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Working Paper

Importing Threat: The Electoral Logic of Economic Relief

Working Paper, No. 295

Provided in Cooperation with:

George J. Stigler Center for the Study of the Economy and the State, The University of Chicago Booth School of Business

Suggested Citation: Kim, Minju; Gulotty, Robert (2019) : Importing Threat: The Electoral Logic of Economic Relief, Working Paper, No. 295, University of Chicago Booth School of Business, Stigler Center for the Study of the Economy and the State, Chicago, IL

This Version is available at:

<https://hdl.handle.net/10419/262697>

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Stigler Center

for the Study of the Economy and the State

**Importing Threat:
The Electoral Logic of Economic Relief**

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November 2019

New Working Paper Series No. 40

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Importing Threat:
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October 14, 2019

Abstract

Commercial policies are often only efficient insofar as those harmed can be compensated. In practice, compensatory measures fall far short of distributive harm. We rationalize the paucity of compensation as a strategic effort on the part of elected officials to withhold information about effects of their policy initiatives. We develop a formal model in which citizens must infer the effects of a policy initiative as well as the politician's commitments from the choice to offer compensation. We find that committed policymakers under-provide compensation to avoid electoral backlash. Using microdata from the US Trade Adjustment Assistance program, we replicate a research design that uses exogenous allocation of petitions for assistance across bureaucrats for causal identification. We find that a ten percent increase in the TAA certification rate decreases support for Democratic candidates by 1.75% in areas hard hit by import-competition. This electoral effect incentivizes pro-distributive politicians to under-provide economic assistance.

Scholars and politicians have long understood that international trade, while economically efficient, can impose concentrated costs on segments of society (Stolper and Samuelson, 1941). In principle, advocates for more open commercial policy can balance the losses from international trade by accompanying openness with investments in re-distributive institutions (Polanyi, 2001; Katzenstein, 1985; Ruggie, 1982). In the United States, funding for Trade Adjustment Assistance (TAA) has been a regular part of legislative bargaining over trade agreements. This program aims to ensure the political sustainability of trade liberalization by helping harmed groups adjust to liberalization (Hays, Ehrlich and Peinhardt, 2005; Goldstein and Gulotty, N.d.). Yet in practice this assistance regularly falls far short of the damages caused, amounting to a \$0.006 increase in annual transfer for every dollar in damages wrought by trade.¹

This low level of assistance is puzzling given the expected economic and political benefits of responding to trade dislocation with a robust compensation program. Economic logic suggests that politicians committed to a commercial agenda with redistributive consequences could anticipate these consequences and enact policies to redistribute the gains. Politically, we might expect doing so would help convince voters that economic dislocation is necessary for their long-run prosperity and not driven by politicians' inability or capture by special interests (Coate and Morris, 1995). Yet, the Trade Adjustment Assistance case suggests that politicians often fail to adopt compensatory policies that could help absorb the negative consequences for affected groups.

This paper offers a resolution to this puzzle, identifying conditions under which compensatory policies schemes are electorally counterproductive. We show that a politician's choice to advocate for compensation can reveal negative information about that politician's policy commitments. While voters are generally more aware of their local economic experiences than politicians, they may be less able to anticipate or evaluate what part of those

¹The total rise in transfers is \$57.73 for \$549 in damages arising from \$1,000 increase in imports from China, each per capita (Autor et al., 2016*a*).

experiences should be attributed to a particular policy initiative. Furthermore, voters may be uncertain about politician's commitments to these policy initiatives. In this context, politicians face a trade-off between advancing their preferred policy and offering beneficial compensatory programs. In the case of trade, the choice to advance a TAA program can benefit those groups harmed by trade, but it is also a public validation of the risks of openness, an admission that can drive voters to seek alternatives to those committed to the free trade agenda. If politicians are inflexibly committed to such a policy initiative, the solution can be to forgo assistance rather than take the electoral risk.

Our account builds on theories of electoral representation in which voters make judgments about politician quality on the basis of economic performance and policy proposals (Canes-Wrone, Herron and Shotts, 2001; Maskin and Tirole, 2004). In this literature, politicians use policy as a public signal of their quality to voters (Key et al., 1966; Fiorina, 1981; Ashworth, 2012). A second literature suggests that voters may be unsure whether to attribute good outcomes to the politician's policy choice. Modeling both kinds of uncertainty, Coate and Morris (1995) shows that when some kinds of politicians serve parochial interests, they may support inefficient but plausibly public-oriented transfers to protect their reputations with voters. We build on this insight to show that if these transfers are compensatory, that is, designed to correct the expected damage wrought by other policy commitments, compensation can produce a backlash. In what we call the *consternation* effect, our model shows that politicians may avoid giving assistance to limit voter learning about, and rejecting, their policy commitments.

Our theoretical framework suggests that voters can punish politicians after offering assistance because of what it indicates about their other policy commitments. However, observed levels of compensatory policy are strategically allocated to anticipate electoral effects. As an empirical matter, compensation would be distributed in ways that avoid electoral backlash. Moreover, compensation is often only allocated after voters experience some negative outcome, for instance qualifying for retraining after a job loss. In our theoretical model, this

negative economic outcome would alter voter judgements regarding political performance.

To identify the consternation effect, our empirical strategy focuses on a case in which compensation is offered for reasons outside the control of strategic politicians. In particular, we use an instrumental variable strategy, following Hyman (2018), that uses variation in bureaucratic leniency to manipulate access to the TAA. TAA program aims to compensate trade-related job losses by offering retraining and monetary support. While the overall budget is set by legislation, community exposure depends on bureaucratic approval of individual petitions.² These national-level bureaucrats use local data to determine whether imports are responsible for the loss of a job or wages, but vary substantially in their baseline tendency to approve a petition for assistance. Using micro-data on certifications from the TAA program, we identify communities that were more or less exposed to the economic relief program on the basis of arbitrary assignment of petitions to more or less lenient certifying officers.³

As we show below, the electoral effect of assistance depends crucially on the degree of economic harm wrought by the policy initiative. Identifying this latter effect requires an objective measure which can distinguish economic harm that is caused by trade from that which is not. To do so, we leverage regional variation in exposure to import competition from China, the so-called ‘China shock.’ Prior work has found that an influx of imports from China following China’s accession to the World Trade Organization in 2002 disrupted American labor markets and reduced electoral support for the Democratic party (Autor, Dorn and Hanson, 2013; Autor et al., 2016*b*; Che et al., 2016). Using changes in Chinese export patterns, we identify the effect of the trade shock on the change in support for two Democratic presidential candidates, Al Gore (2000) and Barack Obama (2008), who ran on platforms combining free trade and support for TAA program before and after the height

²A group of three or more workers, an employer, a labor union or a state workforce official is eligible to file a TAA petition.

³Here leniency refers to the the past history of petition certification by a certifying officer. Hyman (2018) uses a similar strategy for TAA investigators.

of the China shock. Voters were in a position to evaluate both the consequences of the free trade position of the United States as well as their experience of TAA in their communities.

Consistent with the formal model, our empirical results show that voters, when they are in regions harmed by trade and exposed to higher levels of compensation, punish politicians whose platforms combine free trade and worker assistance. Specifically, in ‘China shock’ counties, a ten percent increase in predicted TAA petition certification causes a 1.75% decrease in the Democratic vote share in the 2008 presidential election. This result suggests that a national politician who is cognizant of this voting behavior based on the consternation effect would, on net, reduce their support for TAA. Localized trade shocks not only change individual political preferences (Bisbee, N.d.), but also alter politicians’ incentives to manipulate the compensatory policy in order to preemptively mitigate such changes in individual political preferences.

More generally, our paper offers a political economy explanation for why politicians often fail to join their initiatives with compensation programs. They do so to avoid raising alarm about the distributive harm of their policy commitments. The negative information implied by economic relief programs, when interacted with the voter’s ability to discern candidate type, creates electoral incentives to suppress redistribution.

