

Why do people join armed groups?

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 - Yet typically overlook grievance (**intrinsic incentives**)
- **Empirical challenge**
 - Prices/wages easy to measure, intrinsic motivation less so

This paper

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- Especially: Perpetrator is external Hutu group
- Especially: when other family members were victimized; when village chief was attacked

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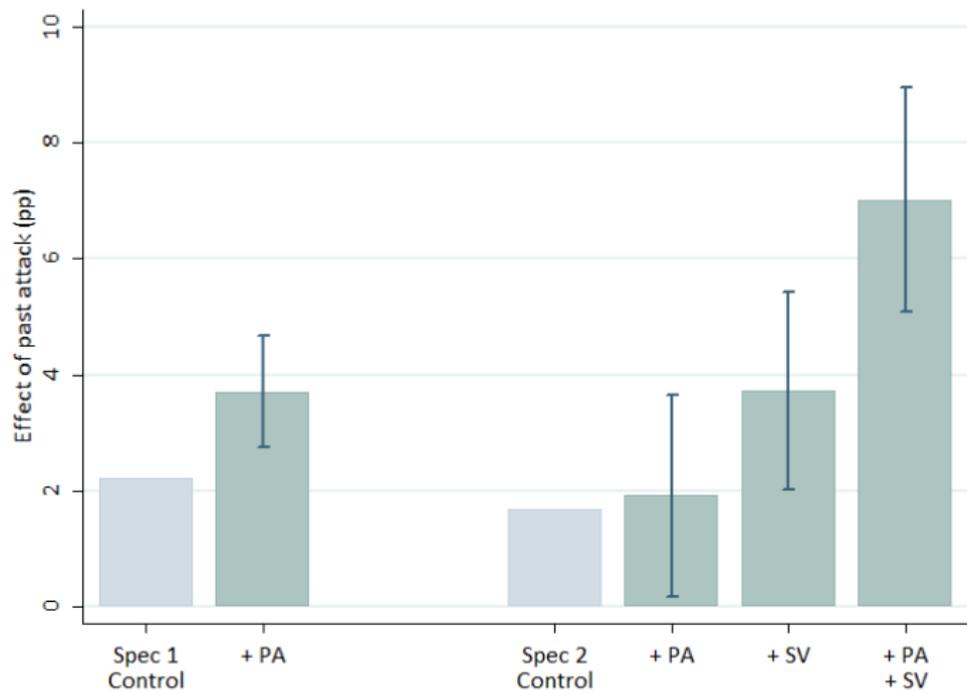
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- Especially: when other family members were victimized; when village chief was attacked

3 Mechanism: wealth? security?

- Controlling wealth indicators or insecurity proxies does not eliminate the main effect

Main result



Contributions to the literature

1 **Why violence:** Greed vs. Grievance

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- Benabou and Tirole (2003), Dal Bo and Finan (2013)
→ Open the black box of intrinsic motivation (endogenous)

Outline

- 1 Context
- 2 Data collection and stylized facts
- 3 Empirical strategy and results
- 4 Mechanisms
 - Parochial altruism channel
 - Wealth channel
 - Protection channel
- 5 Robustness

DRC: 140 armed groups active today

MAP OF NON-STATE ARMED ACTORS IN NORTH & SOUTH KIVU (DEMOCRATIC REPUBLIC OF THE CONGO)

October 2017

www.kivusecurity.org

www.suluho.org

- | | |
|----------------------------------|------------------------------|
| 1- ADF | 70- RM Butchira |
| 2- AFDL | 71- RM Congo-Ngandu |
| 3- CNRD | 72- Ruzi Mutomboki Itanga |
| 4- FDC-Gaillard | 73- Maji Maji Kiwa Kufwa |
| 5- Rwenzori group | 74- RM Kundwinda |
| 6- FDLR-FOCA | 75- RM Inzai Itwa |
| 7- FDLR-IED | 76- RM Inzai |
| 10- FNL - Nzakansama | 77- RM Kuzima |
| 11- Maji Maji Kandi | 78- Ruzi Mutomboki Lubala |
| 12- Nyatara FEP | 79- Ruzi Mutomboki Makala |
| 14- LD Zone | 80- RM Kuzima |
| 15- LD Kuzumba | 81- RM Kunguru |
| 16- LD Makindu | 82- RM Kuzima |
| 17- Maji Maji Mbulu | 83- RM Mbulu |
| 18- Maji Maji Ditungo | 84- Ruzi Mutomboki Sateri |
| 19- wa-MCZ | 85- RM Kuzumba |
| 20- Gaidze-MAC | 86- RM Shikuru |
| 21- Maji Maji Charwe | 87- RM Shikuru |
| 22- Camp de Christ | 88- RM Shikuru |
| 23- FEPY | 89- URFC-Lufempe |
| 24- RM Kabuzi | 91- RM Shikuru |
| 26- RM Kibuzi | 92- RM Shikuru |
| 27- Maji Maji Kifuraha Daghiri | 94- Maji Maji Kundanga |
| 28- Nyatara Kigali | 95- Nyatara Lave |
| 29- Maji Maji Kifuraha Maachiro | 96- Maji Maji Mwanano |
| 30- Maji Maji Kifuraha Mbulu | 97- Ruzi Mutomboki Kwekwe |
| 31- Maji Maji Shikwa (Maji) | 98- Maji Maji Dario |
| 32- Maji Maji Mwanemeli | 99- Maji Maji Dario |
| 33- Maji Maji Muringa | 100- Maji Maji |
| 34- Maji Maji Kinoo Dimesha | 101- URFC |
| 35- Nyatara Muringa | 102- URFC |
| 36- Maji Maji Bwamba (FPC) | 103- Ruzi Mutomboki |
| 37- Nyatara Bwamba | 104- Maji Maji Shu Eia |
| 38- Maji Maji Makarali | 105- URFC-Itawa |
| 39- Maji Maji Kikicho | 106- Ngabwema |
| 41- Maji Maji Muburu | 107- Maji Maji Nguru |
| 42- Muzembe | 108- FOREQU/FPB |
| 43- Itawa Rikumbuka | 109- URFC-Itawa |
| 44- Maji Maji Makumbi | 110- RM Kuzumba |
| 45- Maji Maji Makumbi | 111- Nyatara Garamba |
| 46- Maji Maji Nguru | 112- Nyatara ZED |
| 47- Maji Maji Makumbi | 113- Nyatara Inzi-Kirika |
| 48- Maji Maji Nyamira | 114- Maji Maji Kikumbi |
| 49- Maji Maji MPA/PAHEM | 115- Maji Maji Sibemba |
| 50- Maji Maji Echilo | 116- Milla Palombe |
| 51- Maji Maji Makwila (De Assis) | 117- Maji Maji Louanga |
| 52- Maji Maji Vinyo | 118- Maji Maji Sibemba-Lit |
| 53- Maji Maji Wakuamba | 119- Milla M'Luaba |
| 54- Maji Maji Kankara | 120- Ruzi Mutomboki Mwanza |
| 55- Nyatara-ARFDC | 121- Maji Maji Makumbi |
| 57- NDC-E | 122- RM Makumbi |
| 58- NDC-Itawa | 123- Ruzi Mutomboki Mwanella |
| 60- Nyatara Daria | 124- Maji Maji Ngila |
| 61- Nyatara Daria | 125- Tangemba |
| 62- Maji Maji Mwekanya | 126- Nyatara Kuzul |
| 63- Nyatara Kawamba | 127- Maji Maji Inzai |
| 64- Nyatara Kikote | 130- Ruzi Mutomboki |
| 65- Nyatara Kinanga | 131- Mwanella |
| 68- RM Akilo | 132- Local Defense Ngangwa |
| 69- Ruzi Mutomboki Makala | 133- CNPCC |



Types of armed organizations

Standard classification (Sanchez de la Sierra, *forthcoming*)

- **External groups** (Rwandan - unconcerned with pop. welfare)
 - **Mission:** control region (Tutsi), express anger/steal (Hutu)
- **Village militia**
 - **Mission:** secure the village
- **Regional militia**
 - **Mission:** secure region, fight invasions, punish perpetrators
- **Congolese army**
 - **Mission:** secure the region, fight invasions

History of the wars

1 **Rwandan genocide:** 1994

- Disgruntled genocide perpetrators (Hutus) enter DRC (FDLR)

2 **First Congo War:** 1996/1997

- Rwandan Tutsi + Regional militia remove President Mobutu

3 **Second Congo War:** 1998-2004

- New Tutsi group (RCD) takes over half the country (state force)

4 **Post-conflict security vacuums:** 2004-today

- Sec. vacuum 1: 2003 [peace agreement](#), Tutsi army vacates
- Sec. vacuum 2: 2010 [military operation](#), DRC army vacates

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Data collection: 2012-2015

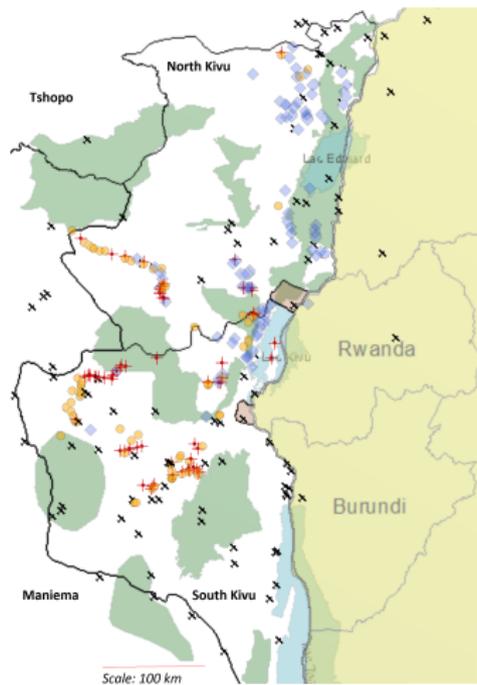
■ Village survey

- Surveyors identify chief and village specialists, and train them to provide records of village attacks, taxes, and administration details of armed groups since 1990. Data collection/monitoring during one week per village

■ Household survey

- Surveyors randomly select 6/8 households in each village. Randomly selected household respondents list migration history, occupational history, attack history, participation history, and asset flow since 1990

Sample villages



Attack variables

Retrospective panel: For each individual and for each year

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■ Respondent survey

- Question: “Report up to 9 attacks that happened in your contemporary village”
- Attack details:
 - Perpetrators: external Hutu/Tutsi, militia, Congolese army
 - Motive: pillage, sanction, conquest
 - Action: (1) Respondents assaulted; (2) Household looted; (3) Other villagers sexually victimized; (4) Chief attacked; (5) Fatality

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■ Household survey

- Question: “Report up to 3 attacks for each household member”
- Only include attack years

Other variables

■ **Occupational choice history**

- Participation in armed groups, by recruiters
- Other occupations: Agriculture, mining, civil servant, unemployed

