 1999	
May 24, 2000	*Pullout from southern Lebanon*
April 12, 2001	First rocket hit in southern Israel
January 28, 2003	
August 15, 2005	Pullout from Gaza
March 28, 2006	
July 12, 2006	*The Second Lebanon War (33 days)*
December 27, 2008	Operation “Cast Lead” (23 days)
February 10, 2009	
November 14, 2012	Operation “Pillar of Defense” (8 days)
January 22, 2013	
July 8, 2014	Operation “Protective Edge” (50 days)
March 17, 2015	

Data

- Universe of claims for property damages caused by rocket hits from Gaza

Data

- Universe of claims for property damages caused by rocket hits from Gaza
  - Source: Israel Tax Authority (Ministry of Finance)

Data

- Universe of claims for property damages caused by rocket hits from Gaza
  - Source: Israel Tax Authority (Ministry of Finance)
    - Elster, Zussman and Zussman (2019)

Data

- Universe of claims for property damages caused by rocket hits from Gaza
  - Source: Israel Tax Authority (Ministry of Finance)
    - Elster, Zussman and Zussman (2019)
  - For each claim: location, date and monetary compensation

Data

- Universe of claims for property damages caused by rocket hits from Gaza
  - Source: Israel Tax Authority (Ministry of Finance)
    - Elster, Zussman and Zussman (2019)
  - For each claim: location, date and monetary compensation
  - Covers: 2000-2015

Data

- Universe of claims for property damages caused by rocket hits from Gaza
  - Source: Israel Tax Authority (Ministry of Finance)
    - Elster, Zussman and Zussman (2019)
  - For each claim: location, date and monetary compensation
  - Covers: 2000-2015
  - About 10,000 claims

Data

- Universe of claims for property damages caused by rocket hits from Gaza
  - Source: Israel Tax Authority (Ministry of Finance)
    - Elster, Zussman and Zussman (2019)
  - For each claim: location, date and monetary compensation
  - Covers: 2000-2015
  - About 10,000 claims
  - Total compensation awarded: about 200 million NIS (roughly 50 million US dollars)

Data

- Universe of claims for property damages caused by rocket hits from Gaza
  - Source: Israel Tax Authority (Ministry of Finance)
    - Elster, Zussman and Zussman (2019)
  - For each claim: location, date and monetary compensation
  - Covers: 2000-2015
  - About 10,000 claims
  - Total compensation awarded: about 200 million NIS (roughly 50 million US dollars)
- Claims for property damages caused by rocket hits from Lebanon

Data

- Universe of claims for property damages caused by rocket hits from Gaza
  - Source: Israel Tax Authority (Ministry of Finance)
    - Elster, Zussman and Zussman (2019)
  - For each claim: location, date and monetary compensation
  - Covers: 2000-2015
  - About 10,000 claims
  - Total compensation awarded: about 200 million NIS (roughly 50 million US dollars)
- Claims for property damages caused by rocket hits from Lebanon
  - Mostly during the Second Lebanon War

Data

- Universe of claims for property damages caused by rocket hits from Gaza
  - Source: Israel Tax Authority (Ministry of Finance)
    - Elster, Zussman and Zussman (2019)
  - For each claim: location, date and monetary compensation
  - Covers: 2000-2015
  - About 10,000 claims
  - Total compensation awarded: about 200 million NIS (roughly 50 million US dollars)
- Claims for property damages caused by rocket hits from Lebanon
  - Mostly during the Second Lebanon War
  - About 18,000 claims

Data

- Universe of claims for property damages caused by rocket hits from Gaza
  - Source: Israel Tax Authority (Ministry of Finance)
    - Elster, Zussman and Zussman (2019)
  - For each claim: location, date and monetary compensation
  - Covers: 2000-2015
  - About 10,000 claims
  - Total compensation awarded: about 200 million NIS (roughly 50 million US dollars)
- Claims for property damages caused by rocket hits from Lebanon
  - Mostly during the Second Lebanon War
  - About 18,000 claims
  - Total compensation awarded: about 300 million NIS

Data

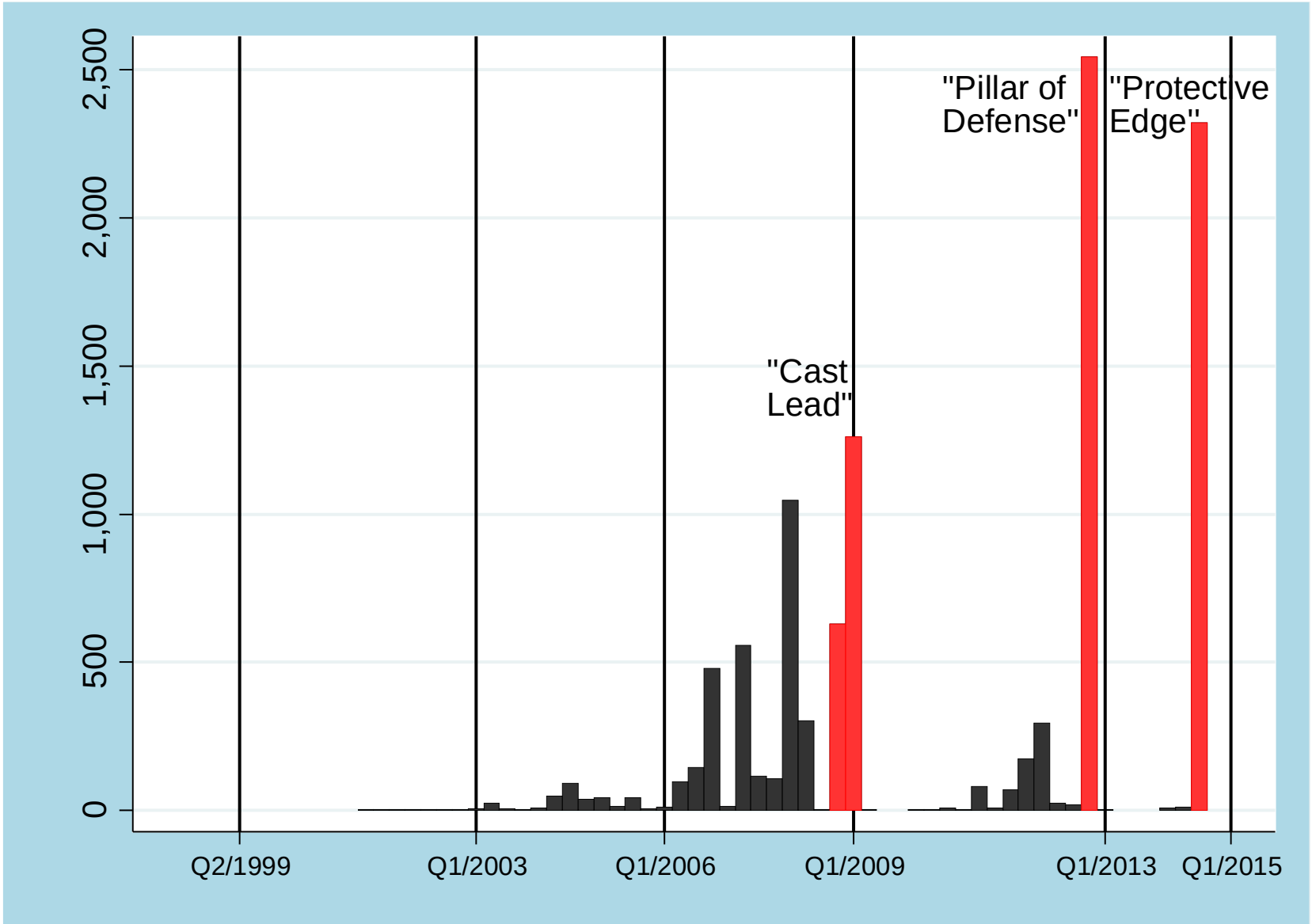
- Universe of claims for property damages caused by rocket hits from Gaza
  - Source: Israel Tax Authority (Ministry of Finance)
    - Elster, Zussman and Zussman (2019)
  - For each claim: location, date and monetary compensation
  - Covers: 2000-2015
  - About 10,000 claims
  - Total compensation awarded: about 200 million NIS (roughly 50 million US dollars)
- Claims for property damages caused by rocket hits from Lebanon
  - Mostly during the Second Lebanon War
  - About 18,000 claims
  - Total compensation awarded: about 300 million NIS
  - These data will not be part of the main analysis in this paper

Data

- Universe of claims for property damages caused by rocket hits from Gaza
  - Source: Israel Tax Authority (Ministry of Finance)
    - Elster, Zussman and Zussman (2019)
  - For each claim: location, date and monetary compensation
  - Covers: 2000-2015
  - About 10,000 claims
  - Total compensation awarded: about 200 million NIS (roughly 50 million US dollars)
- Claims for property damages caused by rocket hits from Lebanon
  - Mostly during the Second Lebanon War
  - About 18,000 claims
  - Total compensation awarded: about 300 million NIS
  - These data will not be part of the main analysis in this paper
    - Elster, Zussman and Zussman (2017)