This paper proceeds as follows. The first section (part 1 - 4) introduces our formal model, connecting electoral outcomes, economic conditions, and strategic behavior on the part of elected officials. We show that compensation can serve as a useful signal of quality to the public, but there are conditions under which ideologically committed politicians would forgo compensation to avoid punishment by voters. In the second section (part 5 - 7) we evaluate voters’ electoral behavior conditioned by counter-factually varying degrees of TAA provision. Using the measure of counterfactual TAA provision as 1) an interaction term and 2) an instrumented mediator, we estimate heterogeneous effects of TAA provision on the Democratic vote share across levels of economic harm wrought by trade. A brief conclusion follows in the third section (part 8).

1 Economic policy and electoral accountability

In the following, we develop a model to explain the failure of elected officials to correct the distributive harm of their policy initiatives with compensatory policy. Our model contains three actors: voters, an incumbent elected official, and an elite. Officials have two kinds of private information. First, voters are uncertain whether a politician's advocacy of a given policy initiative, here free trade, is a result of ideological commitments or to serve a parochial elite. Second, voters are uncertain whether economic outcomes they observe following the policy initiative should be attributed to that initiative.

Despite being unable to distinguish the effects of the policy or the commitments of their elected politicians, voters nonetheless learn from the choice of compensation and from economic outcomes. As a result, compensatory programs such as TAA enable elected officials to credibly signal that they are committed to the policy initiative and not to some elite. However, the same program also reveals that the official believes there is risk that the initiative brings with it some distributive harm. This introduces a trade-off between the political benefit effect of TAA (eliminating politician uncertainty) and the consternating effect of TAA (revealing that trade liberalization is economically dangerous). In the following, we embed this trade-off in a model of learning on the part of the median voter that affects the optimal strategy of the incumbent (Ashworth and De Mesquita, 2014).

1.1 Formal model of elections

We model the electoral effects of policy initiatives such as trade liberalization with compensatory policies such as worker assistance. Programs such as the Trade Adjustment Assistance (TAA), the longest-standing government assistance program targeted toward trade, informing voters in their choice to support an incumbent or a challenger. This basic model of elections occurs in two periods, where voters seek to select politicians that will perform well after the election. Coate and Morris (1995) models policy inefficiency as a consequence of

the inability of citizens, in the pre-election stage, to discern whether a politicians supports a policy initiative to serve a set of special interests or the general welfare. Inefficient but plausibly public oriented programs lead voters to opt for the incumbent.⁴

In our model, politicians' efforts to seek reelection generates incentives to offer inefficient levels of assistance. Compensation helps distinguish an ideologically committed politician from opportunistic politicians who advocate free trade merely to serve an elite.⁵ However, compensatory policies also act as a signal of the expected effect of their initiative on distributive outcomes.

In the following, we describe the two-period signaling game. In the first period, the median voter observes the policy choices of the incumbent (the initiative and a compensatory policy) and a noisy, binary signal of the economic consequences of the policy initiative, which we refer to as a factory closure. He⁶ is uncertain whether the factory closure is caused by the policy initiative. Prior to observing whether a factory closes or not, the politician, having superior information as to the likely effect of the policy initiative and her own type, strategically decides whether to offer compensation for the case of closure. The median voter must decide whether to reelect the incumbent or to choose a challenger whose reputation is drawn from some random distribution. Whoever wins the election decides policy in the second period.

⁴This inefficiency is resolved if politicians can offer a credible signal, for instance financing the initiative with a redistributive tax on the special interest (footnote 22). As we show below, this signal can also provide information about the expected harm produced by policy initiative.

⁵There are other reasons for politicians to offer an open trade program. Here we focus on elite interests, but it could be any particularistic interest.

⁶Hereinafter we assign male pronouns to the median voter, and female pronouns to politicians. We adopt this convention for notational simplicity.

2 Model Setup

Politicians are of one of two types. The first is ideologically committed (I) to the policy initiative and compensates the voter when it is efficient to do so. The second is not committed to the policy initiative and instead advances the initiative to serve some elites ($\sim I$). Both types must strategically choose whether to enact a compensatory program and, in a second period, whether to continue the policy initiative.

The two periods are divided by a decision on the part of the median voter to support the politician. In the first period, he has some prior belief that the politician is ideologically committed ($\bar{\gamma} \leq 1$). He further has some prior beliefs about the likelihood of distributive harm caused by the initiative, which we characterize as taking three levels: low (L), moderate (M), or high (H). His prior beliefs over the probability of each level ($\pi_i \quad i \in \{L, M, H\}$) sum to one ($\sum_{i \in \{L, M, H\}} \pi_i = 1$). At low levels of distributive effect ($E = E_L$), he is better off continuing the initiative. Under E_M , the loss to the median voter is still recoverable with a compensatory policy. At the third level of harm, $E = E_H$ his loss is not recoverable even with the assistance.

The median voter would prefer an ideologically committed politician (I) when he believes that the policy initiative is not excessively harmful. If not, he would prefer an uncommitted politician ($\sim I$) who would be willing to abandon the policy in the second period. His belief about the type of politician depends on the amount of information produced by the politician's behavior, which in turn, depends on his knowledge of the distributive effects of the policy initiative.

However, the median voter does not directly observe the amount of distributive harm of the initiative E_i . Instead, he receives a noisy signal of the redistributive consequences of the initiative and the politician's compensatory policy choice, here the provision of assistance. Higher realizations of E raise the probability of a negative signal. Formally we indicate the negative signal as $F = C$, representing a closed factory, and $F = 0$ as the neutral or positive signal, representing an open factory. This signal is noisily correlated with the policy

initiative, as $P(F = C|\emptyset) > 0$ and $P(F = C|E_L) < P(F = C|E_M) < P(F = C|E_H)$. In the following, we refer to each of these probabilities as θ_{E_i} .

The median voter (m) earns the income \underline{v} from the initiative, but can lose from a factory closure (F). Under the provision of the compensatory policy, here government assistance ($A \in \{0, 1\}$), his per period utility is:

$$u_m = \underline{v} + F + a - \tau$$

The elite gains a baseline \bar{v} ($\bar{v} > \underline{v}$) from the initiative, receiving the following utility:

$$u_e = \bar{v} + F - \tau$$

An ideologically committed politician (I)'s utility per period is $v_I(u_m + T)$, where $v_I(\cdot)$ is some smooth, increasing function and T is the value for maintaining the initiative. The ideologically committed politician (I) only enjoys this benefit when she is reelected by the median voter.

When an opportunistic politician ($\sim I$) is in power, his utility is $v_{\sim I}(u_e)$, where $v_{\sim I}(\cdot)$ is smooth, increasing in both arguments, and strictly concave. Again, $v_{\sim I}$ can be interpreted as the benefits from holding office.

The following describes the sequence of the two-period signaling game.

1. Nature draws the distributive effect of the initiative (E), the type of the politician ($t \in \{I, \sim I\}$), and a public signal (F)
2. The politician observes her type and the distributive effect of the initiative (E).
3. The politician decides whether to implement the compensatory policy (A).
4. The median voter observes the compensatory policy (A) and the realized signal (F).
5. First period payoffs are realized.
6. The median voter decides whether to reelect the politician on the basis of observing the local factory closing, and the policy initiative.

7. Upon reelection, the politician chooses whether to abandon the initiative. A second factory closes and payoffs are realized.

3 Equilibrium Behavior

Given the game setup, we now characterize equilibrium behavior. Consider the second period.

3.1 Second Period Decision making

The ideologically committed politician (I) is committed to the initiative. She will enact the compensatory policy if doing so is efficient. To account for the potential costs of compensation, we assume that compensation is efficient at either the middle or high levels of distributive harm.

Regardless of the state, the non-committed politician ($\sim I$) will not choose the compensation in the second period. We assume that:

$$\bar{v} - \theta_{E_H} * C < -\theta_0 * C$$

That is, the flexible ($\sim I$) politician will, rather than offering compensation, abandon the initiative if the level of distributive harm is high ($E = E_H$).

3.2 Reelection Prospects

Given the politician's behavior upon reelection, the median voter must decide whether to reelect. Formally, the median voter's strategy allocates an election decision to each combination of compensation decisions and the factory closures, conditional on his prior.