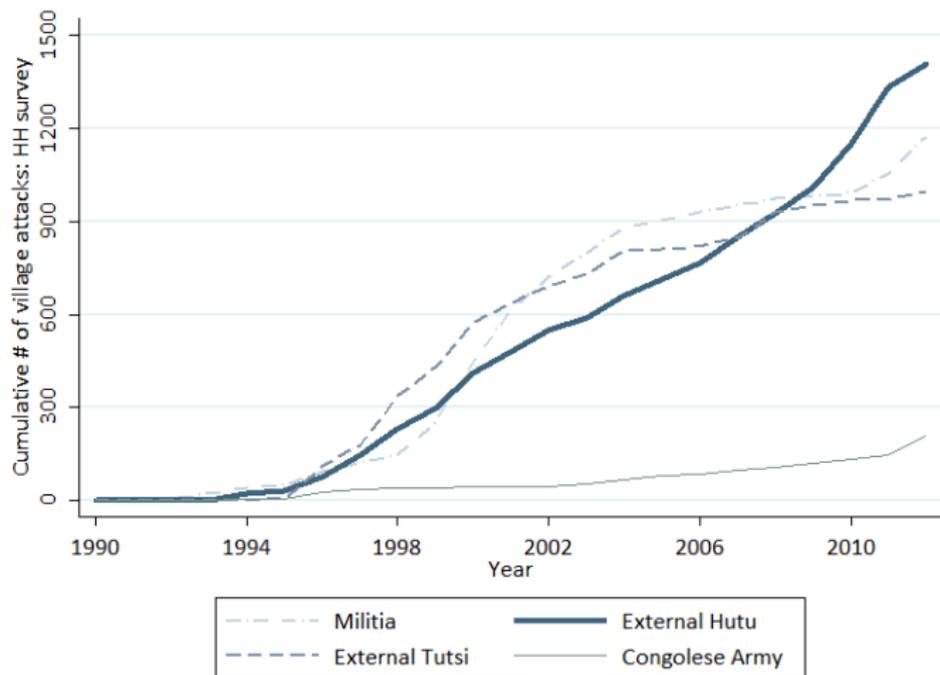
■ **Investment history**

- Asset acquisition/liquidation: farm animals, land
- Weddings

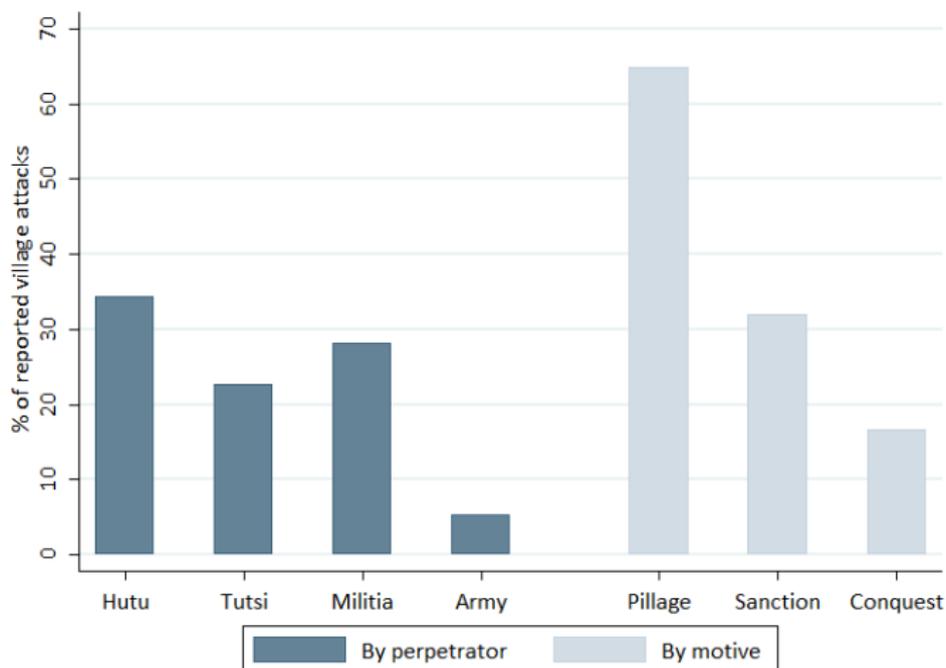
■ **Migration history**

- History of all living villages

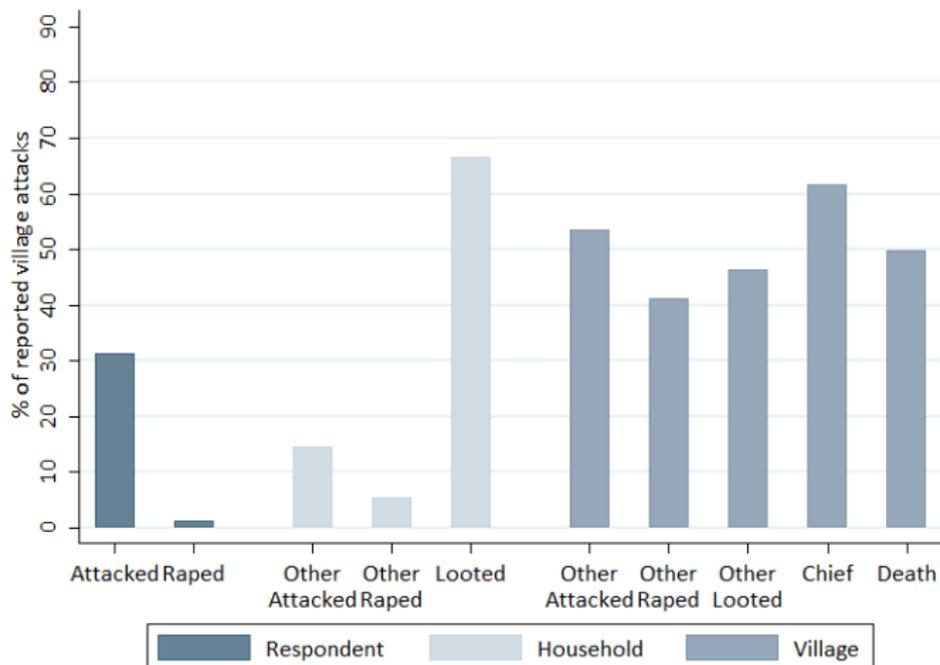
Stock of attacks over time: HH survey



Reported attacks by perpetrators and motives



Characteristics of attacks



▶ For each perpetrator

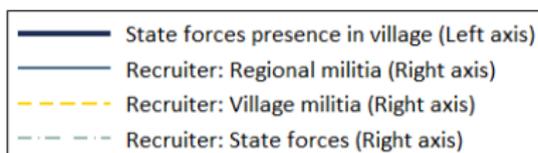
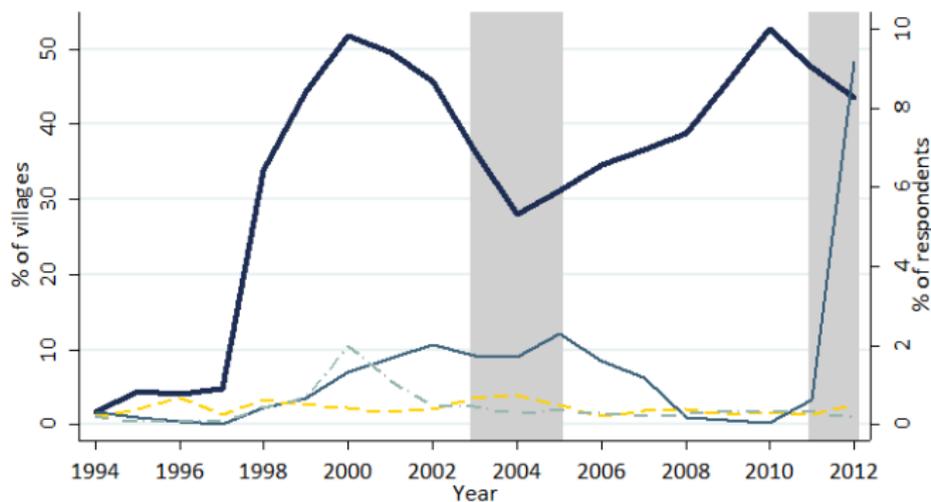
▶ For each motive

Who are the recruits?

	Non-Part _{it}	Part _{it}	Diff+
Obs. (Age \geq 15, 1995 \leq t \leq 2012)	24368	784	
Age in year t	32.14	32.68	-0.38
Has reported an attack before year t	52.89	69.64	6.06**
Born in a rich family	26.36	34.74	0.65
A relative to chief	11.31	13.28	0.81
Imputed wealth index at birth	0.00	0.30	-0.12
Works in mining in year t - 1	22.55	18.26	-4.65**
Works in agriculture in year t - 1	61.00	58.04	-2.46
Works as civil servant in year t - 1	7.77	19.55	5.92**
Unemployed in year t - 1	7.15	10.83	0.35
Buys cows in year t - 1	5.22	9.55	2.42**
Buys goats in year t - 1	1.09	1.01	-0.04
Buys pigs in year t - 1	1.90	4.34	0.59
Buys land in year t - 1	5.30	7.46	0.85
Holds a marriage in year t - 1	4.18	2.65	-1.65
Imputed wealth index in year t - 1	0.09	0.15	0.07

+Difference: controlling for year and village FE, cluster in village

Security vacuums and participation waves



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Econometric specification 1

$$y_{ijt} = \beta \text{Previous attack}_{ijt} + \alpha_i + \alpha_t + \alpha_j + X'_{ijt} \delta + \epsilon_{ijt}$$

- y_{ijt} : Individual i living in village j in year t participates

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Identification assumption: Within individual and within year, switch of attack status is orthogonal to other unobserved factors correlated with participation

Econometric specification 2

$$y_{ijt} = \beta_1 \text{Previous attack}_{ijt} + \beta_2 \text{Previous attack}_{ijt} * \text{Security vacuum}_{jt} \\ + \beta_3 \text{Security vacuum}_{jt} + \alpha_i + \alpha_t + \alpha_j + X'_{ijt} \delta + \epsilon_{ijt}$$

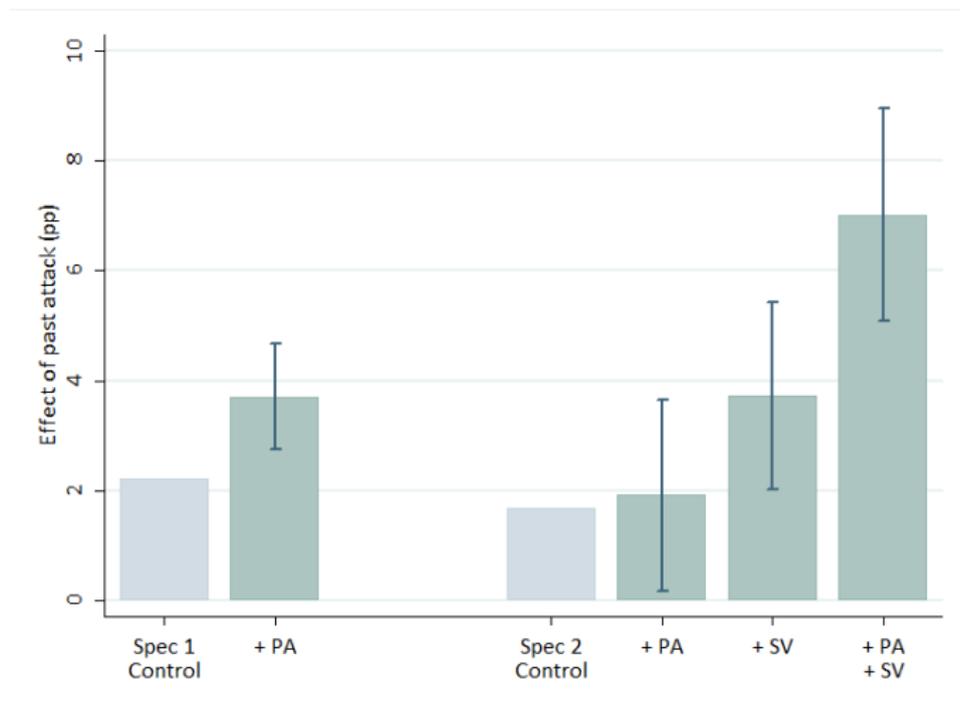
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- *Security vacuum (SV) = 1 - “State” force present*
- Results identical with reduced form on vacuum shocks