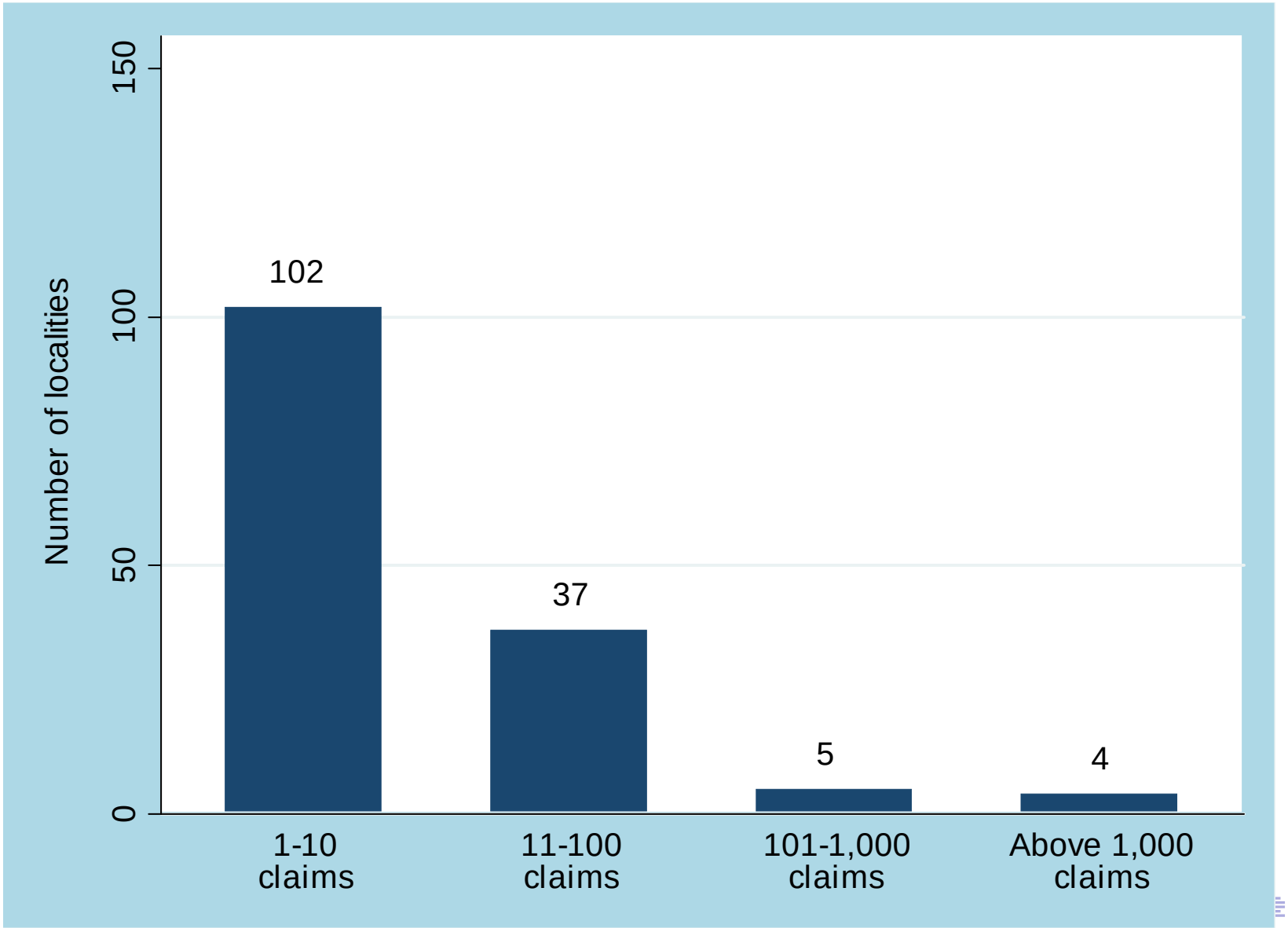
Quarterly Number of Rocket-Related Claims

Q2/1999-Q1/2015



Distribution of Rocket-Related Claims

In 148 localities whose residents filed at least one claim between 1999 and 2015



2003 and 2006 elections range (11km)
2009 elections range (38km)
2013 elections range (68km)
2015 elections range (136km)

Data

- Voting Data

Data

- Voting Data
  - Source: the Israeli Central Elections Committee

Data

- Voting Data
  - Source: the Israeli Central Elections Committee
  - Covers the six rounds of national elections held in Israel between 1999 and 2015

Data

- Voting Data
  - Source: the Israeli Central Elections Committee
  - Covers the six rounds of national elections held in Israel between 1999 and 2015
  - For each polling station, the data include the total number of eligible voters, voter turnout, and support for each political party

Data

- Voting Data
  - Source: the Israeli Central Elections Committee
  - Covers the six rounds of national elections held in Israel between 1999 and 2015
  - For each polling station, the data include the total number of eligible voters, voter turnout, and support for each political party
  - Most of the analysis in this paper aggregates the electoral data to the locality-level

Data

- Voting Data
  - Source: the Israeli Central Elections Committee
  - Covers the six rounds of national elections held in Israel between 1999 and 2015
  - For each polling station, the data include the total number of eligible voters, voter turnout, and support for each political party
  - Most of the analysis in this paper aggregates the electoral data to the locality-level
  - There are about 1,200 localities with voters

Political Blocs

- I classify Israeli parties by left, center and right political blocs

Political Blocs

- I classify Israeli parties by left, center and right political blocs
- For example, in 1999:

Political Blocs

- I classify Israeli parties by left, center and right political blocs
- For example, in 1999:
  - Left bloc: Labor, Meretz, Chadash, Raam, Am Echad and Balad

Political Blocs

- I classify Israeli parties by left, center and right political blocs
- For example, in 1999:
  - Left bloc: Labor, Meretz, Chadash, Raam, Am Echad and Balad
  - Center bloc: haMerkaz and Shinui

Political Blocs

- I classify Israeli parties by left, center and right political blocs
- For example, in 1999:
  - Left bloc: Labor, Meretz, Chadash, Raam, Am Echad and Balad
  - Center bloc: haMerkaz and Shinui
  - Right bloc: Likud, Shas, Israel Baaliya, Mafdal, Yahadut haTorah, halchud haLeumi and Israel Beteinu

Political Blocs

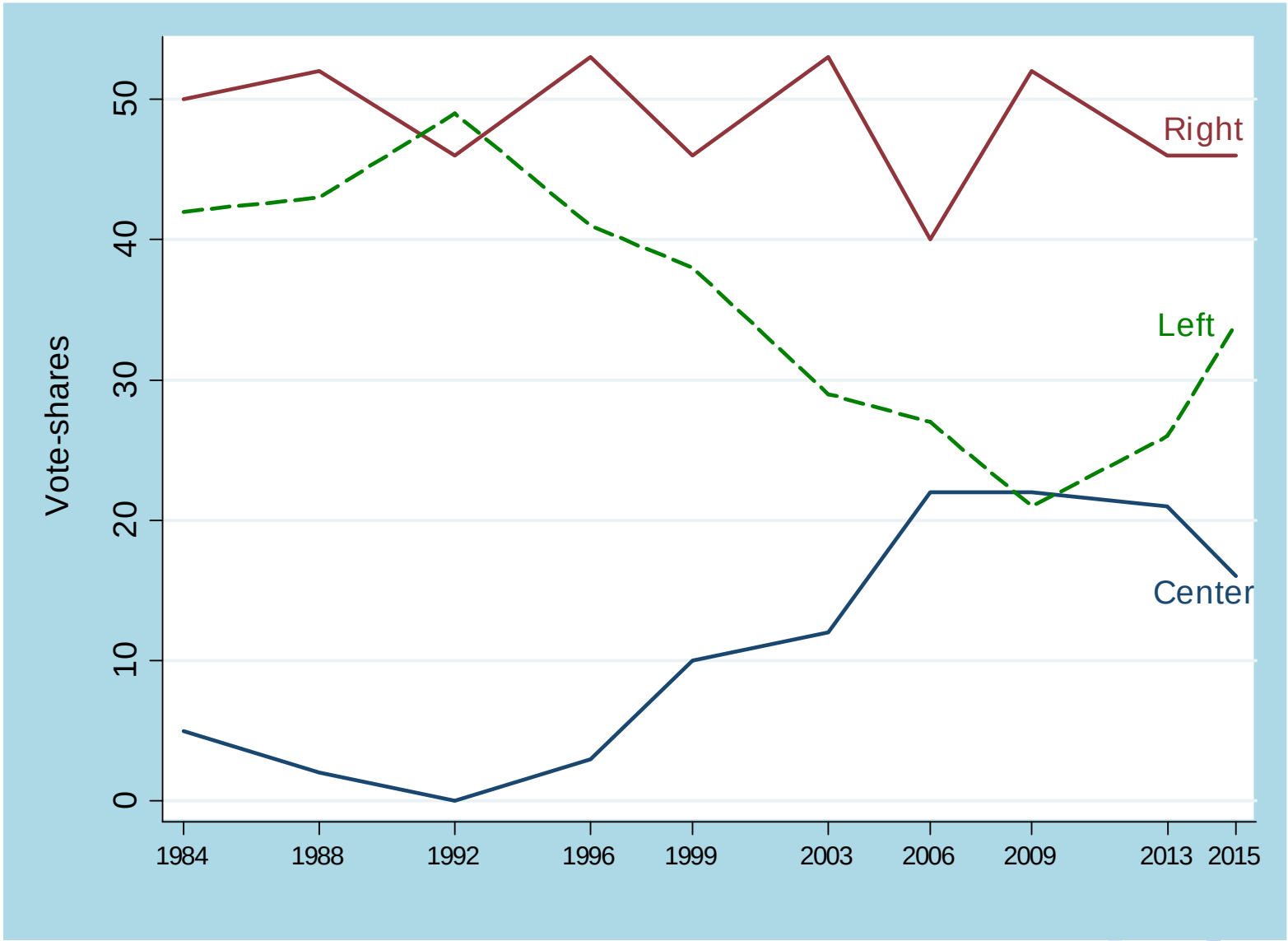
- I classify Israeli parties by left, center and right political blocs
- For example, in 1999:
  - Left bloc: Labor, Meretz, Chadash, Raam, Am Echad and Balad
  - Center bloc: haMerkaz and Shinui
  - Right bloc: Likud, Shas, Israel Baaliya, Mafdal, Yahadut haTorah, halchud haLeumi and Israel Beteinu
- Until the 2006 election round, this classification into blocs is based on Arian and Shamir (2008) and has been previously used by Berrebi and Klor (2008) and by Gould and Klor (2010)