Informally, the median voter's goal is to have an ideologically committed politician (I) in the second period if the initiative is believed to be beneficial, but a flexible politician if not.

If he chooses to not reelect, the local community will have a challenger (c) whose probability of being ideologically committed is λ_c drawn from the cumulative distribution $G(\lambda)$. As we will show, he reelects the incumbent under the combined posterior belief that the politician is ideologically committed (I), along with a sufficient belief that the degree of distributive harm is either low or medium.

3.3 Closed Factory (first period)

The median voter's posterior for ideologically committed politicians (I) depends on his prior ($\bar{\gamma}$), the observed compensation in the first period and closure of a local factory. Observing a closed factory makes the median voter more pessimistic about the effects of the initiative. While he knows that the politician cannot exactly predict local factory closure, under certain conditions the closure is nonetheless informative.

The posterior belief that the politician is ideologically committed (I) in the first round is a function of the priors and the behavior of the politician ($P(t = I|F, A) \equiv \alpha(F, A)$). Given the cumulative distribution function of the challenger draws, the probability that the politician is more likely to be more ideologically committed than the challenger is $G(\alpha(F, A))$. As the median voter is not always interested in selecting the I -type politician, we refer to the probability that the median voter reelects the incumbent as $R(F, A)$.

3.4 The median voter's strategy

We describe an equilibrium as a ordered double, where the first entry describes the strategy of the ideologically committed politician (I), and the second the strategy of the uncommitted politician ($\sim I$).

$$((x_{IL}, x_{IM}, x_{IH}), (x_{\sim IL}, x_{\sim IM}, x_{\sim IH}))$$

The strategy of the median voter is a mapping from the provision of compensation and

the closure of the factory to either election or non-election of the incumbent, depending on his information, following (Coate and Morris, 1995).

We solve the model, identifying and examining a partial pooling equilibrium. In particular, we focus on an equilibrium in which the incumbent politician's strategy is $(0, 1, 1)$ $(0, 0, 0)$. Here the compensatory policy is only enacted by an ideologically committed politician (I) when it is efficient to do so (medium or high levels of distributive harm). To evaluate whether this is an equilibrium, we test whether, conditional on the other players' actions, as well as second period behavior, each player would be deviate from this strategy.

If an ideologically committed incumbent chooses $A = 1$, her expected utility from the first period includes the payoff from the initiative \underline{v} and expected potential costs of factory closure. In the second period, the politician can receive the benefits of reelection. Given moderate levels of harm, the I -type incumbent will enact the compensatory policy. The combined two period utility for the incumbent in that case is:

$$\begin{aligned} E[u_I|A = 1] &= \underline{v} - E[F + a] - \tau + \delta(E[\underline{v} - F + a - \tau|E = E_M]) \\ &= \underline{v} - \theta_{E_M} * (C - a) - \tau + \delta R(1, F)(\underline{v} - \theta_{E_M}(C - a) - \tau) \end{aligned}$$

If the ideologically committed politician deviates, the politician instead receives:

$$E[u_I|A = 0] = \underline{v} - \theta_{E_M} * (C) + \delta R(0, F)(\underline{v} - \theta_{E_M}(C - a) - \tau)$$

The ideologically committed politician (I) does not deviate so long as:

$$\tau < E[R(1, F) - R(0, F)](\underline{v} - \theta_{E_M}(C - a) - \tau)$$

That is, the change in the probability of election times the benefits of being reelected must outweigh the costs of compensatory policy. In the following, we examine the expected change in the probability of being reelected, $E[R(1, F) - R(0, F)] \equiv E[\Delta R]$.

Expanding $E[\Delta R]$, we see that the expected electoral benefit of the compensatory policy is a weighted combination of the benefit under the two realizations of F . The first and the

second terms in the equation 1 depend on θ_{E_i} , the probability of $F = C$ given the state of the economy. If the likelihood of a negative signal is high (high θ_{E_i}), the relative size of the first term will outweigh that of the second term. If the likelihood of a negative signal is low (low θ_{E_i}), the relative size of the second term will outweigh that of the first term. This means the signaling value of compensation for the quality of a politician decreases if the median voter observes evidence of distributive harm.

$$E[\Delta R] = \theta_{E_M} * ([R(1, C) - R(0, C)] + (1 - \theta_{E_M}) * ([R(1, O) - R(0, O)]) \quad (1)$$

The incumbent politician anticipates the realization of F , but she does not know it with certainty. Intuitively, the electoral value to compensation in this model is increasing in likelihood that the assistance is needed. We summarize this insight in the following lemma:

Lemma 1. *The electoral advantages of compensatory policy is increasing in the probability of the negative signal $F = C$.*

This lemma follows immediately from the first part of equation 1. The electoral value to assistance in this model is increasing in likelihood that the assistance is needed.

4 Comparative Statics

Given the formulation for the incentives facing the politician in the first period, we study the consequences of compensatory policy on the beliefs and actions of the voter. To do so, in the appendix we derive the explicit formulation of $R(1, C)$, $R(0, C)$, $R(1, O)$, and $R(0, O)$ in terms of exogenous parameters, using the joint probabilities from Tables 1 and 2.

4.1 Consternation effect

Recall that the ideologically committed politician (I) does not deviate in the middle state if:

Table 1: Joint probability of factory closing and the compensatory under the ideologically committed politician (I)'s strategy $(0, 1, 1)$

		Compensatory Policy	
		A=0	A=a
Factory	Open	$\pi_L(1 - \theta_{E_L})$	$\pi_M(1 - \theta_{E_M}) + \pi_H(1 - \theta_{E_H})$
	Closed	$\pi_L\theta_{E_L}$	$\pi_M\theta_{E_M} + \pi_H\theta_{E_H}$

Table 2: Joint probability of factory closing and the compensatory policy under the opportunistic incumbent ($\sim I$)'s strategy $(0, 0, 0)$

		Compensatory Policy	
		A=0	A=a
Factory	Open	$\pi_L(1 - \theta_{E_L}) + \pi_M(1 - \theta_{E_M}) + \pi_H(1 - \theta_{E_H})$	0
	Closed	$\pi_L\theta_{E_L} + \pi_M\theta_{E_M} + \pi_H\theta_{E_H}$	0

$$\theta_{E_M} * ([R(1, C) - R(0, C)] + (1 - \theta_{E_M}) * ([R(1, O) - R(0, O)]) > \frac{\tau}{\underline{v} - \theta_{E_M}(C - a) - \tau}$$

For simplification if each state has an equal prior $\pi_H = \pi_M = \pi_L$, this reduces to :

$$\frac{(1 - \bar{\gamma})(\theta_{E_L}^2 - \theta_{E_M}^2) - \theta_{E_M}\theta_{E_H}}{(1 - \bar{\gamma})(\theta_{E_L} + \theta_{E_M})^2 + \theta_{E_H}(\theta_{E_L} + \theta_{E_M})} > \frac{\tau}{\underline{v} - \theta_{E_M}(C - a) - \tau}$$

From the above equation we find a threshold on the likelihood of closure when distributional costs are high $\tilde{\theta}_{E_H}$, above which the ideologically committed politician (I) will offer less compensation in expectation. We restate this result in our main lemma, connecting the closure of a local factory to the endogenous choice of compensation:

Lemma 2. *The Consternation Effect: Politicians will withhold economically efficient compensation to discourage voters from electing a less ideologically committed challenger. This occurs if, in conditions where the distributional costs of the initiative are high, the voter is particularly likely to observe the negative signal F ($\theta \geq \tilde{\theta}_{E_H}$).*

Lemma 2 shows that offering compensation can counter-intuitively lower reelection chances. This is because although compensation perfectly informs the median voter that the politician is willing to offer compensation in the second period, it also informs him that the policy initiative is likely to generate distributional harm. This can drive the median voter to take

a bet on the challenger, not because of the challenger’s alignment with the voter, but rather because of the challenger’s relative flexibility to abandon the initiative.