Identification assumption: Within individual, within year, the switch of attack status prior to security vacuum is orthogonal to unobserved factors correlated with participation during security vacuum

Main result: specifications 1 & 2



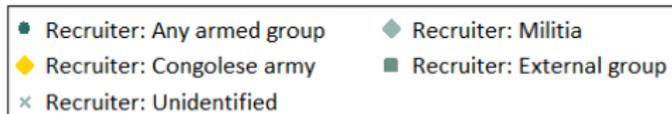
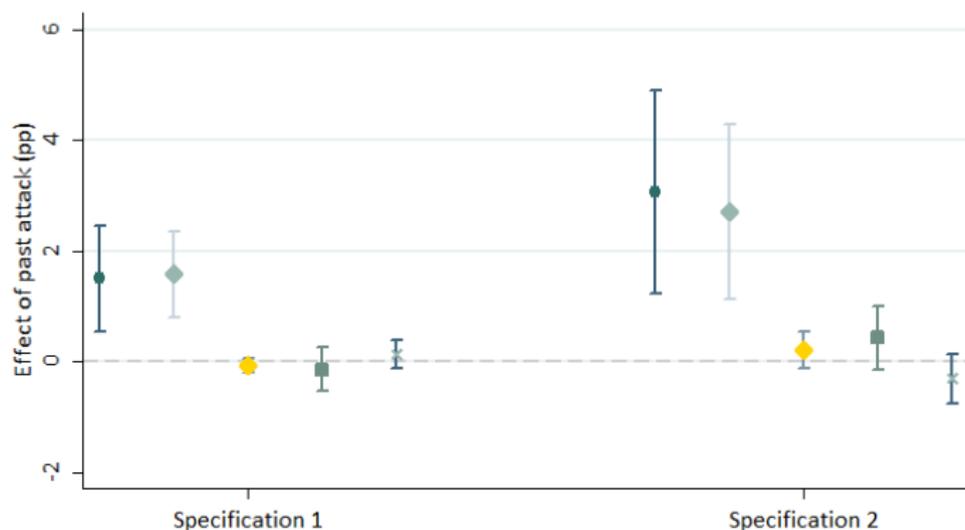
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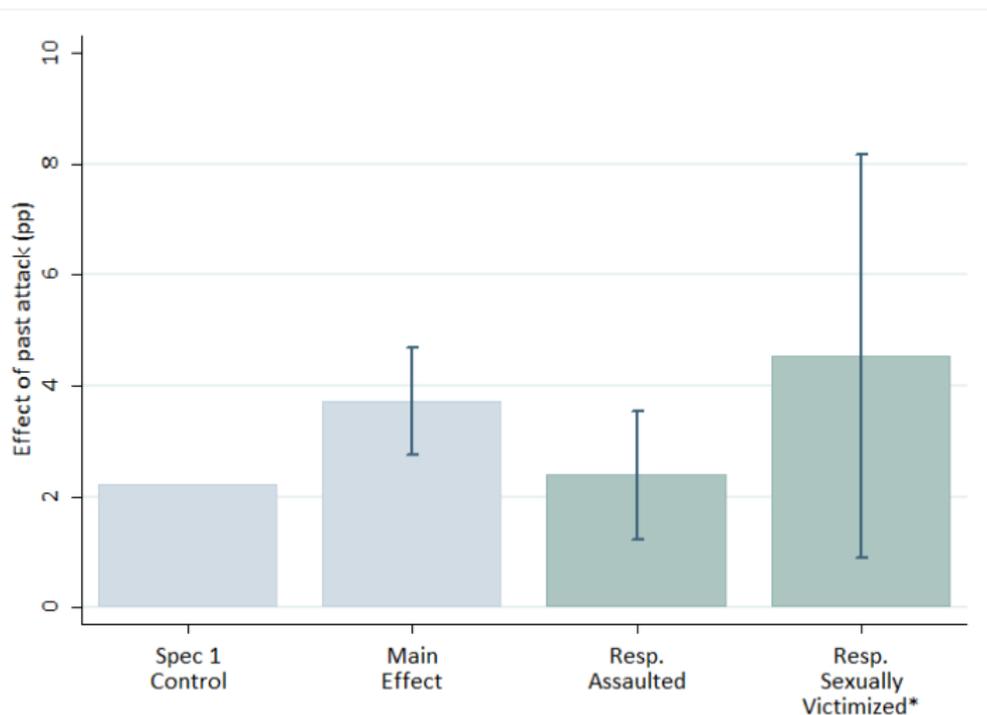
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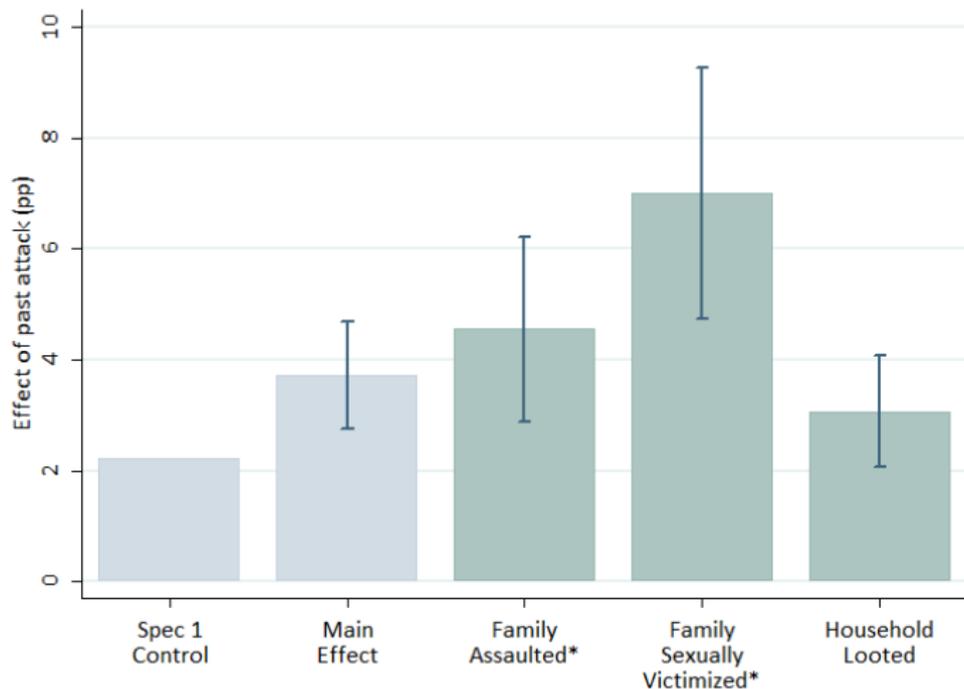
Recruiter: Militia



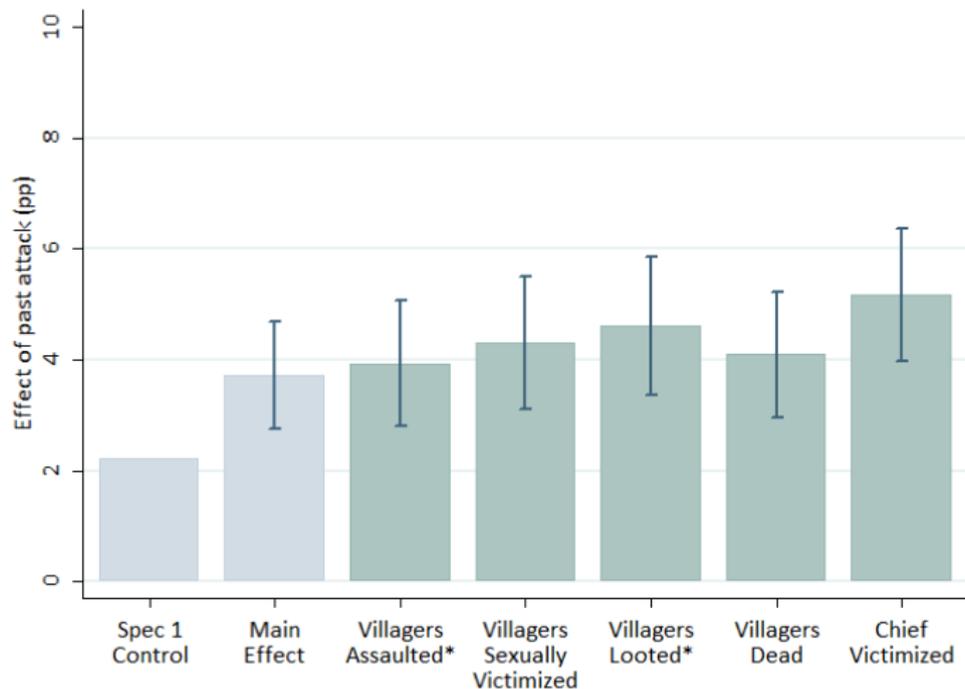
Mechanism: Attacks by resp. characteristics