Political Blocs

- I classify Israeli parties by left, center and right political blocs
- For example, in 1999:
  - Left bloc: Labor, Meretz, Chadash, Raam, Am Echad and Balad
  - Center bloc: haMerkaz and Shinui
  - Right bloc: Likud, Shas, Israel Baaliya, Mafdal, Yahadut haTorah, halchud haLeumi and Israel Beteinu
- Until the 2006 election round, this classification into blocs is based on Arian and Shamir (2008) and has been previously used by Berrebi and Klor (2008) and by Gould and Klor (2010)
- In later election rounds, the classification of parties into blocs is taken from Getmansky and Zeitzoff (2014) and Jha and Shayo (2016)

Support for Political Blocs in Israel

1984-2015 Election Rounds



Methodology

- In this paper I explore the causal effects of rocket attacks on voting patterns in the Israeli elections for parliament between 1999 and 2015

Methodology

- In this paper I explore the causal effects of rocket attacks on voting patterns in the Israeli elections for parliament between 1999 and 2015
- The identification strategy relies on the temporal and spatial variation in the intensity of the rocket attacks

Methodology

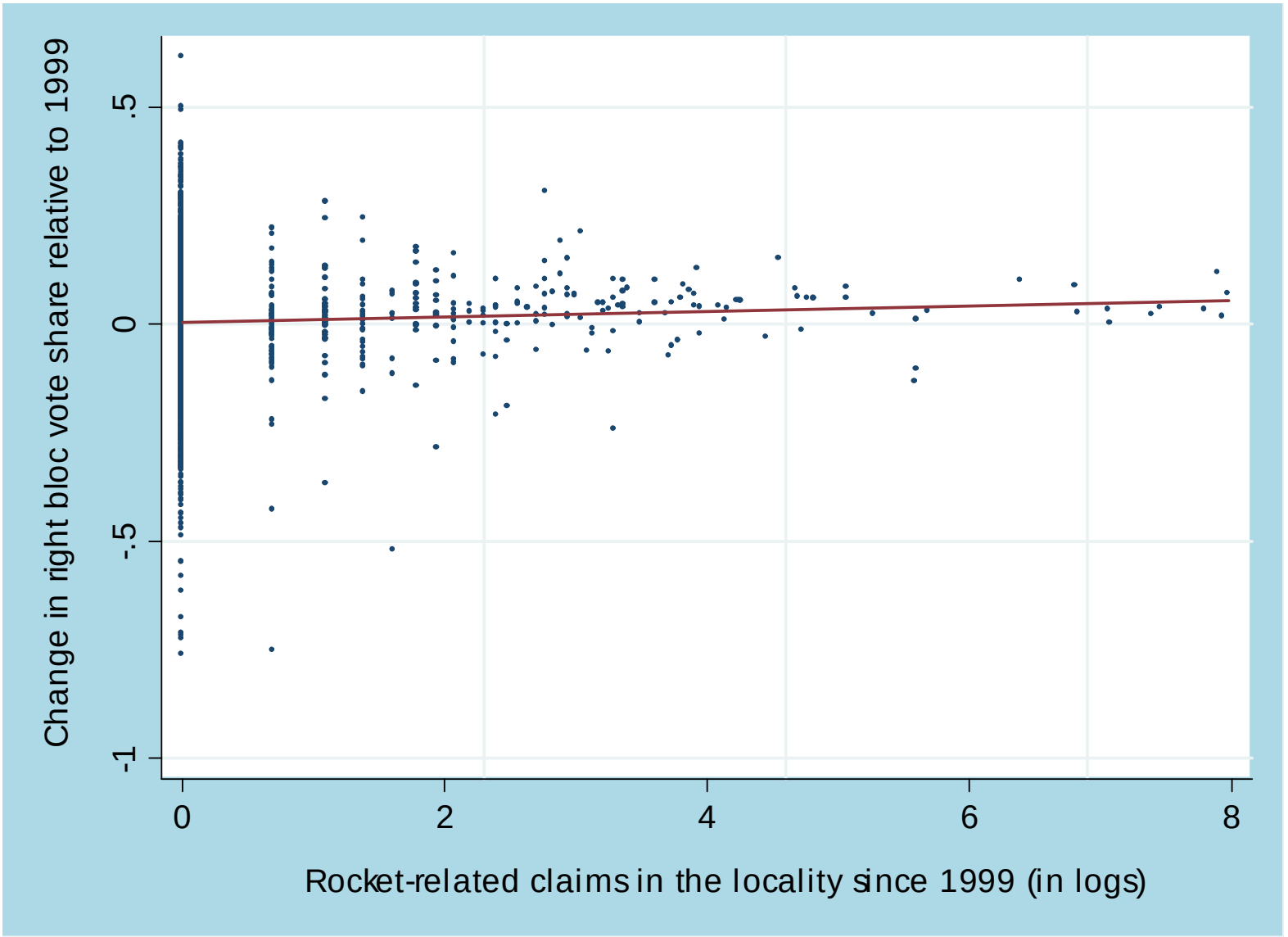
- In this paper I explore the causal effects of rocket attacks on voting patterns in the Israeli elections for parliament between 1999 and 2015
- The identification strategy relies on the temporal and spatial variation in the intensity of the rocket attacks
  - Two graphical illustrations of the effect of rocket attacks on support for the right political bloc

Methodology

- In this paper I explore the causal effects of rocket attacks on voting patterns in the Israeli elections for parliament between 1999 and 2015
- The identification strategy relies on the temporal and spatial variation in the intensity of the rocket attacks
  - Two graphical illustrations of the effect of rocket attacks on support for the right political bloc
  - Then I turn to describing the empirical strategy

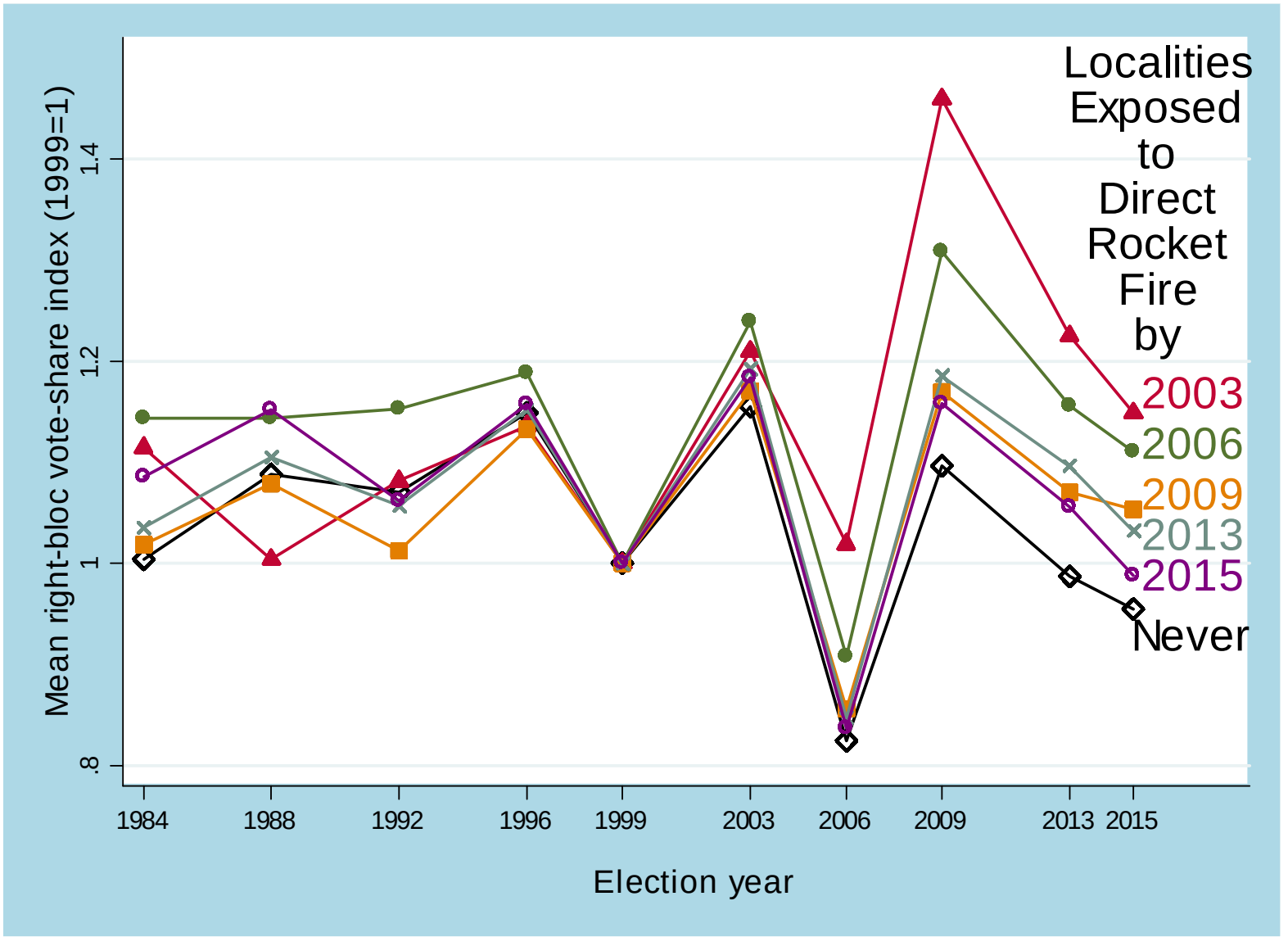
Support for the Right Bloc and Rocket-Related Claims