One implication is that politicians would be punished for offering assistance if, under high levels of distributive harm, the distributive damage is particularly severe (θ_H is large). Under this condition, compensation reveals that the incumbent is an ideologically committed (I) and that the distributive effects of trade are more likely high than moderate. In this case the median voter prefers to abandon the policy initiative in the second stage and opts for an uncommitted challenger. Recognizing this, the incumbent would then be reluctant to provide compensation.

Table 3 lays out the expected informativeness of compensation across various politician types. The plus sign (+) is when the compensation reveals that the incumbent is ideologically committed (I). The minus sign (−) is when the compensation informs that the incumbent is opportunistic ($\sim I$) and represents the elite interests. Double signs represent strength of the informativeness. Based on derivation from the formal model, we empirically expect informativeness of compensation to be higher in the state with low θ_H . The value of compensation as information about politician types goes up as the likelihood of a local factory closing goes down. In contrast, the expected value of information from the factory closure rises with the high θ_H ; compensation reveals that the initiative is causing distributive harm. Consequently, the ideologically committed incumbent (I) who is cognizant of this median voter’s updated belief will, in expectation, provide less compensation.

Table 3: Predicted Scope Condition of the Conster-nation Effect

		Size of θ_H	
		High	Low
Deviation from Equilibrium TAA	$P(A) > P(A^*)$	−	+ +
	$P(A) < P(A^*)$	+	− −

Note: $P(A)$ is the probability of TAA provision, and $P(A^*)$ is an incumbent’s optimal leniency of TAA provision.

This model offers three general insights into the electoral politics of compensatory policies. The first, extending the reasoning of Coate and Morris (1995), is that compensation can be understood as a political device to distinguish politician alignment with voter interests. Second, because the efficiency of compensation programs depends on the economic environment, offering such a program can inform the median voter about that environment, here whether the local factory is likely to close. If, as in the case of the model above, politicians are committed to policies that are ill-fit for certain economic environments, such as being free trade when trade harms the local community, then compensation could be electorally costly. Finally, in equilibrium we would expect that politicians would internalize this risk and not offer assistance, even if it would otherwise be in the interests of both the incumbent and the median voter.

5 Evidence from TAA

In this section we examine evidence for the theorized effect of compensation on electoral behavior in the case of trade assistance. Lemma 2 of the formal model predicts that in regions that are likely to be hurt by the policy initiative, here free trade, an ideologically committed politician would seek to limit access to compensation. However, two factors confound empirical analysis. The first is that compensation is only observed in communities with some level of distributive harm—which itself may drive political outcomes. Second, according to the model, politicians should expect compensation to have electoral effects, and limit access to compensation in regions where the costs of trade are high. For both reasons, the observed levels of compensation would reflect strategic calculations that would confound observed patterns of electoral response.

To identify the electoral costs of compensation, we leverage a quasi-natural experiment in access to trade relief, exploiting the fact that politicians have imperfect control over the provision of TAA (Hyman, 2018). Politicians determine the overall size of TAA at the stage of

legislative voting (Galantucci, 2014), budgeting, and lobbying (Ritchie and You, 2019). Yet a final decision to provide TAA benefits is approved by career bureaucrats inside the Office of Trade Adjustment Assistance (Department of Labor). They have substantial autonomy in deciding whether to approve each petition. These bureaucrats exhibit substantial differences in their tendency to approve individual petitions, making access a question of which certifying officer happens to pick up the petition. By using variation in compensation associated with this arbitrary allocation across bureaucrats, we address the endogeneity of economic relief that has long plagued studies of compensation. In our setup, this means that politicians face constituents with both more and less than optimal compensation.

The formal model assumes that providing higher levels of TAA would inform the median voter about the distributive consequences of free trade. This information-based theory suggests that he does not need to have direct experience with the petition process for TAA program to be electorally relevant. While the economic benefits may be narrowly targeted, information on TAA certification is widely shared within local economy. TAA certifications are accompanied by press releases from the Department of Labor (See Appendix Figure 7 and Figure 8). The Department of Labor not only publicly announces that trade caused a petitioner’s displacement, but also reveals the country of origin (e.g., China) of that displacement. Given that various news media further cover these press releases, many more voters can be aware of TAA certification, and local distributive harm, than are direct beneficiaries.

To measure the voter’s information about the distributive effects of free trade, we use the ‘China shock’ identification strategy developed by Autor et al. (2016*b*) (hereinafter “ADHM China shock Model”). That study examines the electoral effects of import penetration from China and finds that the economic shock led the Democratic party to lose votes in the 2016 election.⁷ We evaluate the ADHM China shock model with the same dependent variable in a different period, the Democratic vote share increase in the 2008 election over the 2000

⁷Yoo and Ritchie (N.d.) similarly find that counties that received less TAA benefits voted more for Donald Trump in the 2016 presidential election.

election. In 2000 the United States offered China permanent normal trade relations, removing the requirement to periodically renew access to the American market and paving the way for China to join the World Trade Organization (WTO) in 2001.

Temporally, we focus on the county-level vote share change between the 2000 and 2008, a period referred to as the height of the China shock (Setser, 2018).⁸ Building on the ADHM China shock baseline model, we then determine whether the counterfactual over and under provision of TAA suppresses or exacerbates the impact of the China shock on presidential elections.⁹ After confirming the heterogeneous effect of TAA provision by the degree of the China shock, we conduct an instrumented causal mediation analysis of TAA provision.

5.1 The China shock and the 2008 Presidential Election

Autor et al. (2016*b*) find that labor markets with the most import competition with China saw the largest declines in Democratic vote share. Even if we accept the identification strategy of examining changes in import composition associated with China’s overall export growth, this approach does not shed light into why such a rise in imports affects elections in general or the Democrats in particular. They speculate that China shock shifted the ideological composition of the House of Representatives in elections prior to 2016 (Autor et al. (2016*b*), 8), allowing the Trump campaign to take advantage of subsequent economic turmoil. However, their statement is made without explaining the electoral origin of the ideological shift, or how such a strategy would apply in contexts other than the 2016 election.

Following our model, we argue that voters may evaluate politicians both in terms of their

⁸While our empirical design provides a valuable opportunity to examine voters’ responses during the peak of the local economic shock, the finding can be confounded with racial animosity engendered around the same time.

⁹This empirical analysis has cross-region variation which our formal model does not take into account. Therefore, for empirically validating the consternation effect, we further assume that economic activities in one region can be isolated to those of other regions.

performance and what they understand as the effects of their policy commitments. In other words, voters may perceive the China shock as a distributive issue, as a shock that requires compensation, and as evidence of the overall costs of free trade. If the former is right, voters would support a presidential candidate who advances more compensation. If the latter is right, however, compensation programs such as TAA could be electorally damaging.

While both parties offer compensation programs for workers, candidates from the Republican party have long opposed Trade Adjustment Assistance, calling for its repeal or defunding. Barack Obama, the Democratic presidential candidate in 2008, endorsed TAA, promising to modernize and expand the program (Committee, 2008).¹⁰ At the same time, candidate Obama embraced trade liberalization through international rules (Schott, 2009). During his Administration, three bilateral trade agreements were approved by the Congress and the Trans-Pacific Partnership (TPP) was signed. Prior to the election, however, voters could be uncertain about whether then-candidate Obama was ideologically committed to free trade. Our empirical analysis therefore focuses on the change in the Democratic vote share between 2000 and 2008 in each county.

Our independent variable gauges the intensity of the trade damage in a county, what we termed θ_{E_i} . This is measured as contemporaneous change in import exposure $\Delta IP_{i\tau}^{cu}$ in the commuting zone (CZ) i (Autor, Dorn and Hanson, 2013; Autor et al., 2016b). τ is the period of import exposure calculation, which is defined as 2000 – 2007. Formally, $\Delta IP_{i\tau}^{cu}$ can be written as:

$$\Delta IP_{i\tau}^{cu} = \sum_j \frac{L_{ijt}}{L_{it}} \Delta IP_{j\tau}^{cu} \quad (2)$$

The fraction L_{ijt}/L_{it} is the share of industry j in the commuting zone (CZ) i in the time period t .¹¹ This measure assumes that the driver of Chinese import competition was not

¹⁰Democratic Party has consistently pushed for expansion of TAA. Linking this background with the formal model, voters are expected to only update their priors on the Democratic politicians by observing more TAA in their regions.