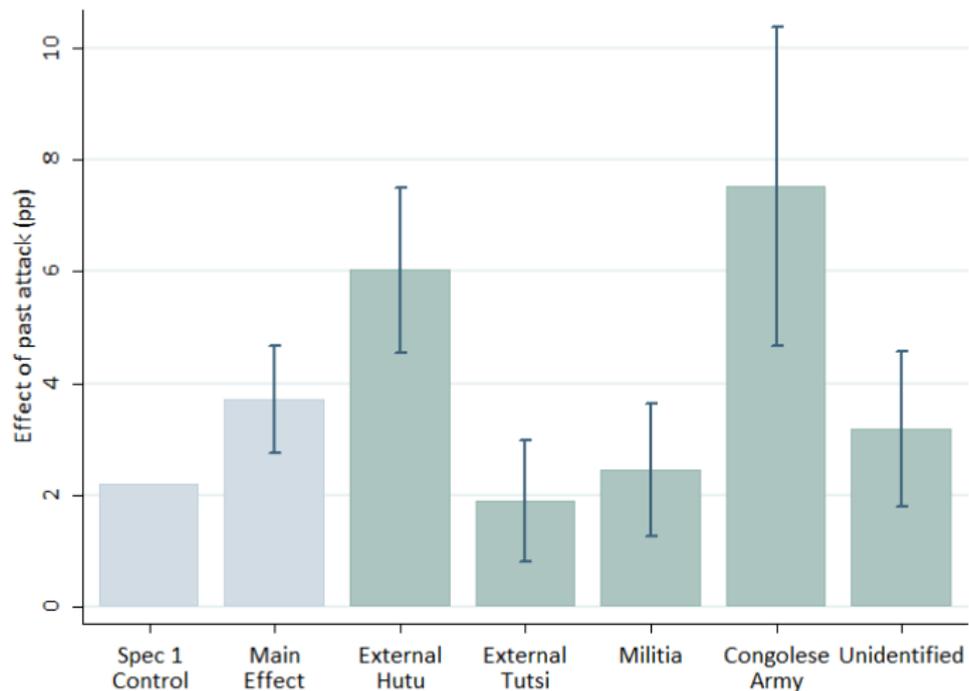
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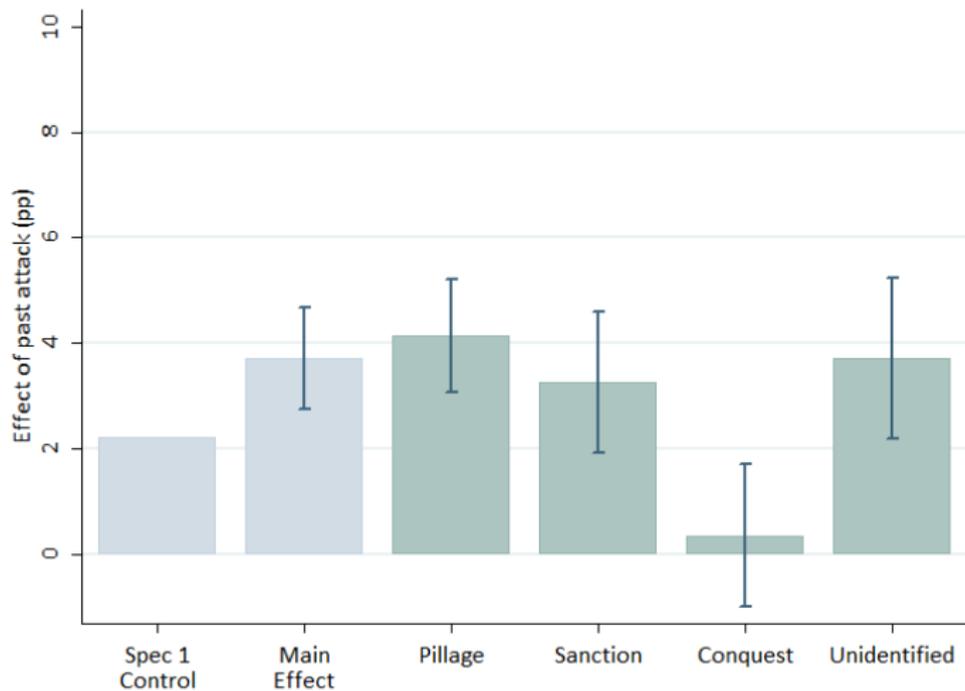
Mechanism: Attacks by village characteristics



Mechanism: Attacks by perpetrators



Mechanism: Attacks by motives



Summary: Parochial altruism

- If respondent reported a village attack in the past, he is 1.5% more likely to participate in any armed group
- Respondents mainly join militia in response to past attack experience
- Respondents respond more strongly to attacks when family was sexually victimized or village chief was victimized
- Respondents respond more strongly to Hutu attacks and Congolese army attacks
- Respondents respond negatively towards conquests where village chief was seldom victimized
- These suggest out-group attacks related to insult or dignity violation might increase intrinsic utility of participation

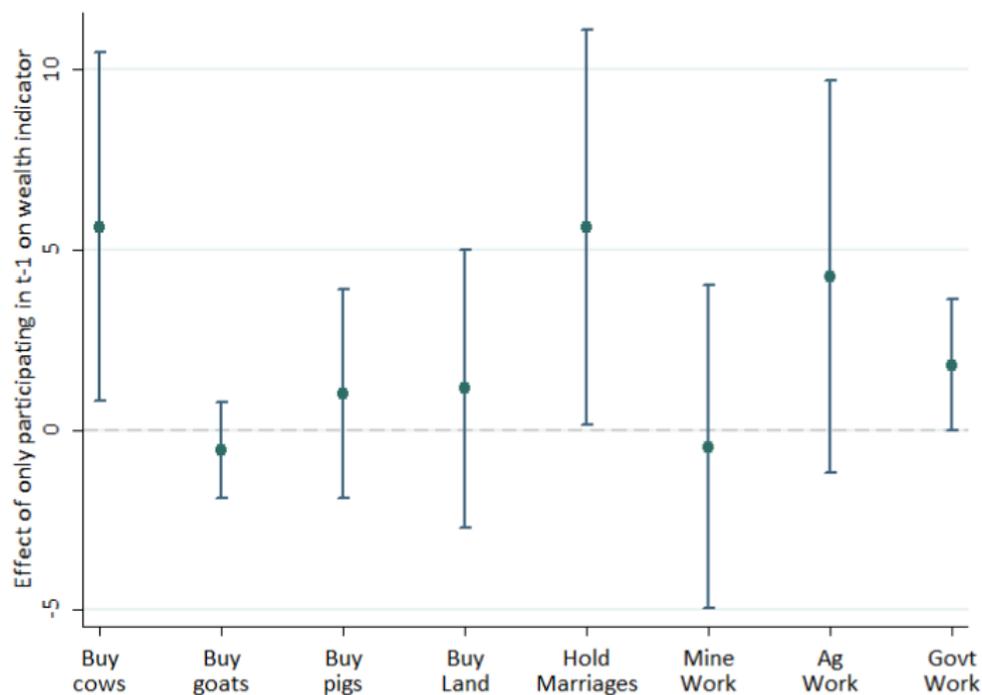
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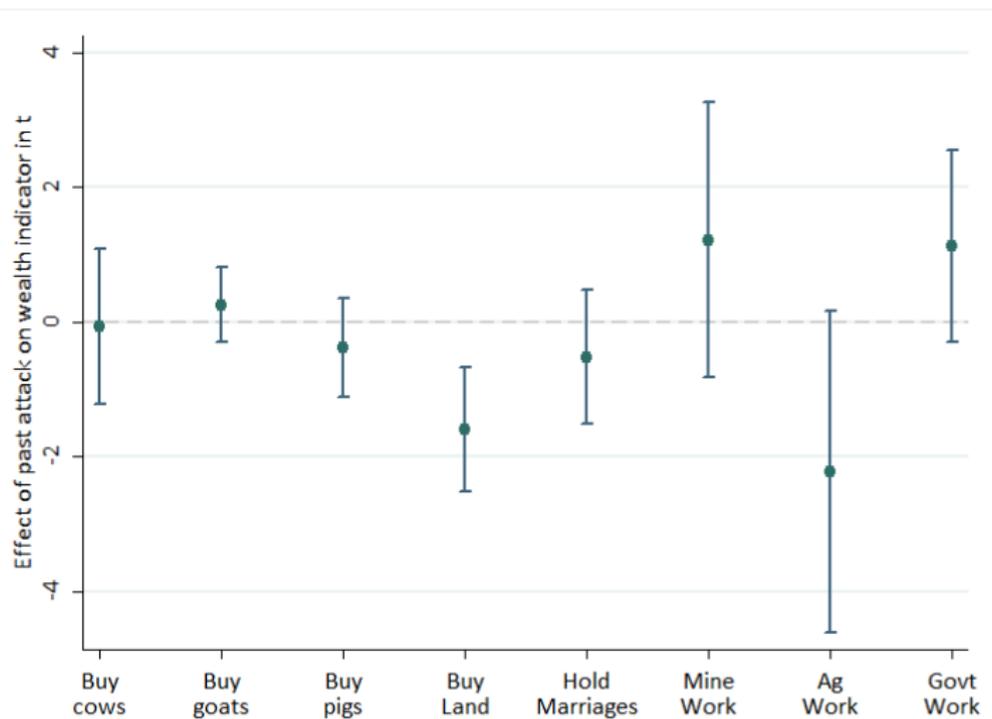
Alternative mechanism: Wealth

- Wealth channel
 - Participation might bring more wealth to the household
 - Villagers who experienced an attack might also suffered from wealth loss
 - Villagers thus participate for wealth incentive
- What we found
 - Participation leads to more investment in cows, more marriages, and more employment in government office
 - Experiencing an attack in the past decreases investment in land, not significantly in other wealth indicators
 - Controlling for wealth proxies in year t might absorb some of the main effect, but mostly because of “bad” control of holding marriages