2003-2015 Election Rounds Relative to 1999



Support for the Right by First Date of Exposure

1984-2015 Election Rounds



Election Equation

$$(Right\ share)_{lt} = \alpha + \beta(Claims)_{lt} + \delta_l + \theta_t + \varepsilon_{lt}$$

- *Right share* is the right-bloc vote-share in locality l at election year t (i.e. the number of votes for the right political bloc divided by the number of valid votes in a locality in a given election)

Election Equation

$$(Right\ share)_{lt} = \alpha + \beta(Claims)_{lt} + \delta_l + \theta_t + \varepsilon_{lt}$$

- *Right share* is the right-bloc vote-share in locality *l* at election year *t* (i.e. the number of votes for the right political bloc divided by the number of valid votes in a locality in a given election)
- *Claims* is the number of rocket-related claims for property damages in locality *l* between elections (divided by 1,000)

Election Equation

$$(Right\ share)_{lt} = \alpha + \beta(Claims)_{lt} + \delta_l + \theta_t + \varepsilon_{lt}$$

- *Right share* is the right-bloc vote-share in locality *l* at election year *t* (i.e. the number of votes for the right political bloc divided by the number of valid votes in a locality in a given election)
- *Claims* is the number of rocket-related claims for property damages in locality *l* between elections (divided by 1,000)
- δ is a locality fixed-effect

Election Equation

$$(Right\ share)_{lt} = \alpha + \beta(Claims)_{lt} + \delta_l + \theta_t + \varepsilon_{lt}$$

- *Right share* is the right-bloc vote-share in locality l at election year t (i.e. the number of votes for the right political bloc divided by the number of valid votes in a locality in a given election)
- *Claims* is the number of rocket-related claims for property damages in locality l between elections (divided by 1,000)
- δ is a locality fixed-effect
- θ is an election year fixed-effect

Election Equation

$$(Right\ share)_{lt} = \alpha + \beta(Claims)_{lt} + \delta_l + \theta_t + \varepsilon_{lt}$$

- *Right share* is the right-bloc vote-share in locality l at election year t (i.e. the number of votes for the right political bloc divided by the number of valid votes in a locality in a given election)
- *Claims* is the number of rocket-related claims for property damages in locality l between elections (divided by 1,000)
- δ is a locality fixed-effect
- θ is an election year fixed-effect
- ε_{lt} is a well-behaved error term clustered at the locality level

Election Equation

$$(Right\ share)_{lt} = \alpha + \beta(Claims)_{lt} + \delta_l + \theta_t + \varepsilon_{lt}$$

- *Right share* is the right-bloc vote-share in locality l at election year t (i.e. the number of votes for the right political bloc divided by the number of valid votes in a locality in a given election)
- *Claims* is the number of rocket-related claims for property damages in locality l between elections (divided by 1,000)
- δ is a locality fixed-effect
- θ is an election year fixed-effect
- ε_{lt} is a well-behaved error term clustered at the locality level
- estimated by OLS using locality population as weights

Effect of Rocket Attacks on Support for the Right Bloc

1999-2015 Election Rounds

Dependent variable: right share	
	(1)
Rocket-related claims	**0.040*****
(/1,000)	(0.007)
Locality FEs	Yes
Election year FEs	Yes
Observations	6,901
R-squared	0.976

Robustness Checks

The results are robust to:

- **Omitting in turn each election round**
- Omitting in turn each of the four localities which suffered the largest number of attacks (more than 1,000 claims)
- Excluding areas in Israel facing a different terrorist threat
- Including data on Hezbollah's rockets and terror-related civilian fatalities
- Using alternative weights
- Adding locality-specific time trends
- Including initial controls

Excluding Election Rounds

Dependent variable: right share				
	Baseline	Exclude 1999	Exclude 2003	Exclude 2006
	(1)	(2)	(3)	(4)
Rocket-related claims (/1,000)	**0.040*****	**0.040*****	**0.034*****	**0.033*****
	(0.007)	(0.007)	(0.007)	(0.010)
Locality FEs	Yes	Yes	Yes	Yes
Election year FEs	Yes	Yes	Yes	Yes
Observations	6,901	5,831	5,749	5,754
R-squared	0.976	0.978	0.979	0.979

Excluding Election rounds (Cont.)

Dependent variable: right share				
	Baseline	Exclude 2009	Exclude 2013	Exclude 2015
	(1)	(2)	(3)	(4)
Rocket-related claims (/1,000)	**0.040*****	**0.043*****	**0.053*****	**0.041*****
	(0.007)	(0.008)	(0.015)	(0.006)
Locality FEs	Yes	Yes	Yes	Yes
Election year FEs	Yes	Yes	Yes	Yes
Observations	6,901	5,746	5,718	5,707
R-squared	0.976	0.975	0.975	0.977

Robustness Checks

The results are robust to:

- Omitting in turn each election round
- **Omitting in turn each of the four localities which suffered the largest number of attacks (more than 1,000 claims)**
- Excluding areas in Israel facing a different terrorist threat
- Including data on Hezbollah's rockets and terror-related civilian fatalities
- Using alternative weights
- Adding locality-specific time trends
- Including initial controls

Excluding Localities

Dependent variable: right share			
	Baseline	Exclude Sederot	Exclude Ashdod
	(1)	(2)	(3)
Rocket-related claims (/1,000)	**0.040*****	**0.044*****	**0.036*****
	(0.007)	(0.007)	(0.009)
Locality FEs	Yes	Yes	Yes
Election year FEs	Yes	Yes	Yes
Observations	6,901	6,895	6,895
R-squared	0.976	0.976	0.976

Excluding Localities (Cont.)

Dependent variable: right share			
	Baseline	Exclude Ashqelon	Exclude Be'er-Sheba
	(1)	(2)	(3)
Rocket-related claims (/1,000)	**0.040*****	**0.038*****	**0.038*****
	(0.007)	(0.008)	(0.008)
Locality FEs	Yes	Yes	Yes
Election year FEs	Yes	Yes	Yes
Observations	6,901	6,895	6,895
R-squared	0.976	0.976	0.976

Robustness Checks

The results are robust to:

- Omitting in turn each election round
- Omitting in turn each of the four localities which suffered the largest number of attacks (more than 1,000 claims)
- **Excluding areas in Israel facing a different terrorist threat**
- Including data on Hezbollah's rockets and terror-related civilian fatalities
- Using alternative weights
- Adding locality-specific time trends
- Including initial controls

Excluding Areas

Dependent variable: right share			
	Baseline	Exclude Northern Localities	Exclude West Bank
	(1)	(2)	(3)
Rocket-related claims (/1,000)	**0.040*****	**0.042*****	**0.038*****
	(0.007)	(0.009)	(0.007)
Locality FEs	Yes	Yes	Yes
Election year FEs	Yes	Yes	Yes
Observations	6,901	3,995	6,202
R-squared	0.976	0.977	0.977

Robustness Checks

The results are robust to:

- Omitting in turn each election round
- Omitting in turn each of the four localities which suffered the largest number of attacks (more than 1,000 claims)
- Excluding areas in Israel facing a different terrorist threat
- **Including data on Hezbollah's rockets and terror-related civilian fatalities**
- Using alternative weights
- Adding locality-specific time trends
- Including initial controls