¹¹To estimate the first difference of τ , we calculate differences for the two periods 1990 to 2000 ($t = 0$)

driven by demands of consumers. For instance, if the sudden import competition is driven by a changes in tastes of Americans, voters would not see the influx of goods as a distributive harm caused by free trade.

We follow the instrumental approach of Autor, Dorn and Hanson (2013) and the Autor et al. (2016*b*), where the instrumental variable is measured as the lagged contemporaneous changes in Chinese imports to eight other non-US high income countries. Formally, this instrument ΔIP_{it}^{co} can be written as:

$$\Delta IP_{it}^{co} = \sum_j \frac{L_{ijt-10}}{L_{uit-10}} \Delta IP_{j\tau}^{co} \quad (3)$$

For ΔIP_{it}^{co} to be a valid instrument, we must assume that the processes that enable China to export to non-US destinations are exogenous to US political dynamics and that the changes in US-import activity are the only way that exports to non-US destinations effect US politics.¹²

Instead of the continuous measure used by (Autor, Dorn and Hanson, 2013), we dichotomize the measure into low and high levels of China shock.¹³ This binary classification has an advantage of comparing the result of the interaction term analysis and the instrumented mediation analysis. The software package for estimating the provision of TAA as a mediator only allows binary treatment (Frölich and Huber (2017)). Thus, the binary transformation allows comparison between the interaction term analysis and and the mediation analysis within a consistent framework.¹⁴

and 2000 to 2007 ($t = 1$) and include time indicators in the models.

¹²The model suggests one way that this would be violated, namely politician’s endorsement of trade adjustment assistance in anticipation of these import flows. We account for this by instrumenting for access to TAA in the subsequent section.

¹³A density plot of the continuous China shock measure is available in the Appendix 6.

¹⁴As shown in the Appendix 11, empirical analysis using the continuous measure of the China shock does

We apply weighted two stage least-square (2SLS) to fit the regression. We adjust for three sources of confounding variation with industry/occupation, demographic, and geographic controls. All Industry/occupation and demographic controls are lagged to avoid post-treatment bias. These industry/occupation controls include the share of manufacturing employment in the commuting zone, a routine-task-intensity index, and an offshorability index to account for differences in community exposure to offshoring. Counties with many low-skilled manufacturing workers are expected to exhibit diminished support for the Republican party, the incumbent party during the 2008 presidential election (Jensen, Quinn and Weymouth, 2017). The demographic controls are the percentage of female employment, college educated, and foreign born, which again could alter the probability of exposure to the economic shock and are associated with voting patterns. Finally, we use broad geographic controls: the census division of Northeast, South, West, and Midwest to control time-invariant geographic characteristics that are correlated with the support for the Democratic party. Formally, the estimation strategy can be represented as:

$$\Delta Y_{jt} = \gamma_d + \beta_1 \Delta IP_{jt}^{cu} + Z'_{jt} \beta_2 + e_{jt} \quad (4)$$

ΔY_{jt} is the gains in the Democratic vote share in 2008 relative to 2000 in county j . The 2SLS model is weighted with the county-level total votes in the 2000 presidential election. This is to recover individual-level estimate and to avoid overestimating the impact of the China shock in small-sized counties.

5.2 Measurement of Government Assistance

Building on the ADHM research design described the previous section, we incorporate a measure of compensation. Whereas prior works on TAA focuses on total dollar amount of compensation (Autor, Dorn and Hanson, 2013) or politicians' congressional voting behav-

not alter the conclusion of the empirical analysis.

iors on economic relief bills (Che et al., 2016), we use TAA certification rate to capture how timely a government responds to demands of compensation. As we argue above, compensation programs like TAA are strategically allocated by politicians. To overcome this endogeneity, we use an instrumental variable strategy, namely instrumenting county level TAA allocations with the certifying officer’s leniency. Certifying officers are government bureaucrats who are in charge of certifying TAA petitions. All of them work at the Office of Trade Adjustment Assistance located in the Washington, DC, and they determine a local petitioner’s eligibility TAA benefits based on reports from investigators. We assume their leniency affects the Democratic vote share only through certification of TAA petitions.¹⁵ Our detailed construction of the instrumented TAA access is described in the data appendix.

The idea of using bureaucratic leniency as an instrument in TAA was first developed by (Hyman, 2018), who studies the leniency of investigators, a stage prior to the certification step. In comparison to investigators, certifying officers have more straightforward discretion in approving TAA petitions. Moreover, unlike investigators, certifying officers do not specialize in particular industries or regions¹⁶. In addition, econometric evidence suggests that investigators are more attentive to presidential partisanship, particularly during their early-career stages (Kim, N.d.).

5.3 Instrumented Government Assistance as an Interaction Term

Our theory predicts that voters’ evaluation of politicians in response to evidence of distributive harm would depend on whether they also observe compensatory policies. Our first strategy is to interact the county level import competition measure with the predicted TAA

¹⁵We do find that the instrument is associated with three pre-determined covariates—lagged share of college population, lagged share of foreign born, and lagged offshorability (See Table 9 in Appendix).

¹⁶Previous experience with a company or an industry affects case assignment of investigators at the Office of Trade Adjustment Assistance (Hyman, 2018).

certification rate in each county. This model tests how compensation affects the Democratic party vote share conditional on the level of distributive harm.

Formally, our empirical model can be represented as:

$$\Delta Y_{jt} = \gamma_d + \beta_1 \Delta IP_{jt}^{cu} \cdot TAA_j + \beta_2 \Delta IP_{jt}^{cu} + \beta_3 TAA_j + Z'_{jt} \beta_4 + e_{jt} \quad (5)$$

5.4 Instrumented Government Assistance as a Mediator

One way to understand the relationship between trade shocks and compensation is through a mediation framework. Here compensation programs such as TAA mediate the informational effects of the policy initiative. Estimating such an effect in data conventionally requires the assumption of sequential ignorability. This assumption consists of two parts—(1) the treatment must be independent of all potential values of the outcome and mediating variables, and (2) the observed mediator must be independent of all potential outcomes given the treatment and the covariates (Imai, Keele and Tingley, 2010).

Based on our theory, however, TAA certification rate would violate this sequential ignorability assumption. Observed levels of compensation in a community would be a function of the degree of distributive harm. This violates the first part of the sequential ignorability assumption.

We use an instrumental variable strategy to overcome this challenge. Specifically, we adopt the methodology of Frölich and Huber (2017) (**causalweight** package) in conducting instrumented mediation analysis, in which an instrumental variable is used for the mediator as well as the treatment. Formally consider an outcome Y , a mediator M , a binary treatment D , and instruments ZD and ZM for the treatment and mediator respectively.

$$\left. \begin{aligned} Y &= \varphi(D, M, X, U) \\ M &= \zeta(D, ZM, X, V) \\ D &= \mathbb{I}\{\chi(ZD, X, W) \geq 0\} \end{aligned} \right\}$$

Note that the mediator M is a function of the treatment (D), mediator instrument (ZM) and covariates (X). The treatment (D) is the indicator function of treatment instrument (ZD) and covariates (X). U, V, W are the unobservables. (Figure 1).¹⁷ We are interested in identifying three effects:

1. The local average treatment effect of among compliers (LATE):

$$\Delta = E[Y^1 - Y^0 \mid T = \text{complier}] = E[Y^{1,M^1} - Y^{0,M^0} \mid T = \text{complier}] \quad (6)$$

2. The *direct* treatment effect among compliers:

$$\theta(d) = E[Y^{1,M^d} - Y^{0,M^d} \mid T = \text{complier}], d \in \{0, 1\} \quad (7)$$