Wealth channel: Return to participation

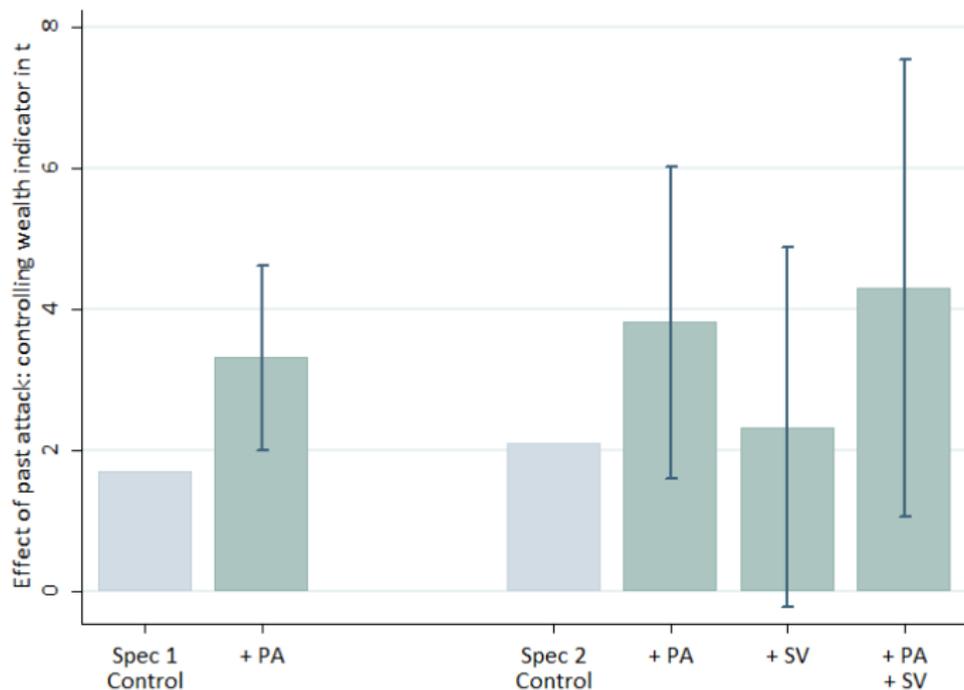


Wealth channel: Effect of past attack on wealth indicator



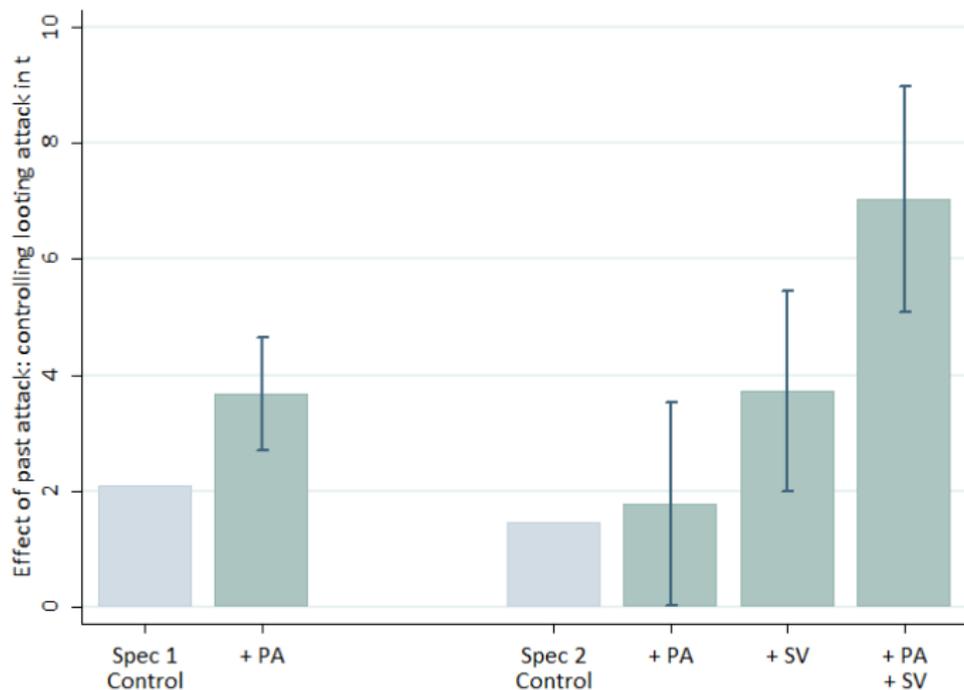
Wealth channel: Main effect controlling current wealth

Wealth proxy: Purchase of farm animals, holding marriages, occupational choices in year t [◀ Step by step](#)



Wealth channel: Main effect controlling current wealth

Wealth proxy: Looting attack, looting attack in other households, pillage attack in year t



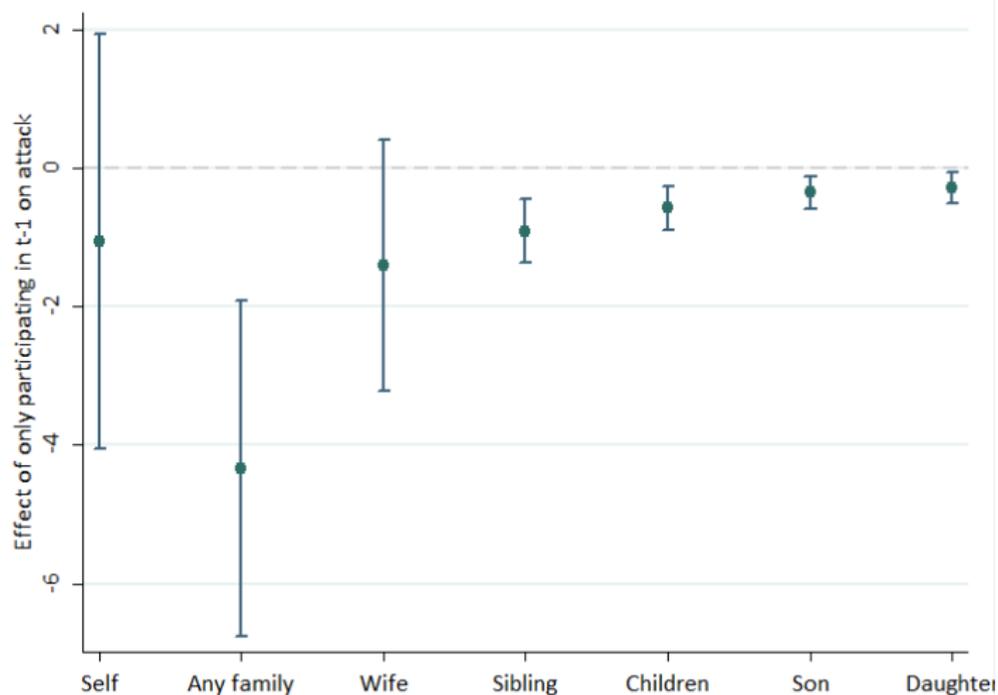
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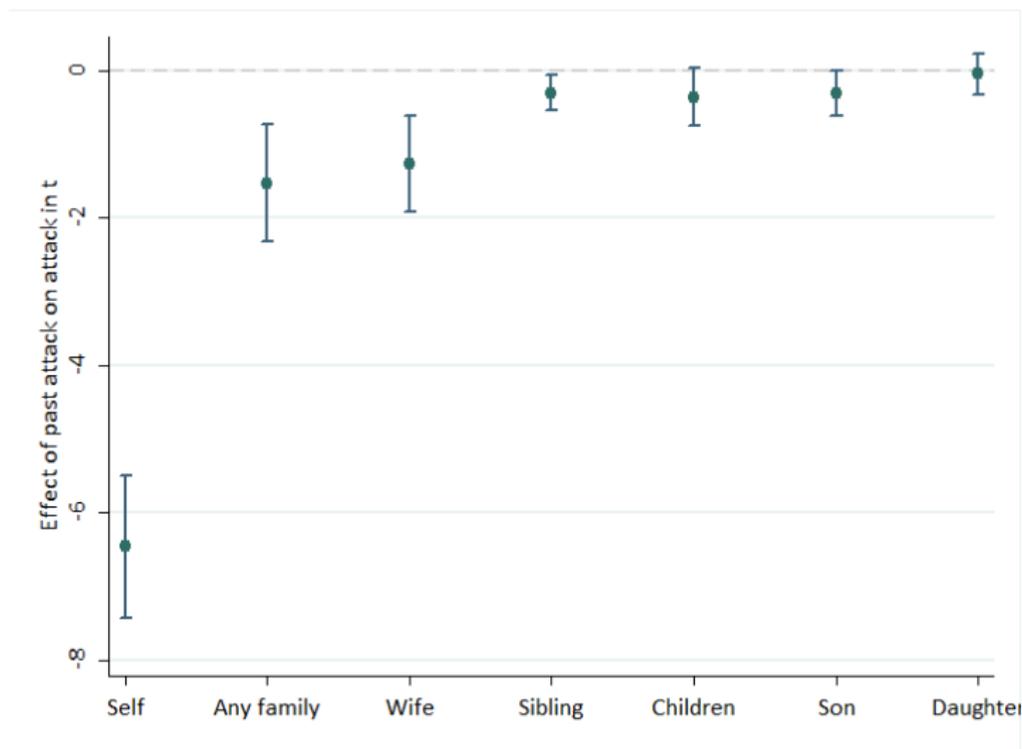
Alternative mechanism: Protection

- Protection channel
 - Participation might bring protection for family
 - If villagers experienced an attack in the past, they might be more likely to be attacked in year t , or they feel more insecure in year t
 - Villagers thus participate to protect themselves or their family
- What we found
 - Participation indeed decreases the likelihood of being attacked in year t
 - Experiencing an attack in the past in fact decreases the likelihood of being attacked in year t
 - Controlling for insecurity proxies in year t does not affect main coefficients

Protection channel: Return to participation

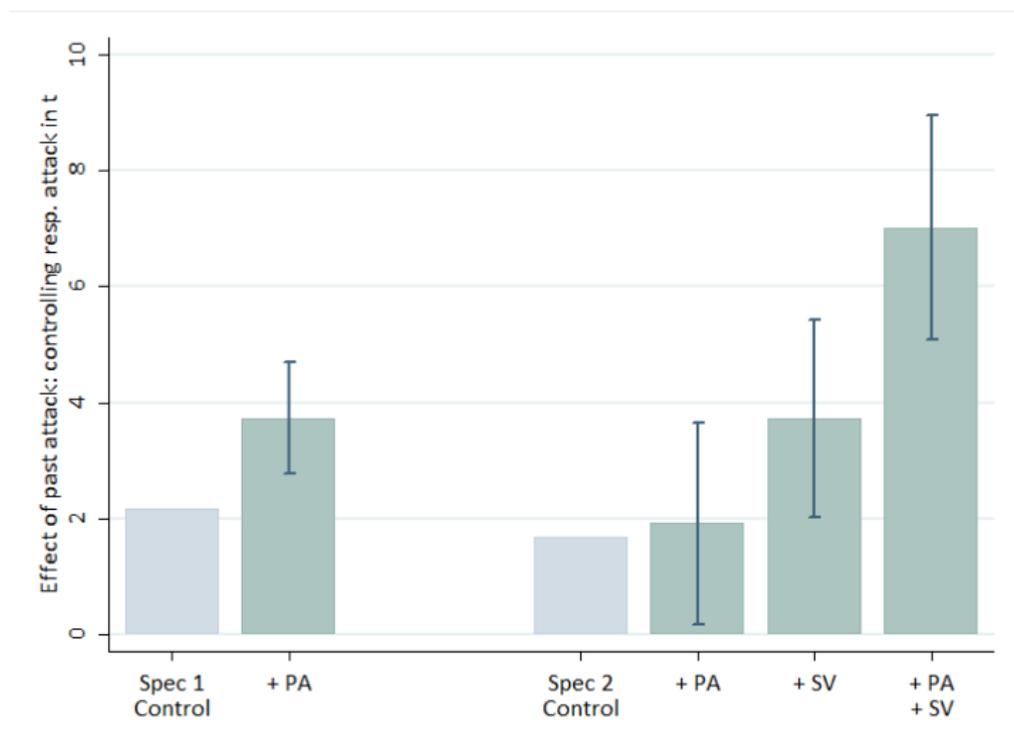


Protection channel: Effect of past attack on insecurity



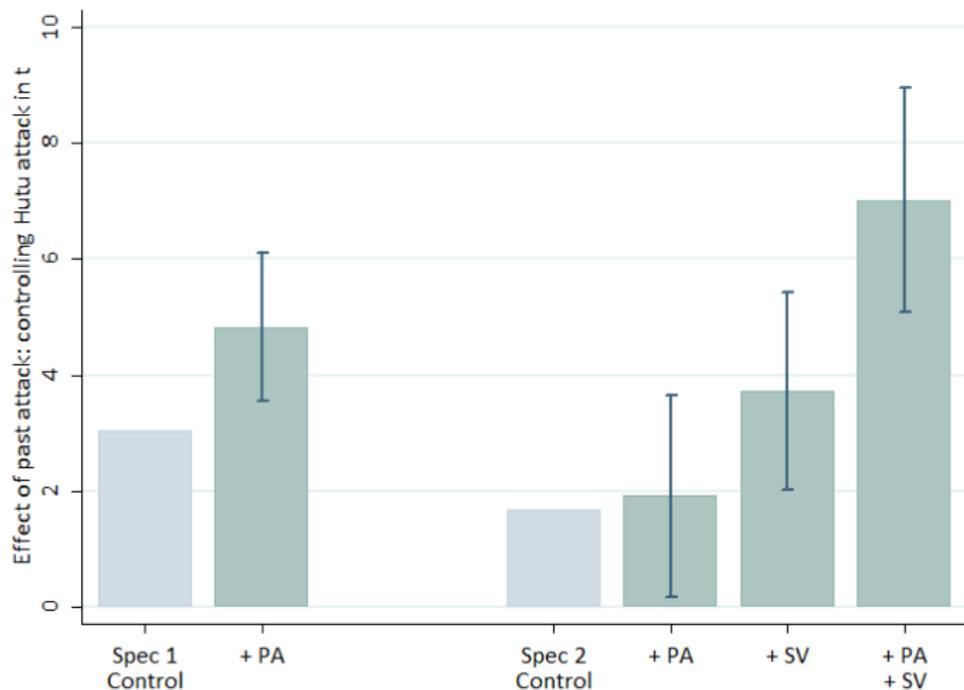
Protection channel: Main effect controlling insecurity

