

**Trade and hate crime:
the effects of trade adjustment and assistance program on hate crime in the U.S**

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1. Introduction

In 1982, the two white autoworkers killed a Chinese immigrant, Vincent Chin, shouting, "You got us fired from our jobs." The case of Vincent Chin illustrates that economic losses from globalization can turn into the extreme expression of outgroup hostility---hate crime. Outgroup hostility and hate crime has been increasingly common and one of the most devastating phenomenon threatening social cohesion, political and economic development and even security of citizens and societies.

In this regard, many scholars have examined socio-economic sources of the perceived threats that can catalyze outgroup hostility (Autor, Dorn and Hanson 2013; Choi, Harris et al 2022; Portmann and Stojanovic 2022; Ćorkalo and Kamenov 2003; Beber, Roessler, and Scacco 2014; Oliver and Wong 2003). In particular, a large volume of literature has suggested that losers generated by global economic integration such as international trade constitute one of the main sources of the grievances and hatred feelings and bias against out-group (DiLorenzo 2021; Goetz Rupasingha and Loveridge 2012; Green, Glaser and Rich 1998, Green, McFalls and Smith 2001; Shopina, Oliinyk and Finaheiev 2017; Adesina 2012; Mosley and Uno 2007).

However, existing studies tend to overlook a crucial element affecting the relationship between economic globalization and outgroup hostility: compensation policies for economic losers from globalization. Governments have frequently implemented various policies to compensate economic losses from international economic integration, and many studies have found evidence that these policies can be an effective policy tool temper the outraged workers (Margalit 2011; Barnette and Park 2017; Blanchard and Willmann 2016). Yet these policies can

conversely incite more negative emotions for those who are marginalized from the policies despite the losses (Tuttle 2019; Deshpande and Smith 2022).

In this paper, we aim to shed more light on the effects of economic globalization on out-group hostility by accounting for the roles of government's compensation policies. Specifically, we empirically investigate the effects of Trade Adjustment Assistance programs (TAA) on hate crimes in the U.S., the most violent symptom of outgroup hostility.

Using data from TAA application records and hate crime incidents from 1991 to 2016, we find evidence that counties with the larger number of the TAA-rejected workers are more likely to experience more hate crimes while we find only weak evidence for the positive effects of the greater TAA coverage on hate crimes.

The findings contribute to the knowledge on outgroup animosity. Accurately determining the root of outgroup hostility in what circumstances is important, especially in the context of economic globalization. We have demonstrated a connection between the government incentive program and the ire of losers brought on by globalization. Additionally, we provide new insights about the roles of government compensation policy for the losers from economic globalization by showing evidence of its adverse effects. Unlike existing studies that have mostly explored the positive effects of the compensation policies with a focus on those who successfully claims their losses (notable exception is Kim and Pelc (2020)), this research accounts for both certified and rejected workers and reveals that the policies paradoxically provoke even greater grievances by rejecting the applicants who perceive themselves as losers from economic globalization.

2. Literature Review and Theoretical Overview

Outgroup hostility has increasingly been a serious problem that can even lead to political conflict between countries, including ethnic, racial, cultural, and economic issues (Autor, Dorn and Hanson 2013; Choi, Harris et al 2022; Portmann and Stojanovic 2022; Čorkalo and Kamenov 2003; Beber, Roessler, and Scacco 2014; Oliver and Wong 2003). Among various factors affecting outgroup hostility, the mounting evidence that economic globalization generates

losers and provokes the anger of the losers against the outside group (Green, McFalls and Smith 2001; Shopina, Oliinyk and Finaheiev 2017; Adesina 2012; Mosley and Uno 2007).

However, this vein of research has seldom account for an important factor affecting the relationship - the government policy to compensate for economic loss from economic globalization. If government policy can mitigate grievances and hatred feelings against outgroups, economic globalization may not necessarily lead to the greater outgroup hostility. For example, TAA, one of the most popular government compensation policies in the U.S., is considered a effective policy tool to compensate for feelings of anger and loss caused by globalized trade (Margalit 2011; Barnette and Park 2017; Blanchard and Willmann 2016).