3. The *indirect* treatment effect among compliers:

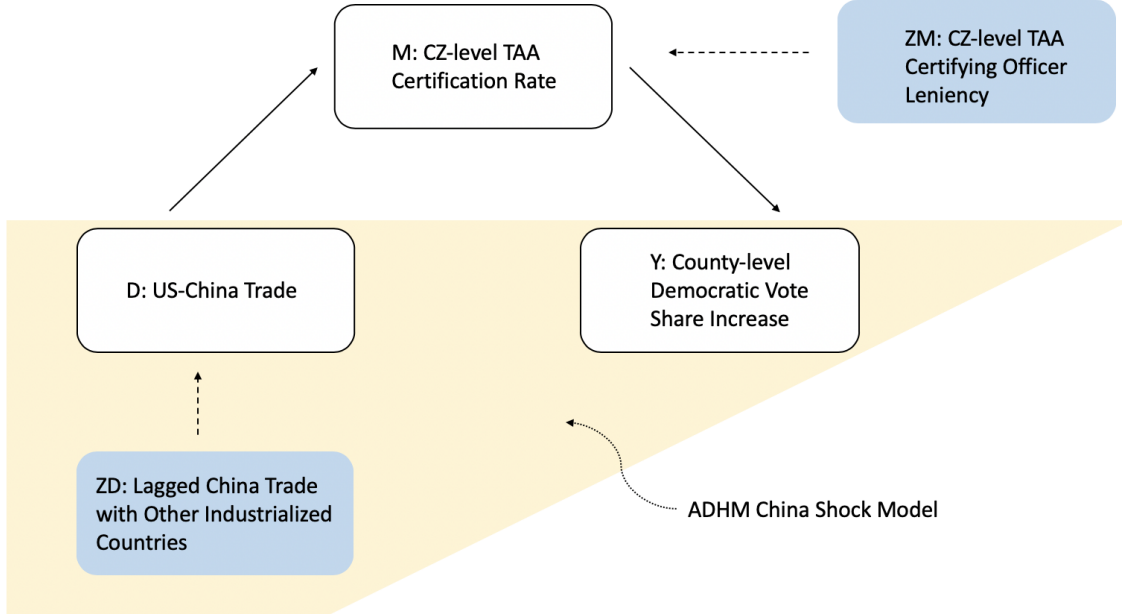
$$\sigma(d) = E[Y^{d,M^1} - Y^{d,M^0} \mid T = \text{complier}], d \in \{0, 1\} \quad (8)$$

The Local Average Treatment Effect in this context refers to the effect of the China shock on changes of the Democratic vote share among complier county-industries. This can be decomposed into two effects, the direct and the indirect effect. The direct effect is the impact of the China shock on changes of the Democratic vote share, which is what has been estimated in analyses with different empirical models. The indirect effect is the impact of economic relief (the predicted TAA certification rate) in mediating changes in the Democratic vote share due to the China shock. Here, the high China shock counties belong to the treated group, and the low China shock counties belong to the control group.

¹⁷The function *medlateweight* in the **causalweight** package weights the treatment and the mediator based on instrument propensity score. The weight by total votes in 2000 presidential election could not be included due to the way *medlateweight* function is designed. The authors therefore acknowledge that this estimation strategy is exposed to the threat of over- or under-representation of small counties over big counties.

Figure 1: Causal Diagram of the Instrumented Causal Mediation

Causal Diagram of the Instrumented Causal Mediation Analysis



Conducting the instrumented mediation analysis requires following untestable assumptions. First, the treatment instrument (ZD) should fulfill the standard exogeneity assumption ($ZD \perp\!\!\!\perp (W, V, U)$). That is, industry-level growth of Chinese exports to other high-income markets (ZD) should be unrelated to unobservables affecting the rise of US imports from China (W), unobservables affecting TAA certification rate (V), and unobservables affecting the changes in Democratic vote share (U). Second, the treatment (D) should be weakly monotonic in the treatment instrument (ZD) ($Pr(T = defier) = 0, Pr(T = complier) > 0$). This means an increase in industry-level growth of Chinese exports to other high-income markets (ZD) should not decrease the degree of localized China shock (D). Third, monotonicity of the mediator should hold. This means TAA certification rate (M) should be strictly monotonic in the scalar-transformed mediator unobservables (v). Fourth, conditional independence assumption needs to be satisfied ($ZD \perp\!\!\!\perp ZM \mid X$). This implies, for instance, that regressing Chinese exports to other high-income markets (ZD) on the predicted TAA certification rate

(ZM) and covariates (X) should yield statistically an insignificant coefficient.¹⁸

6 Data

We use five sources of data in our estimation, four of which draw on existing studies. The first is the Autor, Dorn and Hanson (2013)'s data on Chinese import penetration per worker by each commuting zone (CZ). This measure incorporates the change in the US imports from China and industry-level per period employment measured in the US census and the County Business Patterns data. These data cover 722 CZs in two years, 2000 and 2007. We join these data with the Autor, Dorn and Hanson (2013) instrument, a measure that reflects imports from China to eight non-US high-income countries and ten-year-lagged per period employment.¹⁹ Figure 2 geolocates counties of high and low China shock.²⁰ The high China shock counties are colored in black. 45.04% of counties (1,083 counties) are classified as high China shock counties, and the remaining 54.95% of them are low China shock counties (1,321 counties). Midwest and Southeast regions were disproportionately exposed to import competition from China. The industry and occupation controls in 2000 and the demographic controls for each CZ also draw from Autor, Dorn and Hanson (2013). To transform the CZ level data to the county, we obtained the county-CZ conversion table from the Economic Research Service at the Department of Agriculture. This conversion table enables matching

¹⁸Appendix Table 12 shows the relationship between Chinese exports to other high-income markets (ZD) and predicted TAA certification rates (ZM). Although we acknowledge this result might weaken reliability of the estimation, note that the coefficient size of the mediator instrument (ZD) regressing on the predicted TAA certification rate (ZM) and the covariates (X) (0.0052) approximates 0.

¹⁹The eight countries are Australia, Denmark, Finland, Germany, Japan, New Zealand, Spain, and Switzerland.

²⁰The instrumented China shock measure is at CZ-level, but this map is drawn at county-level through the CZ-county conversion.

the unit of the China shock (CZ level) to that of the presidential election (county level).

At the county level we measure presidential election outcomes as the percentage of votes going to the Democratic candidate. These data were obtained from McGovern (2019),²¹ accounting for presidential election outcomes for 3,108 counties in 2008, excluding Alaska and Hawaii.

To complement these existing data sources, we collected petition-level TAA data via a FOIA request. These data record detailed information about each petition, such as the date of petition registration and certification, petition outcome and address of the company which is subject to the petition. Unlike the publicly available data at the Department of Labor website, the FOIA dataset includes the last names of investigators and certifying officers assigned to each TAA petition. The dataset records the universe of petitions from 1975 to 2017, but only observations from 2005 to 2007 are utilized in the analysis. Observations from 2000 to 2004 are excluded as there are too many missing observations on last names of certifying officers.²² Between 2005 and 2007, 7,356 petitions were raised and 4,493 petitions were certified.

7 Empirical estimates

Our first finding reaffirms previous research that import competition from China decreases support for the Democratic party. Table 4 displays coefficient estimates from an OLS model in the first column and the two stage least squares estimates in columns 2-5. After controlling for industry/occupation, demographic, and geographic characteristics of a county, one unit increase in China shock decreases the Democratic vote share by 0.24% between the 2000 and 2008 presidential elections.

²¹Tony McGovern, https://github.com/tonmcg/US_County_Level_Election_Results_08-16

²²More specifically, we are concerned that this missingness is systematically driven by unobservables, thereby impacting validity of the estimates.