Insecurity proxy: Resp. attack and any family attack in year t



Protection channel: Main effect controlling insecurity

Insecurity proxy: Reported Hutu attack in year t , Hutu presence in village j in year t



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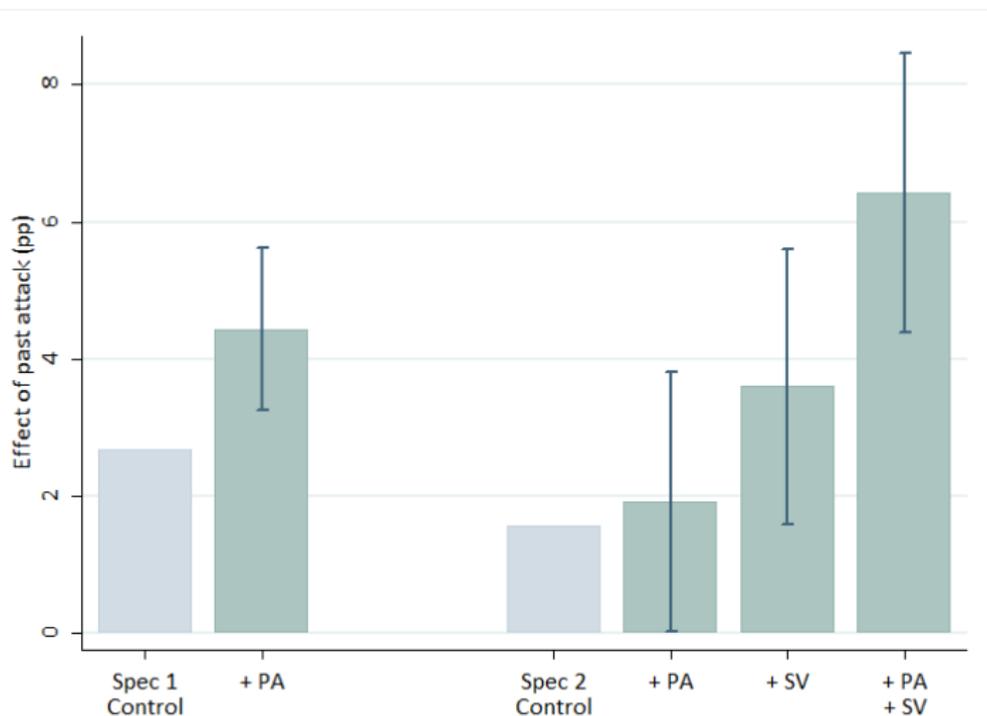
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Robustness of main results

- Recall bias or strategic misreporting
 - What we do: use village attacks information from village survey and ACLED
- Targeting
 - Villagers of specific characteristic might be more likely to experience attacks in the past, and this particular characteristic might be correlated with participation
 - What we do: control for characteristics at birth (\times time trend), past participation, asset stock, past occupations, or current coltan/gold prices

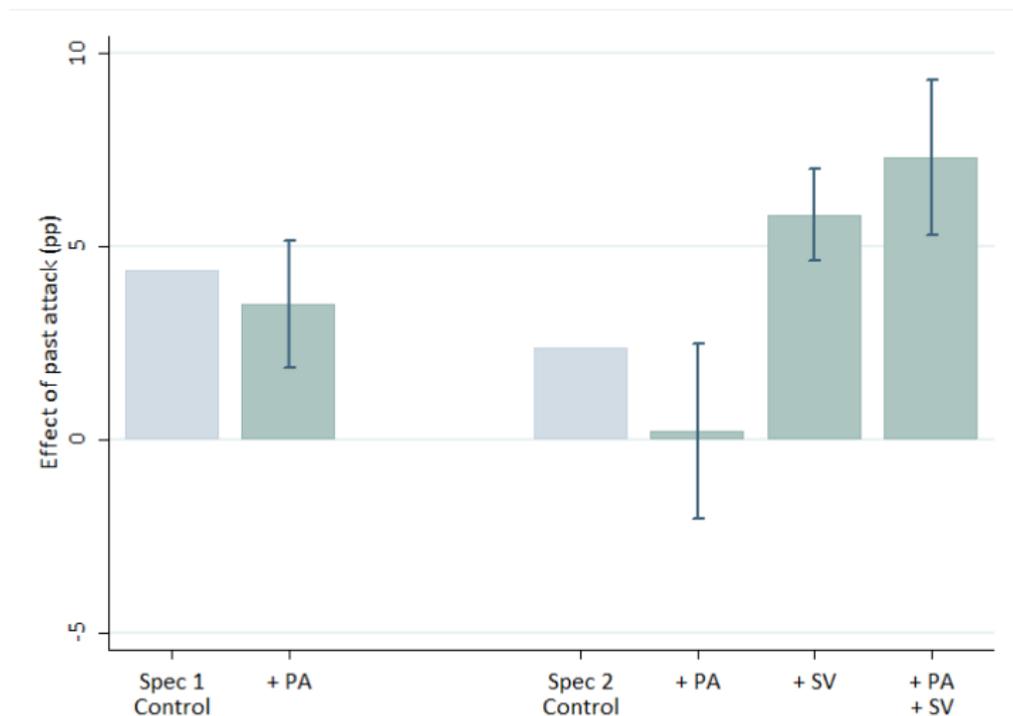
Robustness: Village survey

Attack variable: Whether there was an attack reported by chief in village j before year t

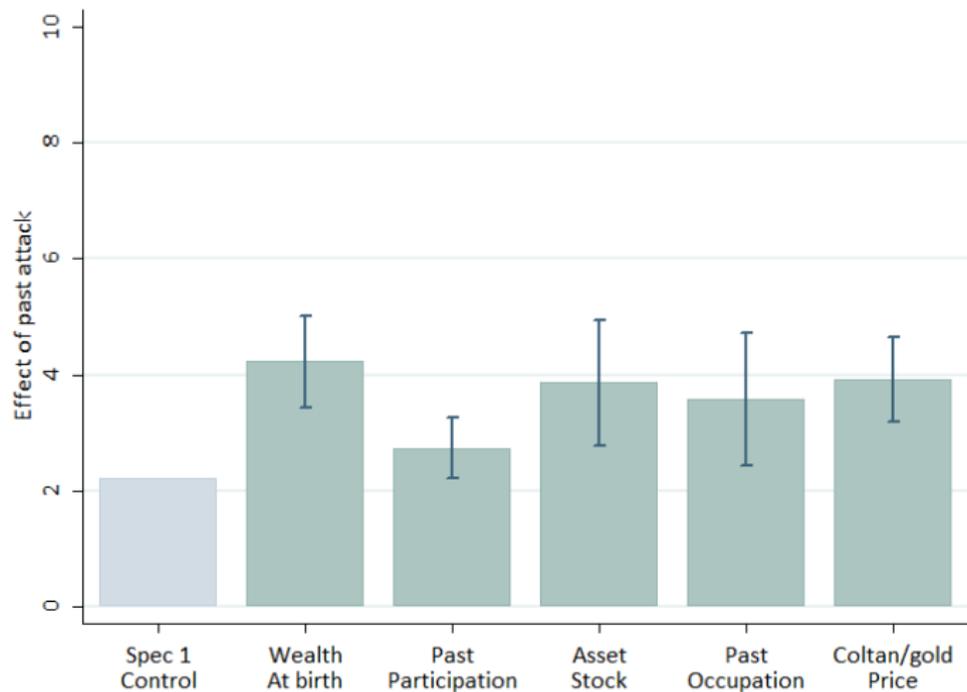


Robustness: ACLED

Attack variable: Whether there was an attack recorded in ACLED within a radius of 5km of village j before year t



Robustness: Controlling for potential targeting



Conclusion

1 Consistent evidence of grievance/parochial revenge

- Effect especially strong by humiliating attacks
- Individuals join popular militia in response to Hutu attacks or Congolese army attacks
- Family members and villagers attack spillovers

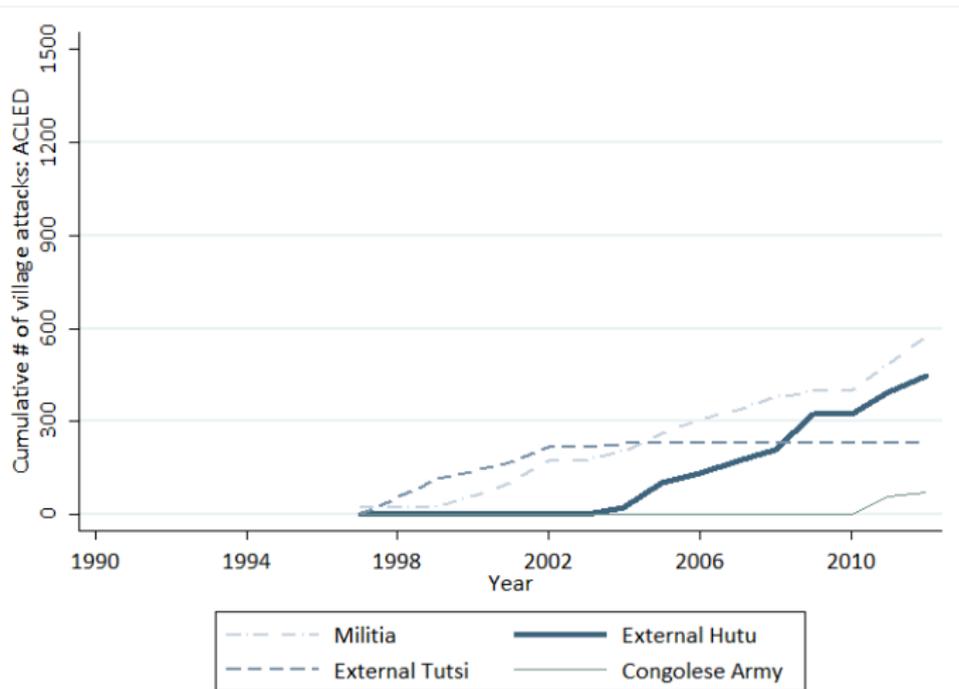
2 Limited evidence of greed/economic motives

- Participation increases some wealth indicators
- Controlling for current wealth indicators does not affect the main result in most cases