Other Terrorist Threats

Dependent variable: right share		
	Baseline	Lebanese Threat
	(1)	(2)
Rocket-related claims	**0.040*****	**0.040*****
(/1,000)	(0.007)	(0.007)
Lebanese rocket		**0.009****
-related claims		(0.004)
Locality FEs	Yes	Yes
Election year FEs	Yes	Yes
Observations	6,901	6,901
R-squared	0.976	0.976

Other Terrorist Threats

Dependent variable: right share			
	Baseline	Lebanese Threat	Civilian Fatalities
	(1)	(2)	(3)
Rocket-related claims	**0.040*****	**0.040*****	**0.035*****
(/1,000)	(0.007)	(0.007)	(0.009)
Lebanese rocket		**0.009****	**0.006**
-related claims		(0.004)	(0.004)
Rocket-related			**0.007**
fatalities			(0.009)
Locality FEs	Yes	Yes	Yes
Election year FEs	Yes	Yes	Yes
Observations	6,901	6,901	6,901
R-squared	0.976	0.976	0.976

Other Terrorist Threats

Dependent variable: right share				
	Baseline	Lebanese Threat	Civilian Fatalities	Non-rocket Terrorism
	(1)	(2)	(3)	(4)
Rocket-related claims	**0.040*** **	**0.040*** **	**0.035*** **	**0.035*** **
(/1,000)	(0.007)	(0.007)	(0.009)	(0.008)
Lebanese rocket		**0.009** **	**0.006**	**0.007**
-related claims		(0.004)	(0.004)	(0.005)
Rocket-related			**0.007**	**0.008**
fatalities			(0.009)	(0.010)
Other terror-				**0.007** **
related fatalities				(0.004)
Locality FEs	Yes	Yes	Yes	Yes
Election year FEs	Yes	Yes	Yes	Yes
Observations	6,901	6,901	6,901	6,901
R-squared	0.976	0.976	0.976	0.976

Robustness Checks

The results are robust to:

- Omitting in turn each election round
- Omitting in turn each of the four localities which suffered the largest number of attacks (more than 1,000 claims)
- Excluding areas in Israel facing a different terrorist threat
- Including data on Hezbollah's rockets and terror-related civilian fatalities
- **Using alternative weights**
- Adding locality-specific time trends
- Including initial controls

Alternative Weights

Dependent variable: right share			
	Baseline (1)	Without Weights (2)	Eligible Voters as Weights (3)
Rocket-related claims (/1,000)	**0.040***** (0.007)	**0.039***** (0.008)	**0.040***** (0.007)
Locality FEs	Yes	Yes	Yes
Election year FEs	Yes	Yes	Yes
Observations	6,901	6,901	6,901
R-squared	0.976	0.958	0.977

Robustness Checks

The results are robust to:

- Omitting in turn each election round
- Omitting in turn each of the four localities which suffered the largest number of attacks (more than 1,000 claims)
- Excluding areas in Israel facing a different terrorist threat
- Including data on Hezbollah's rockets and terror-related civilian fatalities
- Using alternative weights
- **Adding locality-specific time trends**
- Including initial controls

Adding Locality-specific Time Trends

Dependent variable: right share			
	Baseline	Locality-specific Linear Time Trend	Locality-specific Quadratic Time Trend
	(1)	(2)	(3)
Rocket-related claims	**0.040*****	**0.024*****	**0.031*****
(/1,000)	(0.007)	(0.008)	(0.010)
Locality FEs	Yes	Yes	Yes
Election year FEs	Yes	Yes	Yes
Observations	6,901	6,901	6,901
R-squared	0.976	0.983	0.987

Robustness Checks

The results are robust to:

- Omitting in turn each election round
- Omitting in turn each of the four localities which suffered the largest number of attacks (more than 1,000 claims)
- Excluding areas in Israel facing a different terrorist threat
- Including data on Hezbollah's rockets and terror-related civilian fatalities
- Using alternative weights
- Adding locality-specific time trends
- **Including initial controls**

Including Initial Controls

Dependent variable: right share	Baseline	Initial Controls
Rocket-related claims	**0.040*****	**0.056*****
(/1,000)	(0.007)	(0.015)
Log locality population (95')		0.014***
		(0.003)
Pct 0-19 years old (95')		0.018***
		(0.001)
Pct born abroad (95')		0.004***
		(0.001)
Pct BA holders (95')		-0.003***
		(0.001)
Pct employed (95')		-0.007***
		(0.001)
Locality FEs	Yes	No
Election year FEs	Yes	Yes
Observations	6,901	5,607
R-squared	0.976	0.436

Reverse Causality

- A remaining concern about the analysis is that the location of rocket hits may be endogenous to the political orientation of localities

Reverse Causality

- A remaining concern about the analysis is that the location of rocket hits may be endogenous to the political orientation of localities
- Thus, I reverse the roles of the dependent and independent variables of the estimated equation

Reverse Causality

Dependent variable:	*right share*	*rocket-related claims*
	(1)	(2)
Rocket-related claims (/1,000)	**0.040*****	
	(0.007)	
Lagged right bloc vote share		**-0.001**
		(0.007)
Locality FEs	Yes	Yes
Election year FEs	Yes	Yes
Observations	6,901	5,690
R-squared	0.976	0.373

Initial vs. Later Rocket Attacks

- Next, I exclude from the analysis observations of localities in election years beyond the first elections following the initial attack on the locality

Initial vs. Later Rocket Attacks

- Next, I exclude from the analysis observations of localities in election years beyond the first elections following the initial attack on the locality
- It turns out that the impact of initial attacks is particularly strong

Initial vs. Later Rocket Attacks

Dependent variable: right share		
	Baseline	Initial Attacks
	(1)	(2)
Rocket-related claims (/1,000)	**0.040*****	**0.078*****
	(0.007)	(0.025)
P-value for the difference between coefficients	*0.028*	
Locality FEs	Yes	Yes
Election year FEs	Yes	Yes
Observations	6,901	6,721
R-squared	0.976	0.975

Threat vs. Actual Exposure

- Getmansky and Zeitzoff (2014) find that voters in municipalities which entered rocket range between 1999 and 2009, increased their support for right-bloc parties by 2 to 6 percentage points

Threat vs. Actual Exposure

- Getmansky and Zeitzoff (2014) find that voters in municipalities which entered rocket range between 1999 and 2009, increased their support for right-bloc parties by 2 to 6 percentage points
- They thus claim that the mere threat of an attack affects voting

Threat vs. Actual Exposure

- Getmansky and Zeitzoff (2014) find that voters in municipalities which entered rocket range between 1999 and 2009, increased their support for right-bloc parties by 2 to 6 percentage points
- They thus claim that the mere threat of an attack affects voting
- However, Getmansky and Zeitzoff (2014) did not have data on actual rocket attacks

Threat vs. Actual Exposure

- Getmansky and Zeitzoff (2014) find that voters in municipalities which entered rocket range between 1999 and 2009, increased their support for right-bloc parties by 2 to 6 percentage points
- They thus claim that the mere threat of an attack affects voting
- However, Getmansky and Zeitzoff (2014) did not have data on actual rocket attacks
- The data I use on claims for rocket-related property damages allow me to proxy for the severity of the attacks across different locations within rocket range, and to further investigate this issue

Threat vs. Actual Exposure

- First, I conduct an analysis similar to that Getmansky and Zeitzoff (2014) carried out. I estimate the following equation for the years 1999-2009:

$$(Right\ share)_{it} = \alpha + \beta(Range)_{it} + \delta_i + \theta_t + \varepsilon_{it}$$

Threat vs. Actual Exposure

- First, I conduct an analysis similar to that Getmansky and Zeitzoff (2014) carried out. I estimate the following equation for the years 1999-2009:

$$(\textit{Right share})_{it} = \alpha + \beta(\textit{Range})_{it} + \delta_i + \theta_t + \varepsilon_{it}$$

- *Right share* is the right bloc vote share in municipality i at election year t

Threat vs. Actual Exposure

- First, I conduct an analysis similar to that Getmansky and Zeitzoff (2014) carried out. I estimate the following equation for the years 1999-2009:

$$(Right\ share)_{it} = \alpha + \beta(Range)_{it} + \delta_i + \theta_t + \varepsilon_{it}$$

- *Right share* is the right bloc vote share in municipality i at election year t
- *Range* is a binary indicator of whether municipality i is within rocket range one day before election t

Threat vs. Actual Exposure

- First, I conduct an analysis similar to that Getmansky and Zeitzoff (2014) carried out. I estimate the following equation for the years 1999-2009:

$$(Right\ share)_{it} = \alpha + \beta(Range)_{it} + \delta_i + \theta_t + \varepsilon_{it}$$

- *Right share* is the right bloc vote share in municipality i at election year t
- *Range* is a binary indicator of whether municipality i is within rocket range one day before election t
- δ is a fixed-effect for a municipality (either an urban locality, a local council, or a regional council)

Threat vs. Actual Exposure

- First, I conduct an analysis similar to that Getmansky and Zeitzoff (2014) carried out. I estimate the following equation for the years 1999-2009:

$$(Right\ share)_{it} = \alpha + \beta(Range)_{it} + \delta_i + \theta_t + \varepsilon_{it}$$