On the contrary, the individuals excluded from government compensation can feel more grievances. For example, Tuttle (2019) shows that ex-convicts excluded from the food stamp policy, one of the US social security systems, have a higher recidivism rate than those who did not (Tuttle 2019). More recently, Deshpande and Smith (2022) suggests that, when personal financial losses are not compensated by the state, citizens are more likely to commit crimes (Deshpande and Smith 2022). TAA may not be immune from such adverse effects of the compensation policies through rejected applications. In fact, government compensation programs tend to be distributed very unevenly, and US' Trade Adjustment Assistance (TAA) are governed by legislative attitudes (Kim and Pelc 2021). The rejected workers, who identified themselves as losers from international trade, may view TAA decisions illegitimate or political, and the relative deprivation and anger would likely follow, which can be translated into even violent behaviors toward outgroup members especially people with other races or cultures, whom they can equate with the foreigners who steel their jobs and fortunes.

In this regard, we investigate whether certified and rejected applications to the government compensation policy have different effects on outgroup hostility. In particular, with a focus on TAA as one of the main compensation policy in international trade, we evaluate whether the localities with the greater number of certified (rejected) TAA workers experienced less (more) hate crimes, an observable expression of outgroup hostility.

3. Research Design

To investigate whether and how certified and rejected TAA petitions affect hate crime, we built a panel dataset of hate crime and the number of TAA certified and rejected workers at the county-level. Our main dependent variable of interest is the number of hate crimes at the county level (i) in a given year (t) divided by the population size. We constructed the county-level hate crime incidents based on the station-level hate crime incidents record available from the Federal Bureau of Investigation's Uniform Crime Reporting Hate Crime Statistics database from 1991 to 2016, which includes various information such as the violence type and the description of bias, and offender race. Since we specifically aim to investigate the link between economic globalization and hate crimes, our measure of hate crimes include the incidents possibly targeting foreigners or foreign region and culture, such as "Anti-Asian," "Anti-Hispanic or Latino," "Anti-Islamic (Muslim)," "Anti-Arab," "Anti-Jewish," "Anti-Buddhist," "Anti-Hindu," or "Anti-Sikh. To measure the county level hate crime records, we identified the geolocations of the stations and aggregate the number of incidents reported in the stations to the county i . In the estimations, we multiple this measure by 10,000 (so that it refers to hate crime incidents per 10,000 people) in order to make the presentation of the results more readable by evading too small values of coefficients.

The key independent variables, the number of TAA certified and rejected workers p.c. in county i at year t , comes from Kim and Pelc (2020). We lag these TAA-related variables by one year to mitigate the concerns of reverse causality and simultaneity. For some models, we utilize the TAA variables at the commuting zone level. The economy effects of trade may not reside just in the county. Rather, labor and businesses affected by HQ operation are more likely to be in the broader economic geography where at least voters can commute. To group counties in commuting zones, we use the local geographic area data provided by Autor and Dorn (2013). The TAA-workers variables are logarithmized to account for skewed distribution.

The primary regression equation is specified as follows:

$$\text{Hate Crime}_{i,t} = \alpha + \beta_1 \text{Certified TAA}_{i,t} + \beta_2 \text{Rejected TAA}_{i,t} + \beta_3 X_{i,t} + \mu + \eta + \varepsilon_{i,t}$$

where i refers to county, t indexes year. $X_{i,t}$ is a vector of control variables: we include a set of county-level demographic and socio-economic characteristics such as unemployment rate, the Republican candidate's vote share in the most recent presidential election, the percentages of female, white, black, and Asian population, and the logarithmized value of populations. The commuting zone level measures of export and import shocks are also included to control for the level of trade liberalization and protectionist demands in the region. The commuting level export and import shock data are from Feenstra et al. (2019) and Autor et al. (2018). County fixed effects (μ) and year fixed effects (η) are also added in order to account for unobserved heterogeneity across counties and common shock, respectively. We calculate clustered standard errors at the county-level.