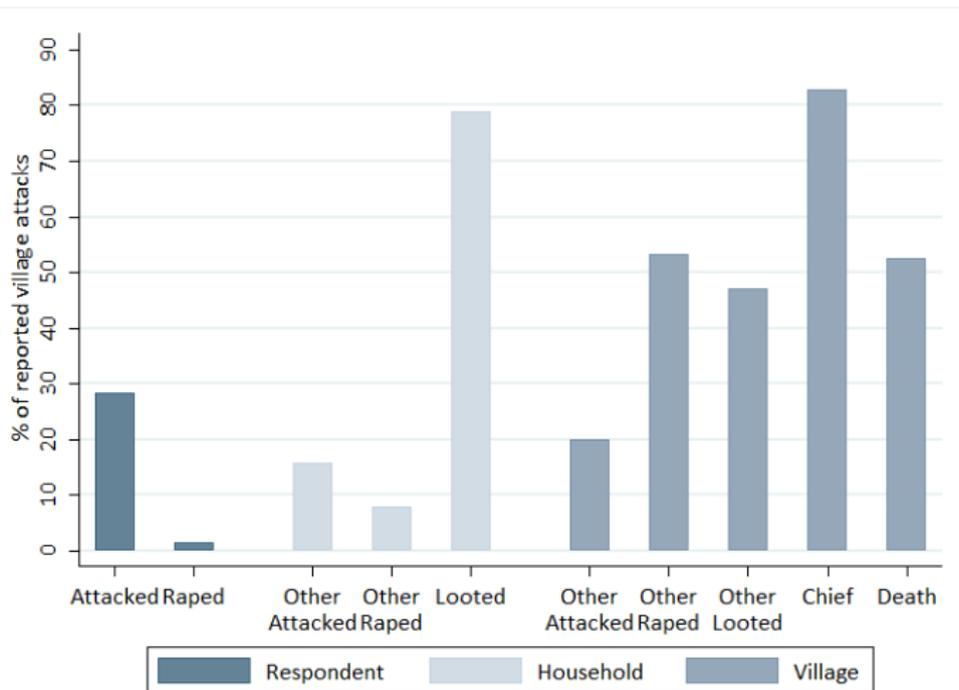
3 Limited evidence of protection motives

- Participation decreases likelihood of being attacked
- Controlling for insecurity proxies does not affect the main result