- *Right share* is the right bloc vote share in municipality i at election year t
- *Range* is a binary indicator of whether municipality i is within rocket range one day before election t
- δ is a fixed-effect for a municipality (either an urban locality, a local council, or a regional council)
- θ is an election year fixed-effect

Threat vs. Actual Exposure

- First, I conduct an analysis similar to that Getmansky and Zeitzoff (2014) carried out. I estimate the following equation for the years 1999-2009:

$$(Right\ share)_{it} = \alpha + \beta(Range)_{it} + \delta_i + \theta_t + \varepsilon_{it}$$

- *Right share* is the right bloc vote share in municipality i at election year t
- *Range* is a binary indicator of whether municipality i is within rocket range one day before election t
- δ is a fixed-effect for a municipality (either an urban locality, a local council, or a regional council)
- θ is an election year fixed-effect
- ε_{it} is a well-behaved error term clustered at the municipality level

Threat vs. Actual Exposure

- First, I conduct an analysis similar to that Getmansky and Zeitzoff (2014) carried out. I estimate the following equation for the years 1999-2009:

$$(Right\ share)_{it} = \alpha + \beta(Range)_{it} + \delta_i + \theta_t + \varepsilon_{it}$$

- *Right share* is the right bloc vote share in municipality i at election year t
- *Range* is a binary indicator of whether municipality i is within rocket range one day before election t
- δ is a fixed-effect for a municipality (either an urban locality, a local council, or a regional council)
- θ is an election year fixed-effect
- ε_{it} is a well-behaved error term clustered at the municipality level
- estimated by OLS using municipality population as weights

Threat vs. Actual Exposure

Dependent variable: right share	
Level of analysis	*Municipality*
Election rounds included	*1999-2009*
Maximum rocket range is based on	Getmansky and Zeitzoff (2014)
	(1)
In rocket range	**0.024****
	(0.011)
Municipality FEs	Yes
Election year FEs	Yes
Observations	1,000
R-squared	0.979

Threat vs. Actual Exposure

Dependent variable: right share		
Level of analysis	*Municipality*	
Election rounds included	*1999-2009*	
Maximum rocket range is based on	Getmansky and Zeitzoff (2014)	
	(1)	(2)
In rocket range	**0.024****	**0.014**
	(0.011)	(0.011)
Rocket-related claims in the municipality (/1,000)		**0.045*****
		(0.009)
Municipality FEs	Yes	Yes
Election year FEs	Yes	Yes
Observations	1,000	1,000
R-squared	0.979	0.980

Threat vs. Actual Exposure

Dependent variable: right share			
Level of analysis	*Municipality*		
Election rounds included	*1999-2009*		
Maximum rocket range is based on	Getmansky and Zeitzoff (2014)		Claims Submitted to ITA
	(1)	(2)	(3)
In rocket range	**0.024****	**0.014**	**0.011**
	(0.011)	(0.011)	(0.012)
Rocket-related claims in the municipality (/1,000)		**0.045*****	**0.049*****
		(0.009)	(0.009)
Municipality FEs	Yes	Yes	Yes
Election year FEs	Yes	Yes	Yes
Observations	1,000	1,000	1,000
R-squared	0.979	0.980	0.980

Threat vs. Actual Exposure

Dependent variable: right share				
Level of analysis	*Municipality*			
Election rounds included	*1999-2009*			
Maximum rocket range is based on	Getmansky and Zeitzoff (2014)		Claims Submitted to ITA	Media Coverage
	(1)	(2)	(3)	(4)
In rocket range	**0.024****	**0.014**	**0.011**	**0.011**
	(0.011)	(0.011)	(0.012)	(0.011)
Rocket-related claims in the municipality (/1,000)		**0.045*****	**0.049*****	**0.049*****
		(0.009)	(0.009)	(0.009)
Municipality FEs	Yes	Yes	Yes	Yes
Election year FEs	Yes	Yes	Yes	Yes
Observations	1,000	1,000	1,000	1,000
R-squared	0.979	0.980	0.980	0.980

Threat vs. Actual Exposure

Dependent variable: right share		
Level of analysis	Locality	
Election rounds included	1999-2015	
Maximum rocket range is based on	Claims Submitted to ITA	Media Coverage
	(5)	(6)
In rocket range	**-0.006**	**-0.007**
	(0.006)	(0.006)
Rocket-related claims in the locality (/1,000)	**0.042*** **	**0.042*** **
	(0.009)	(0.008)
Locality FEs	Yes	Yes
Election year FEs	Yes	Yes
Observations	6,901	6,901
R-squared	0.976	0.976

Disaggregation of the Effect of Rocket Attacks by Location

- Using the exact location of the rocket attacks, I disaggregate the baseline analysis to the neighborhood level (locality SA)

Disaggregation of the Effect of Rocket Attacks by Location

- Using the exact location of the rocket attacks, I disaggregate the baseline analysis to the neighborhood level (locality SA)
- This is a further advancement relative to what has been done in the literature before

Disaggregation of the Effect of Rocket Attacks by Location

- Using the exact location of the rocket attacks, I disaggregate the baseline analysis to the neighborhood level (locality SA)
- This is a further advancement relative to what has been done in the literature before
- At this level of spatial disaggregation it is easier to argue that the precise locality-SA in which a rocket falls is exogenous

Disaggregation of the Effect of Rocket Attacks by Location

- Using the exact location of the rocket attacks, I disaggregate the baseline analysis to the neighborhood level (locality SA)
- This is a further advancement relative to what has been done in the literature before
- At this level of spatial disaggregation it is easier to argue that the precise locality-SA in which a rocket falls is exogenous
- First, I replace the locality-level dependent variable with a locality-SA level

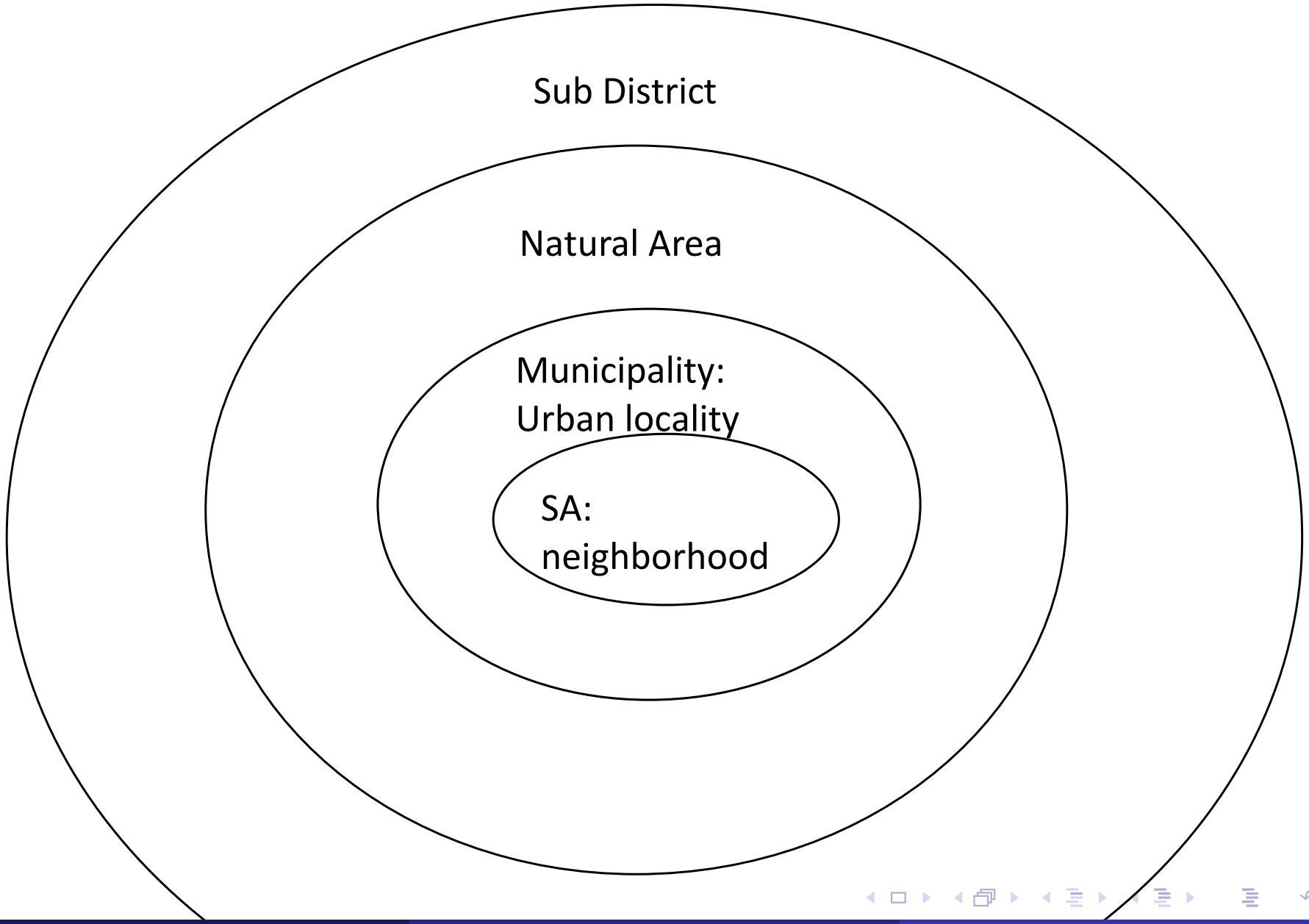
Disaggregation of the Effect of Rocket Attacks by Location