Figure 2: Binary China shock Map

US Counties with High China Shock (In Black)
Subject to both High US and Non-US Trade Exposure

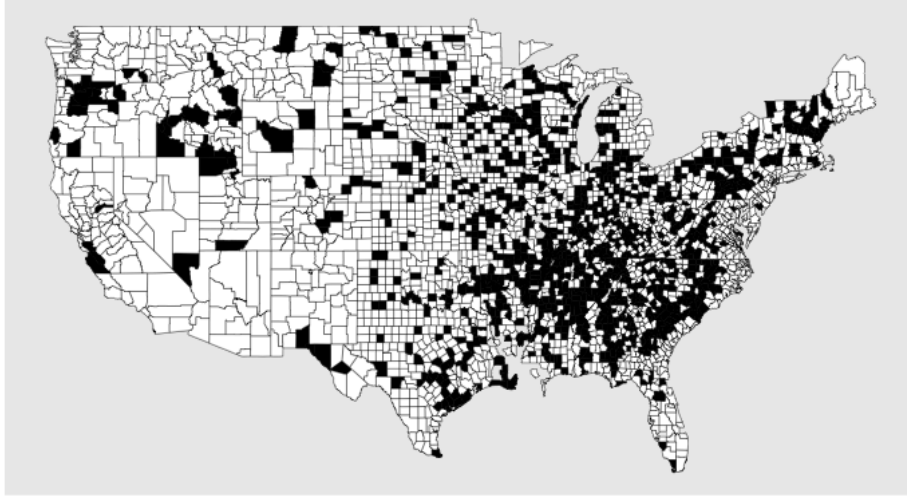


Table 4: Exposure to the Chinese Import Competition and the Presidential Election Outcome

	<i>Dependent variable:</i>				
	Changes in Two-Party Vote Share of Democratic Party, 2008 (Obama) vs. 2000 (Al Gore)				
	(1)	(2)	(3)	(4)	(5)
Δ Import Penetration	-0.12** (0.05)	-0.52*** (0.07)	-0.64*** (0.10)	-0.62*** (0.09)	-0.24*** (0.09)
Constant	4.80*** (0.12)	5.26*** (0.14)	19.87*** (1.35)	-13.52*** (1.73)	-9.48*** (1.84)
Estimation	OLS	2SLS	2SLS	2SLS	2SLS
2000 Ind/Occ Controls	No	No	Yes	Yes	Yes
2000 Demography Controls	No	No	No	Yes	Yes
Census Division Indicators	No	No	No	No	Yes
Observations	6,216	6,216	6,216	6,216	6,216
R ²	0.001	-0.01	0.11	0.23	0.31
Adjusted R ²	0.001	-0.01	0.11	0.23	0.31
Residual Std. Error	1,093.42 (df = 6213)	1,099.84 (df = 6213)	1,030.02 (df = 6210)	958.36 (df = 6207)	909.75 (df = 6204)
F Statistic	2.95* (df = 2; 6213)				

Note:

*p<0.1; **p<0.05; ***p<0.01
N=3,108 counties, excluding counties in AK and HI

Furthermore, we find evidence that TAA increases support of the Democratic party. Table 5 displays estimates from models with predicted TAA certification rates. All five models show that, adjusting for the level of China shock, higher instrumented TAA certification rates increase support for the Democratic party. After the controls on industry/occupation,

demographic, and geographic characteristics of a county, a ten percent increase in the predicted TAA certification rate increases the Democratic vote share by 1.9%. The magnitude of the coefficient is two-thirds that of the China shock coefficient (2.6%).

Table 5: Economic Relief and Presidential Election Outcome

	<i>Dependent variable:</i>				
	Changes in Two-Party Vote Share of Democratic Party, 2008 (Obama) vs. 2000 (Al Gore)				
	(1)	(2)	(3)	(4)	(5)
Δ Import Penetration	-0.15*** (0.05)	-0.55*** (0.08)	-0.64*** (0.11)	-0.67*** (0.10)	-0.26*** (0.10)
Predicted TAA Certification	0.29*** (0.05)	0.29*** (0.05)	0.10* (0.05)	0.11** (0.05)	0.19*** (0.05)
Constant	-12.77*** (3.35)	-12.48*** (3.37)	13.32*** (3.66)	-21.17*** (3.67)	-21.70*** (3.62)
Estimation	OLS	2SLS	2SLS	2SLS	2SLS
2000 Ind/Occ Controls	No	No	Yes	Yes	Yes
2000 Demography Controls	No	No	No	Yes	Yes
Census Division Indicators	No	No	No	No	Yes
Observations	4,808	4,808	4,808	4,808	4,808
R ²	0.01	-0.005	0.11	0.23	0.31
Adjusted R ²	0.01	-0.01	0.11	0.23	0.31
Residual Std. Error	1,192.33 (df = 4804)	1,199.54 (df = 4804)	1,129.50 (df = 4801)	1,052.94 (df = 4798)	996.73 (df = 4795)
F Statistic	11.73*** (df = 3; 4804)				

Note:

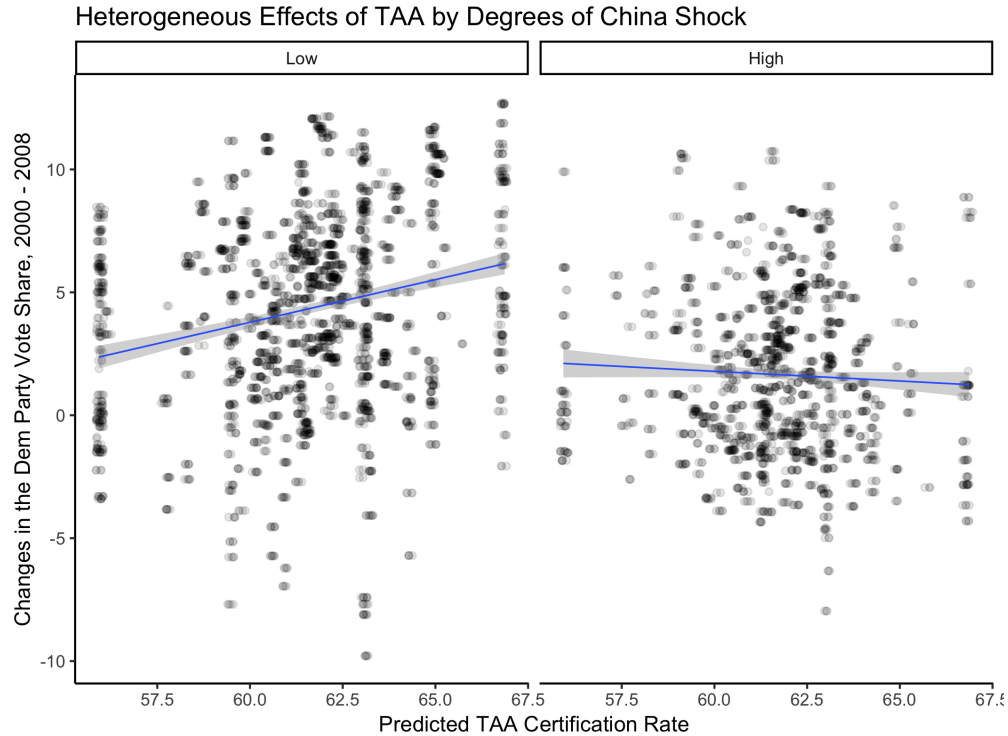
*p<0.1; **p<0.05; ***p<0.01
N=3,108 counties, excluding counties in AK and HI

However, the estimates from Table 5 provide an incomplete picture. In accordance with our formal theory, the electoral consequences of economic relief depends on the severity of the China shock at a local level. Figure 3 graphically illustrates the interaction term analysis between the predicted TAA certification rate and the instrumented binary China shock measure (See Appendix Table 10 for the regression table). In counties with low levels of China shock, a ten-percent increase in TAA certification increases the Democratic vote share by 3.13%.²³ On the other hand, in high China shock counties, a ten percent increase in predicted TAA petition certification is associated with a Democratic party vote share

²³This effect size is analogous to the results of Yoo and Ritchie (N.d.). That study finds a ten-percent increase in TAA certification increases the Democratic vote share by 3.6% (compared to the 2008 presidential election) and 3.06% (compared to the 2012 presidential election) in the 2016 presidential election.

loss of 1.75%. When voters are exposed to negative news about the distributive effects of trade, compensation appears to exacerbate voter backlash in ways that are consistent with the Consternation effect.

Figure 3: Heterogeneous Effects of TAA by Degrees of Economic Shock



Sample size = 4,808, Attached with 99% confidence interval

After confirming the heterogeneous effect of TAA by counties with the high and low China shock, we examine TAA as a mediator in explaining the Democratic Party’s vote share changes. Table 6 is the result of the instrumented causal mediation analysis across 500 simulations. The Local Average Treatment Effect (LATE) is the average treatment effect of the complier group (counties that experience increased trade with China because of China’s ability to export in general). The direct effects of the China shock on Democratic vote share are displayed in the second and the third columns. The fourth and the fifth columns show the indirect effects of the China shock mediated by the predicted TAA certification rate.