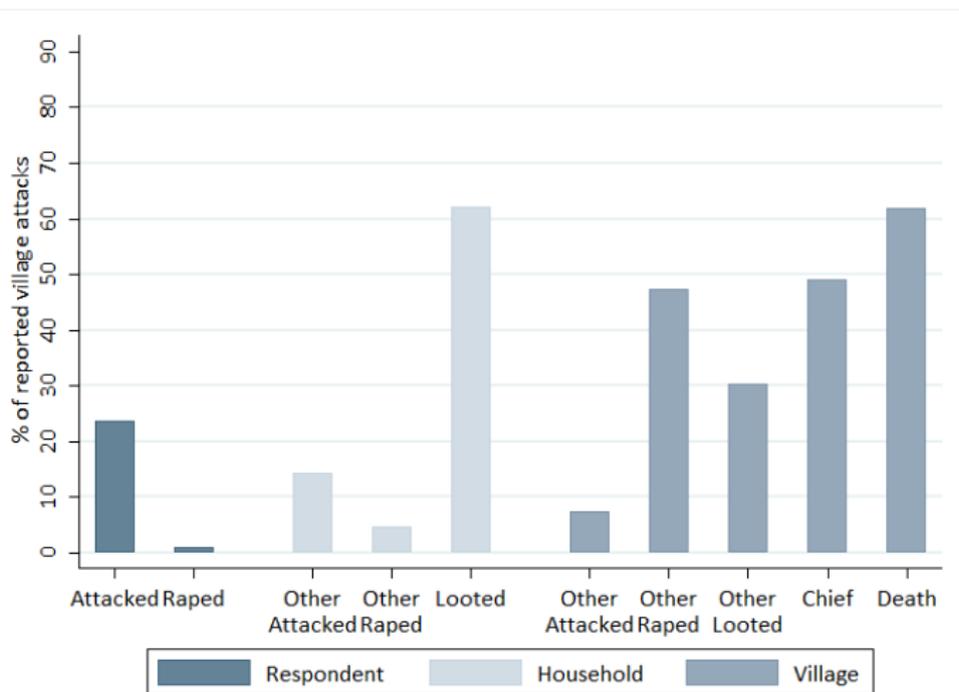
Stock of attacks over time: ACLED



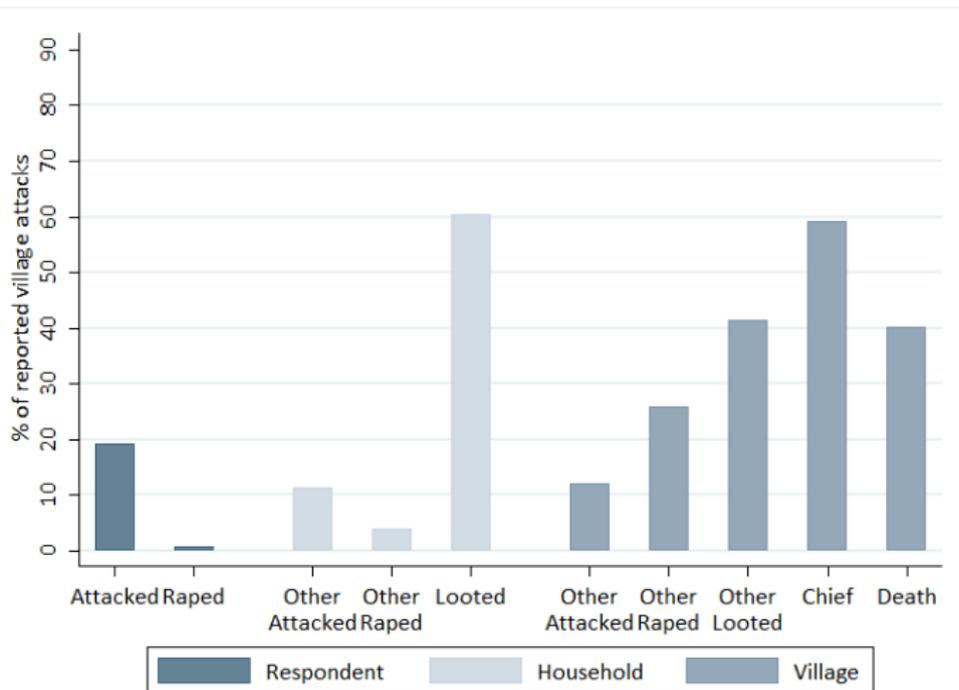
Characteristics of attacks: Hutu



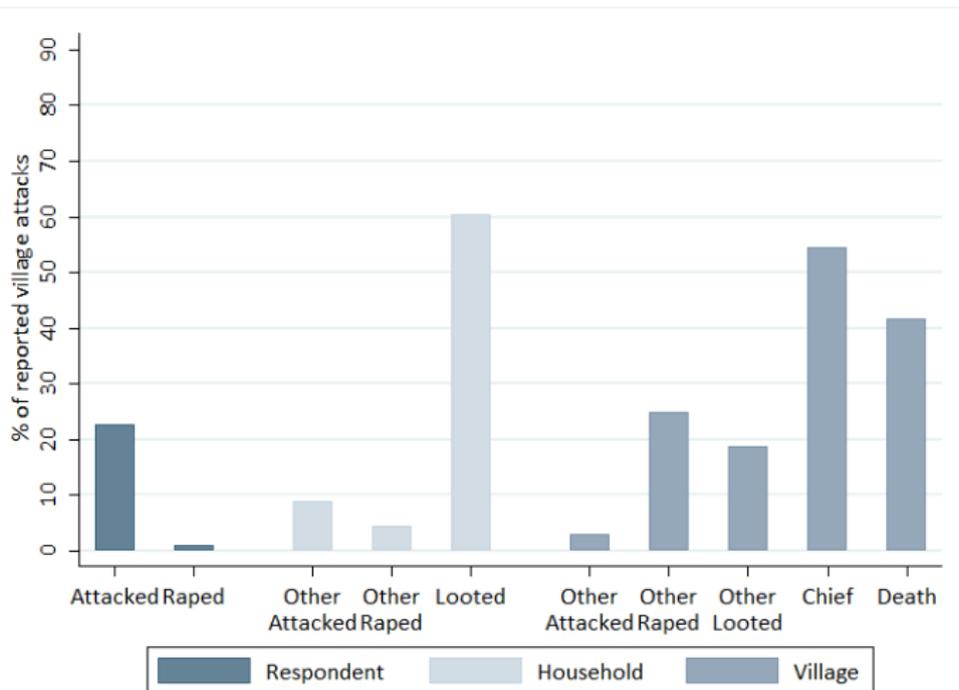
Characteristics of attacks: Tutsi



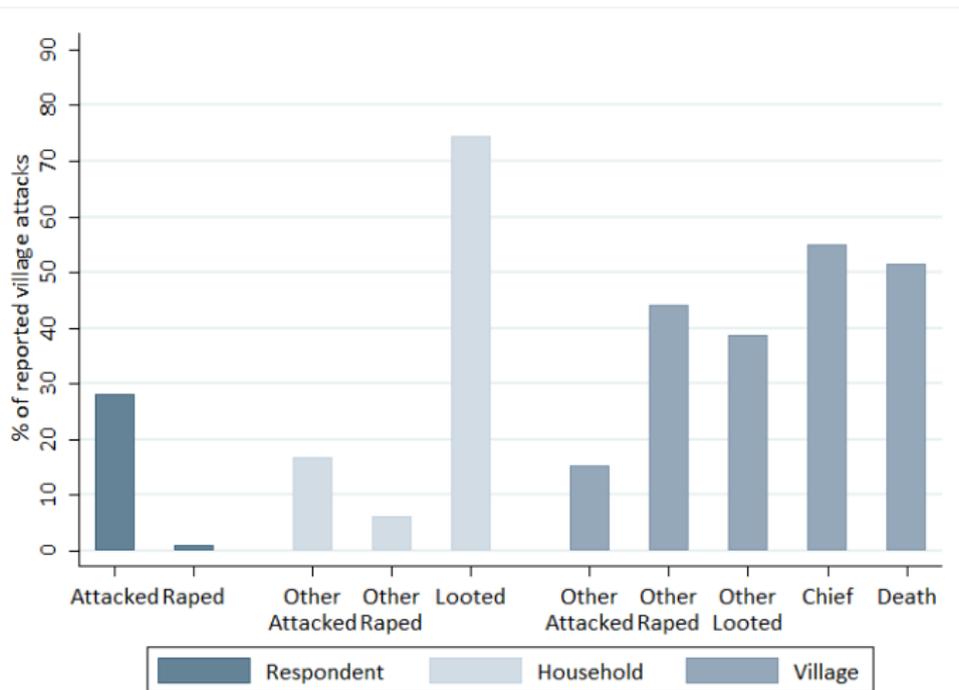
Characteristics of attacks: Militia



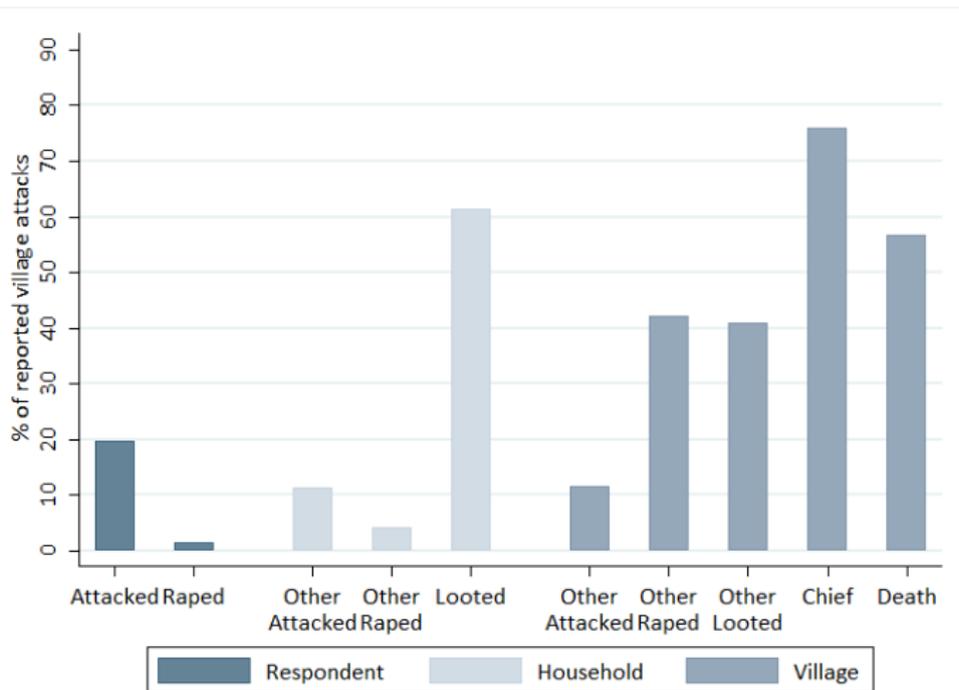
Characteristics of attacks: Congolese army



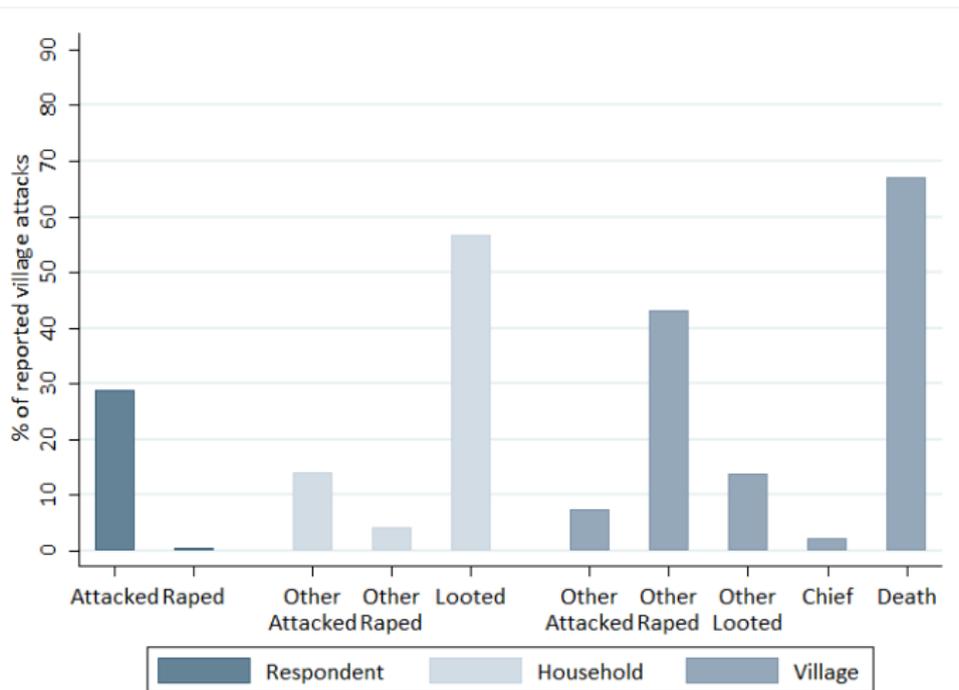
Characteristics of attacks: Pillage



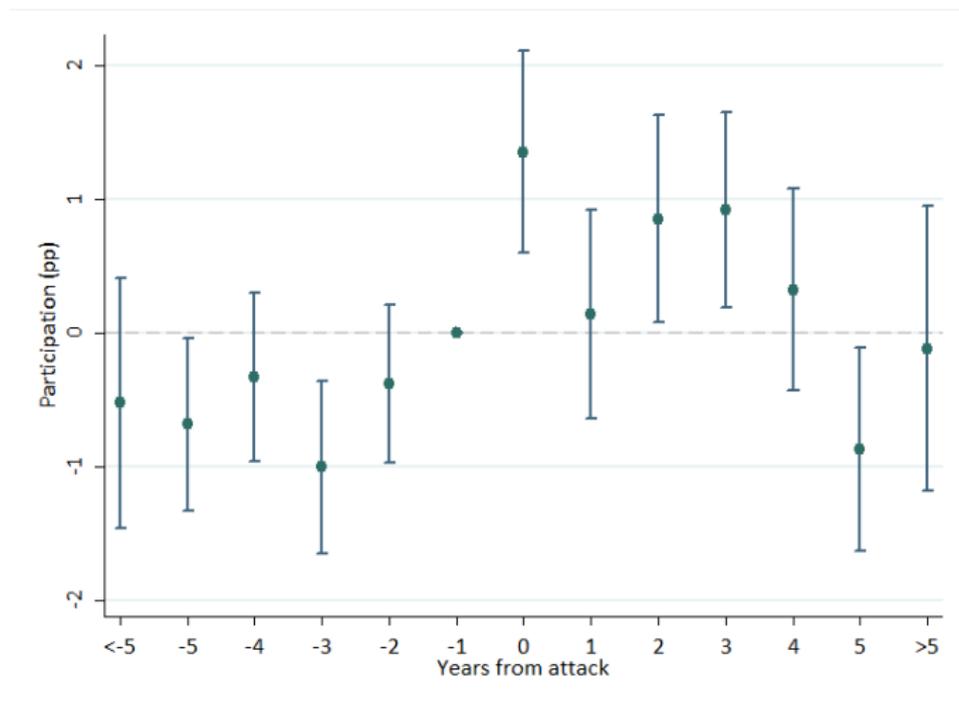
Characteristics of attacks: Sanction



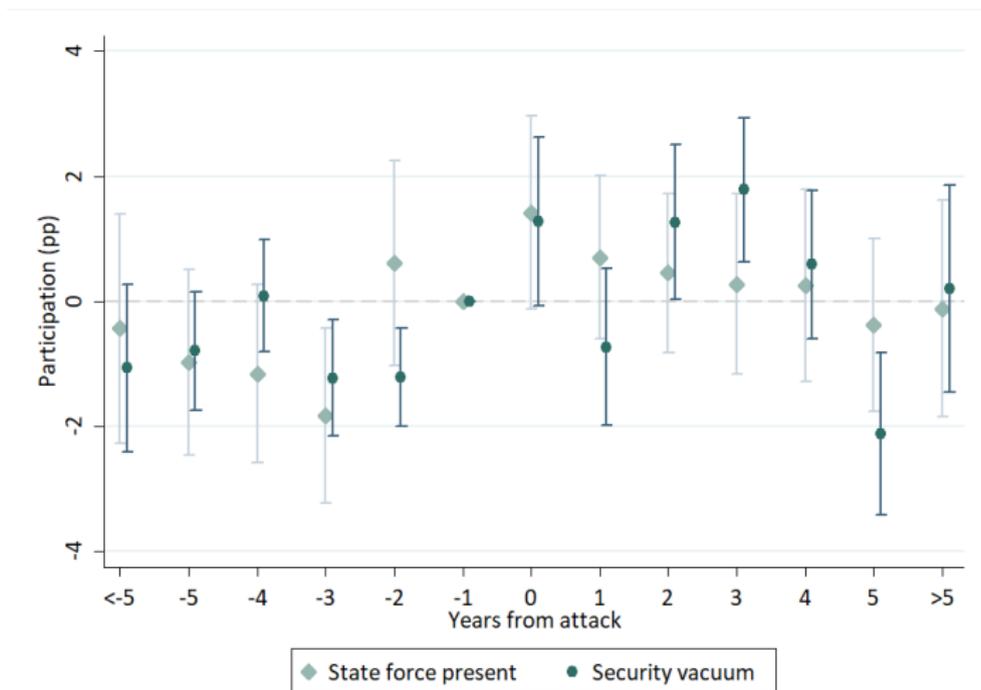
Characteristics of attacks: Conquest



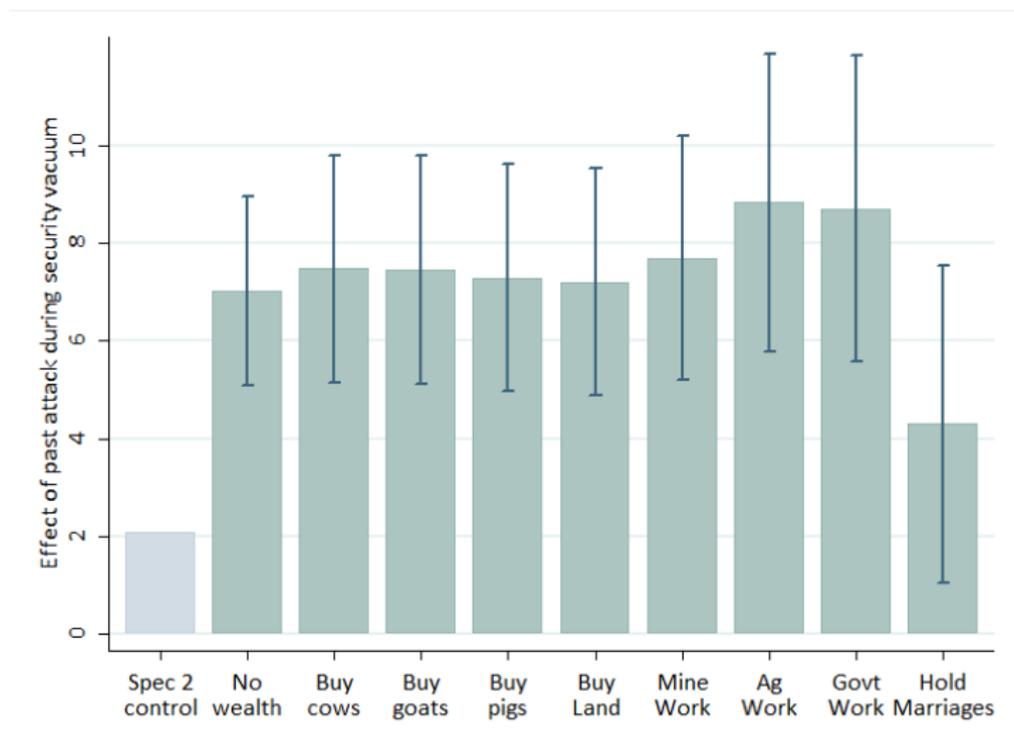
Event study of specifications 1



Event study of specifications 2



Wealth channel: controlling current wealth step by step



Mechanism: Hutu and Army attacks by recruiters