- Using the exact location of the rocket attacks, I disaggregate the baseline analysis to the neighborhood level (locality SA)
- This is a further advancement relative to what has been done in the literature before
- At this level of spatial disaggregation it is easier to argue that the precise locality-SA in which a rocket falls is exogenous
- First, I replace the locality-level dependent variable with a locality-SA level
- Then,I explore how far the rocket effects persist, by creating boundaries around the location of the attack

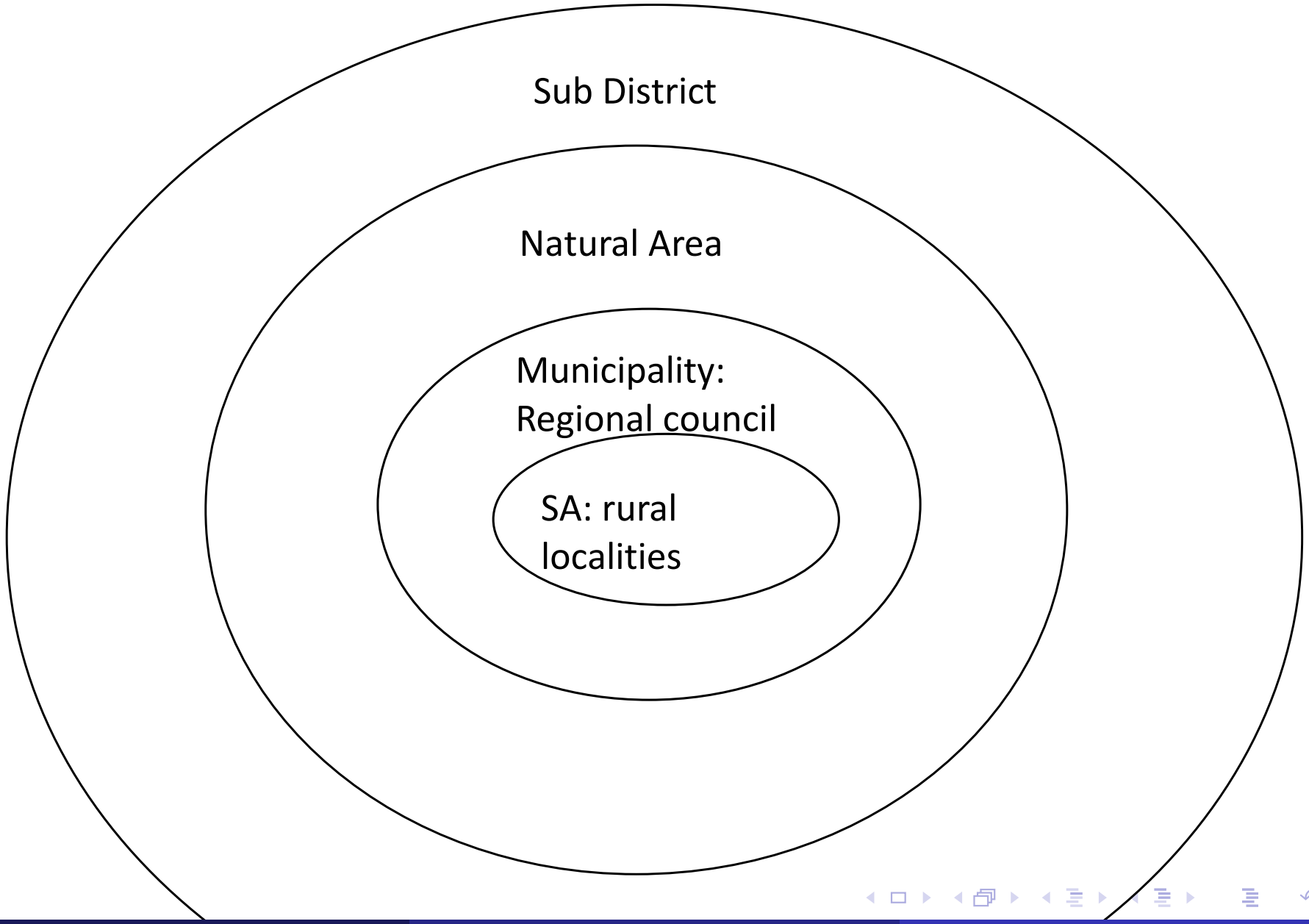
Disaggregation of the Effect of Rocket Attacks by Location

Dependent vaiabrle:	**Baseline** *right share in the locality*	**Disaggregated** *right share in the locality-SA*
	(1)	(2)
Rocket-related claims in the locality (/1,000)	**0.040*****	**0.041*****
	(0.007)	(0.004)
Locality FEs	Yes	No
Locality-SA FEs	No	Yes
Election year FEs	Yes	Yes
Observations	6,901	13,558
R-squared	0.976	0.964

Disaggregation of the Effect of Rocket Attacks by Location



Disaggregation of the Effect of Rocket Attacks by Location



Disaggregation of the Effect of Rocket Attacks by Location

Disaggregation of the Effect of Rocket Attacks by Location

Dependent vaiabrle: right share in locality-SA	
Rocket-related claims in:	
Locality-SA	**0.155*****
	(0.049)
Municipality	**0.027*****
	(0.010)
Natural Area	**0.027****
	(0.013)
Sub District	**0.002**
	(0.020)
Locality-SA FEs	Yes
Election year FEs	Yes
Observations	13,558
R-squared	0.972

Disaggregation of the Effect of Rocket Attacks by Time

Dependent vaiabrle: right share in locality-SA	
Rocket-related claims in locality-SA	
3 months before elections	**0.411*****
	(0.108)
A year before elections	**0.441*****
	(0.172)
Since previous elections	**0.137****
	(0.039)
Locality-SA FEs	Yes
Election year FEs	Yes
Observations	13,558
R-squared	0.972

Disaggregation of the Effect of Rocket Attacks by Scale

Dependent vaiabrle: right share in locality-SA	
Claims in locality-SA a year before elections	
1-10	**0.019*****
	(0.006)
11-100	**0.036*****
	(0.006)
Above 100	**0.042****
	(0.010)
Locality-SA FEs	Yes
Election year FEs	Yes
Observations	13,558
R-squared	0.972

Conclusion

- Additional 1,000 rocket-related claims for property damages in a locality increases right-bloc parties' vote-share by 4 percentage points

Conclusion

- Additional 1,000 rocket-related claims for property damages in a locality increases right-bloc parties' vote-share by 4 percentage points
- This result is robust to various changes and is not driven by reverse causality

Conclusion

- Additional 1,000 rocket-related claims for property damages in a locality increases right-bloc parties' vote-share by 4 percentage points
- This result is robust to various changes and is not driven by reverse causality
- Recent attacks, initial exposure and geographical proximity lead to larger shift to the right

Conclusion

- Additional 1,000 rocket-related claims for property damages in a locality increases right-bloc parties' vote-share by 4 percentage points
- This result is robust to various changes and is not driven by reverse causality
- Recent attacks, initial exposure and geographical proximity lead to larger shift to the right
- Voting patterns are mainly driven by actual exposure and not by the mere threat of rocket attacks

Alternative Outcomes

- Different political blocs

Alternative Outcomes

- Different political blocs
- Parties within the right political bloc

Alternative Outcomes

- Different political blocs
- Parties within the right political bloc
- Turnout rate and number of eligible voters

Alternative Outcomes

Dependent variable:	*Right share* (1)	*Center share* (2)	*Left share* (3)
Rocket-related claims (/1,000)	**0.040***** (0.007)	**-0.034***** (0.008)	**0.003** (0.010)
Locality FEs	Yes	Yes	Yes
Election year FEs	Yes	Yes	Yes
Observations	6,901	6,901	6,901
R-squared	0.976	0.882	0.754

Alternative Outcomes

Dependent variable:	*Right share* (1)	*Likud share* (2)	*Ultra-Orthodox share* (3)
Rocket-related claims (/1,000)	**0.040***** (0.007)	**0.095***** (0.022)	**-0.014** (0.016)
Locality FEs	Yes	Yes	Yes
Election year FEs	Yes	Yes	Yes
Observations	6,901	6,901	6,901
R-squared	0.976	0.878	0.976

Alternative Outcomes

Dependent variable:	*Right share*	*Turnout rate*	*Eligible Voters*
	(1)	(2)	(3)
Rocket-related claims	**0.040*** **	**0.005**	**-0.031**
(/1,000)	(0.007)	(0.006)	(0.029)
Locality FEs	Yes	Yes	Yes
Election year FEs	Yes	Yes	Yes
Observations	6,901	6,901	6,901
R-squared	0.976	0.927	0.997