4. Findings

The main estimation results are presented in Table 1. The first set of models in columns (1) and (2) includes county and year fixed effects while the next set of models in columns (3) and (4) adds LDV. The results reported in Columns (1) and (3) are based on the estimations using the county-level indicators of the TAA-covered workers, while Columns (2) and (4) are from those utilizing the commuting zone-level measures of the TAA petition variables. First, we find evidence that the counties with a larger number of workers rejected from TAA are more likely to have more hate crime incidences than those with less TAA-rejected workers. Across all the models, the coefficients of Rejected TAA are positive and statistically significant at the 95% level. Substantively, they indicate that one standard deviation (0.163) increase from the mean in the rejected workers p.c. (0.017) would likely lead to 0.06 more hate crime incidents per every 10,000 people in the county, equivalent to 0.54 more hate crimes in the county with the average population of around 92,000 in the period of 1991-2016.

On the other hand, we find weak evidence that the more certified TAA petitions systematically lead to the less hate crime cases. Though the results reported in column (1) shows

statistically significant (at 90% level) and positive coefficient of the Certified TAA, other model specifications produce null results and its sign flips as shown in column (4).

Another notable finding is the positive relationship between import shock and hate crimes. The coefficients of import shock are positive across all the models albeit not statistically significant in the LDV estimations. This may suggest that economic losses from trade overall can be positively associated with hate crimes toward foreign people and culture.

As robustness checks, we estimate a battery of additional models: (i) adding state-year fixed effects to control for the state-level policies in a given year that may affect both TAA applications and hate crimes, (ii) using the logged value of the hate crime incidents p.c. or the number of hate crime victims as a dependent variable, and (iii) by excluding the counties that had not experienced any hate crime incidents from 1991 to 2016. We find that our main findings substantively remain stable.

	(1)	(2)	(3)	(4)
Rejected TAA-covered workers P.C. (t-1)	0.019** (0.008)		0.018** (0.008)	
Certified TAA-covered workers P.C. (t-1)	-0.005* (0.003)		-0.004 (0.003)	
Rejected TAA-covered workers P.C. (CZ level, t-1)		0.009** (0.004)		0.009** (0.004)
Certified TAA-covered workers P.C. (CZ level, t-1)		-0.000 (0.002)		0.000 (0.002)
Import shock	0.004* (0.002)	0.004 (0.002)	0.003* (0.002)	0.003 (0.002)
Export shock	0.010 (0.007)	0.010 (0.010)	0.007 (0.006)	0.007 (0.008)
Population (logged)	-0.111*** (0.038)	-0.110** (0.052)	-0.085*** (0.025)	-0.084** (0.034)
Unemployment rate (%)	0.001 (0.001)	0.001 (0.001)	0.001 (0.001)	0.001 (0.001)
Republican vote share, last election	-0.000 (0.000)	-0.000 (0.000)	-0.000 (0.000)	-0.000 (0.000)
Female (%)	0.001 (0.002)	0.001 (0.002)	0.000 (0.001)	0.000 (0.001)
White (%)	0.001 (0.004)	0.001 (0.005)	0.000 (0.003)	0.000 (0.003)
Black (%)	0.001 (0.004)	0.001 (0.005)	0.000 (0.003)	0.000 (0.004)
Asian (%)	-0.010* (0.006)	-0.010 (0.007)	-0.008* (0.005)	-0.008 (0.006)
Number of hate crime P.C. (t-1)			0.200*** (0.046)	0.200*** (0.051)
Observations	77611	77611	77611	77611

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Table 1. Main estimation results.

5. Conclusion

[TBD]

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