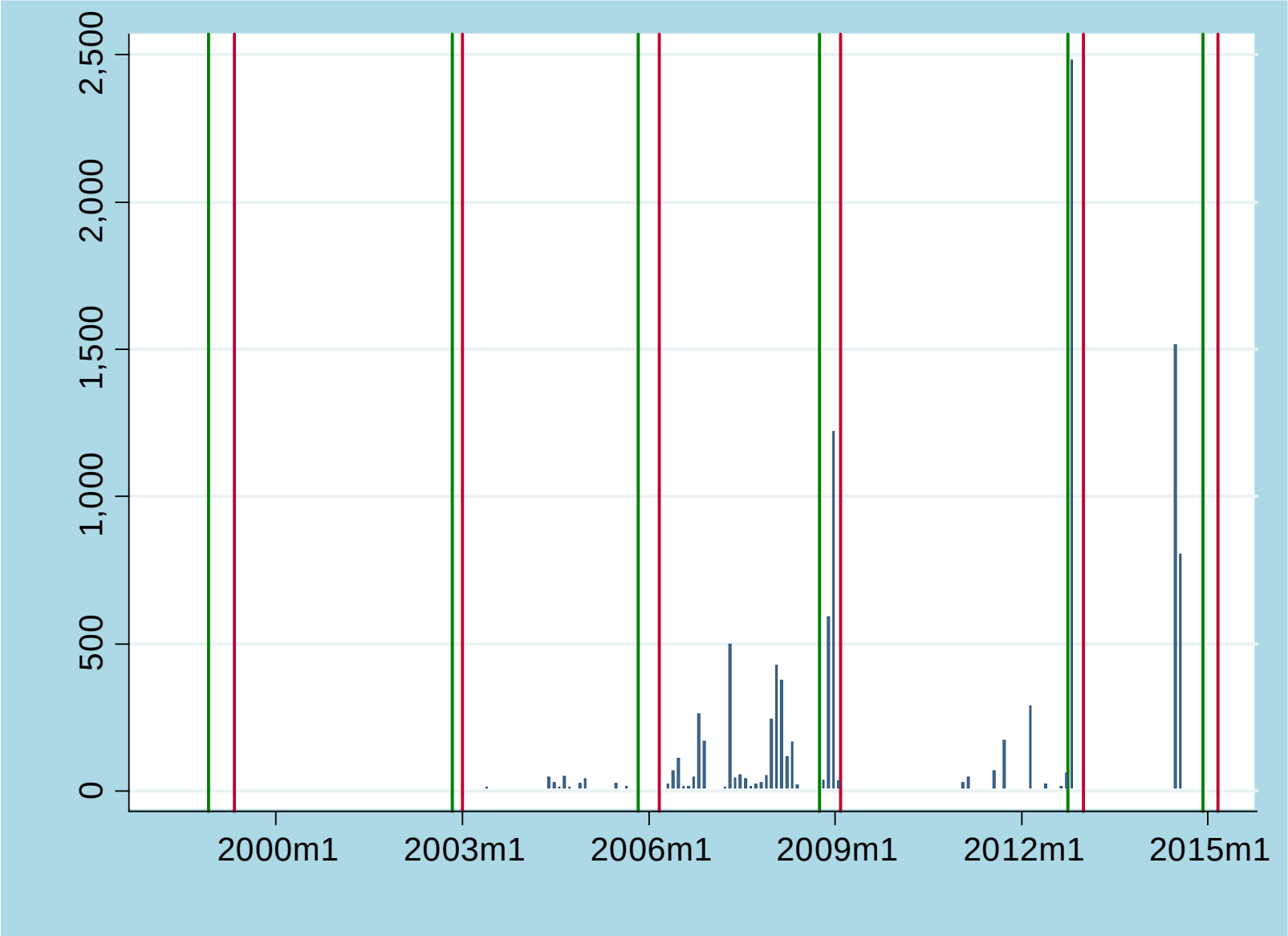
Conclusion

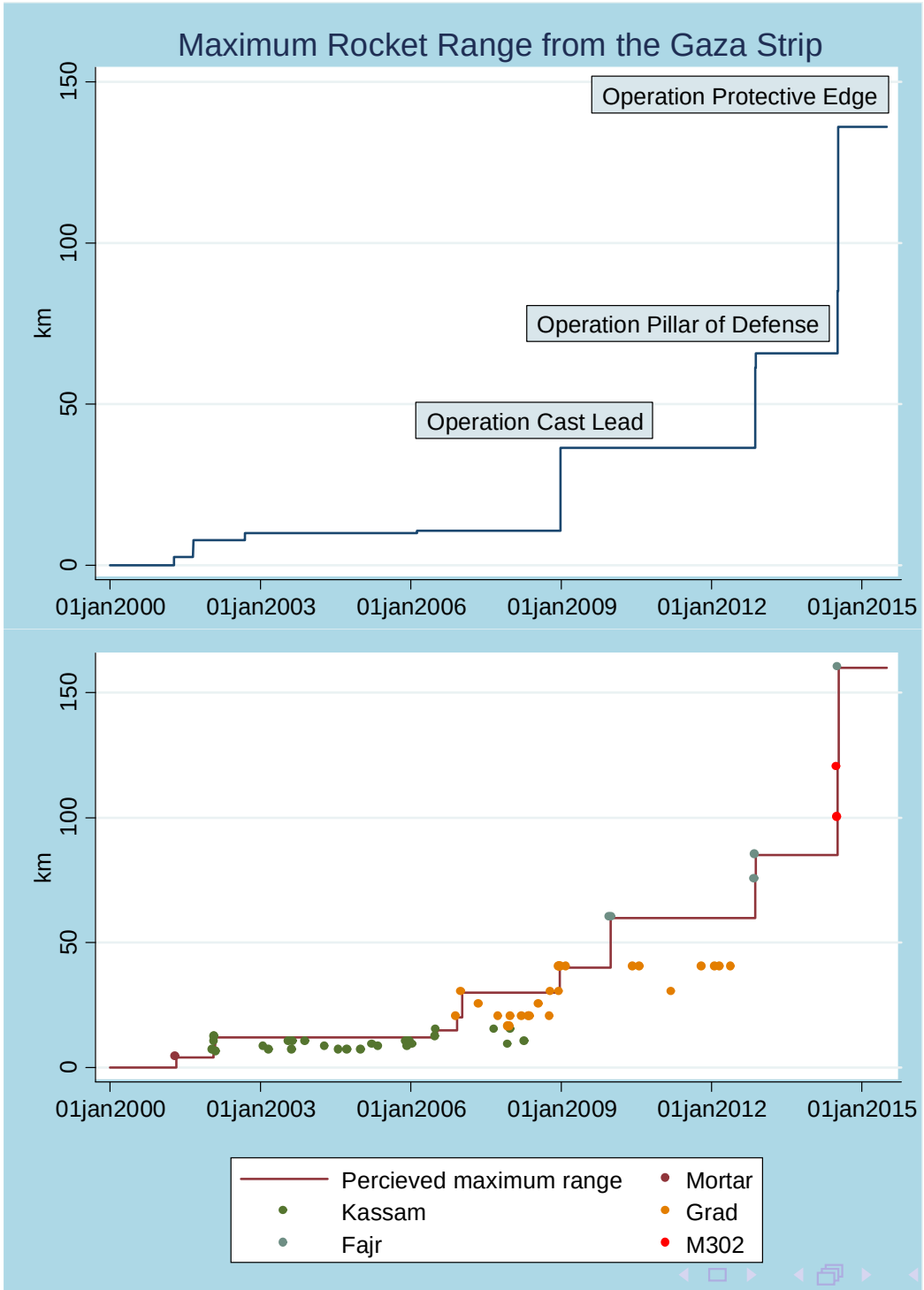
- The rocket threat shifted political support in Israel from the center to the right, mainly to the "Likud" party and did not affect turnout

Summary Statistics

Between election rounds	*1999-2003*	*2003-2006*	*2006-2009*	*2009-2013*	*2013-2015*
Property damage data					
Claims	16	324	4,671	3,267	2,345
Compensation (NIS millions)	0.7	6.5	58.0	74.3	58.5
By election round held in	*2003*	*2006*	*2009*	*2013*	*2015*
Maximum rocket range (km)	10.9	10.9	38.3	67.6	136.1
Media Coverage					
Maximum rocket range (km)	12	12	40	85	160
Voting data					
Eligible voters (millions)	4.7	5.0	5.3	5.7	5.9
Turnout (%)	66.7	59.2	60.4	63.3	67.6
Right bloc vote share (%)	53.8	39.4	52.1	46.2	45.8
Localities with voters	1,152	1,148	1,155	1,183	1,194

Monthly Number of Rocket-Related Claims




Maximum Rocket Range from the Gaza Strip
km
0
50
100
150
Operation Protective Edge
Operation Pillar of Defense
Operation Cast Lead
01jan2000
01jan2003
01jan2006
01jan2009
01jan2012
01jan2015
Percieved maximum range
Kassam
Fajr
Mortar
Grad
M302