As with the interaction effect analysis, voters in the high China shock counties are 4.1%

Table 6: Instrumented Causal Mediation Analysis

	LATE	Dir.treat	Dir.control	Indir.treat	Indir.control
Effect	-4.08	-4.44	-2.60	-1.48	0.36
SE	0.33	2.5	0.63	0.55	2.50
p-value	0.00	0.08	0.00	0.01	0.89

less likely to chose the Democratic party as compared to the low China-shock counties during 2000 – 2008 presidential elections. Examining the direct effect of the control group (column 2) shows that voters in high China shock counties have 4.4% less support for the Democratic party. Note that the LATE is also driven by the direct effect of the control group (column 3) and the indirect effect of the treatment group (column 4). Interpreting the former effect, the Democratic party would have 2.6% less support than if low-shocked counties (counties in the control group) had counter-factually faced a high China shock. The latter effect indicates that as with more lenient provision of TAA, high-shocked counties lower their support for Democratic party by 1.48%.

The statistically significant indirect treatment effect empirically validates why politicians would under-provide TAA. Counties that are incidentally exposed to compensation, here because of the chance allocation of bureaucrats, appear to turn against the party that defends compensation. Politicians preemptively withhold socially optimal provision of TAA (step two in the sequence of the formal model) anticipating the voting outcomes (step six in the sequence of the formal model).

8 Conclusion

This study examines the electoral politics of compensation. In our setup, private information available to politicians about the need for compensation can become a liability, as voters infer from the fact that compensation is offered to its necessity. The result is that citizens can react negatively, knowing that compensation is “too little, too late” and opting for candidates

that are flexible enough to abandon their initiatives.²⁴ Ideologically committed politicians would optimally respond to this electoral incentive by forgoing compensation, even under conditions where compensation is broadly efficient.

These insight help explain otherwise puzzling patterns in electoral responses to commercial policy. A number of recent papers have found electoral effects of seemingly exogenous trade shocks (Autor et al., 2016*a*; Dippel, Gold and Heblich, 2015; Malgouyres, 2017). In the case of Trade Adjustment Assistance, we find that voters’ response to the negative distributional effects of trade can be muted with compensation. However, we find that this is only successful in counties with low levels of displacement and that otherwise, voters exposed to compensatory policy tend to opt for a challenger.

The mechanism that we identify raises some issues with the general use of international economic instruments such as the China shock. The identification assumption common to this literature—namely the exclusion restriction that the shock only affect voters via the economic channel of higher import competition—may miss an important source of informational leakage, namely politician’s strategic use of compensation. If the instrument for import competition, such as China’s non-US export growth, can be anticipated by politicians, their choice of compensatory policy may alter voter response in ways that create a direct path to electoral responses. Comporting with Besley and Prat (2006) and Kim (2018), our finding illuminates that voters’ understanding of economic outcomes can be subject to political manipulation. Economic shocks not only devitalize local economy, but also can change politicians’ strategies.

²⁴In our framework, the notion of punishing a candidate for doing “too little, too late” can be rationally understood as voters judgment that, having offered compensation, candidates in affect admit that they knew there were risks to their commitments in the first place.

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9 Appendix

Instrumented TAA certification

Our measure of TAA certification leniency is calculated as the mean predicted value of TAA petition certifications in the CZ to which county j belongs during the year 2005 – 2007. To aggregate the certifying officer leniency score to the CZ level, we first regress the petition outcome on the certifying officer who was in charge of that petition.²⁵ This gives us the predicted TAA certification rate of each petition. As a second step, we calculate the mean predicted certification rate at the CZ-level. In this way, we can minimize the loss of its trait as an instrumental variable during the process of data aggregation. Moreover, jackknife instrumental variable estimation Angrist, Imbens and Krueger (1999) is used during this two-step process. That is, petitions in each CZ is left out when running the regression between the petition outcome and the names of certifying officer. Once left-out petitions of each CZ are then used as new data in calculating the predicted values of other CZs. We repeat the process for each remaining CZ.

²⁵During the year 2005 – 2007, there were three certifying officers at the Office of Trade Adjustment Assistance. The average leniency varies from 55% to 67% (See Appendix 8 for more details about the statistics of the certifying officers.)

Table 7: Summary Statistics (N=4,808)

Statistic	Mean	St. Dev.	Min	Pctl(25)	Median	Pctl(75)	Max
Dem pct in 2008	41.51	13.85	4.91	31.40	41.06	50.46	92.50
Dem pct in 2000	39.83	11.80	6.80	32.20	39.70	47.10	86.80
Δ Dem 2008-2000	1.68	7.63	-32.60	-2.60	2.54	6.66	27.90
Δ US-China trade pw	2.02	2.37	-0.63	0.62	1.33	2.67	43.08
Δ Lagged-Other trade pw	1.87	1.93	-0.72	0.59	1.29	2.60	28.66
Binary US-China Trade	0.35	0.48	0	0	0	1	1
Binary Other Trade	0.38	0.49	0	0	0	1	1
Lagged Share Manufacturing	21.30	11.12	0.11	13.24	20.49	28.60	61.82
Lagged Share Routine	29.47	3.09	19.99	27.40	29.46	31.89	37.75
Lagged Offshorability	-0.40	0.47	-1.64	-0.75	-0.44	-0.11	1.24
Lagged Share Female Employed	63.17	6.82	33.24	58.93	63.51	67.88	79.61
Lagged Share Collage Population	45.82	9.22	19.94	39.35	46.18	52.74	70.56
Lagged Share Foreign Born	5.08	5.81	0.38	1.77	3.18	5.91	48.91
Midwest	0.34	0.47	0	0	0	1	1
Northeast	0.07	0.26	0	0	0	0	1
South	0.46	0.50	0	0	0	1	1
West	0.13	0.34	0	0	0	0	1
Predicted TAA Certification	61.66	2.36	55.92	60.49	61.73	63.06	66.87
Actual TAA Certification	63.65	24.73	0.00	50.00	63.64	80.00	100.00
Total TAA Certification	19.48	33.86	1.00	3.00	8.00	18.00	265.00

Table 8: Statistics of TAA Certifying Officers, Year 2005 – 2007

	Certifying Officer	Total	Leniency	Firstcase	Lastcase
1	A	2349	0.55	2005-01-03	2007-12-20
2	B	1950	0.67	2005-01-10	2007-11-29
3	C	3050	0.61	2005-01-04	2007-12-14

Note: Following the rules from the Institutional Review Board, last names of the certifying officers are anonymized. In total there were 7,356 petitions were administered by certifying officers during 2005-2007, among which 4,493 are certified in total (61.1%). During this period, certifying officers of 7 petitions are unidentified in the dataset. Petitions are randomly distributed to the certifying officers (Phone interview with an anonymous incumbent certifying officer, December 7, 2018).

Table 9: Testing Validity of Instrumented CZ-level TAA Certification Rate

Variable	Estimate	Standard Error	p-value
Dependent Variable:			
Δ Dem_2008-2000	0.06	0.06	0.23
Independent Variable:			
Actual TAA Certification	0.80	0.15	0.00
Pre-determined Demographics:			
Lagged Share of Female Employed	0.03	0.04	0.51
Lagged Share of College Population	0.22	0.06	0.00
Lagged Share of Manufacturing	-0.10	0.06	0.12
Lagged Share of Foreign Born	0.13	0.04	0.00
Pre-Determined Economic Variables:			
Lagged Share of Routineness	-0.01	0.02	0.70
Lagged Offshorability	0.01	0.00	0.00
Regions:			
Midwest	0.00	0.00	0.61
Northwest	0.00	0.00	0.54
South	0.00	0.00	0.69
West	0.00	0.00	0.38

Figure 4: Naive Relationship between TAA Certification Rate and Democratic Vote Share Increase (99% CI attached)

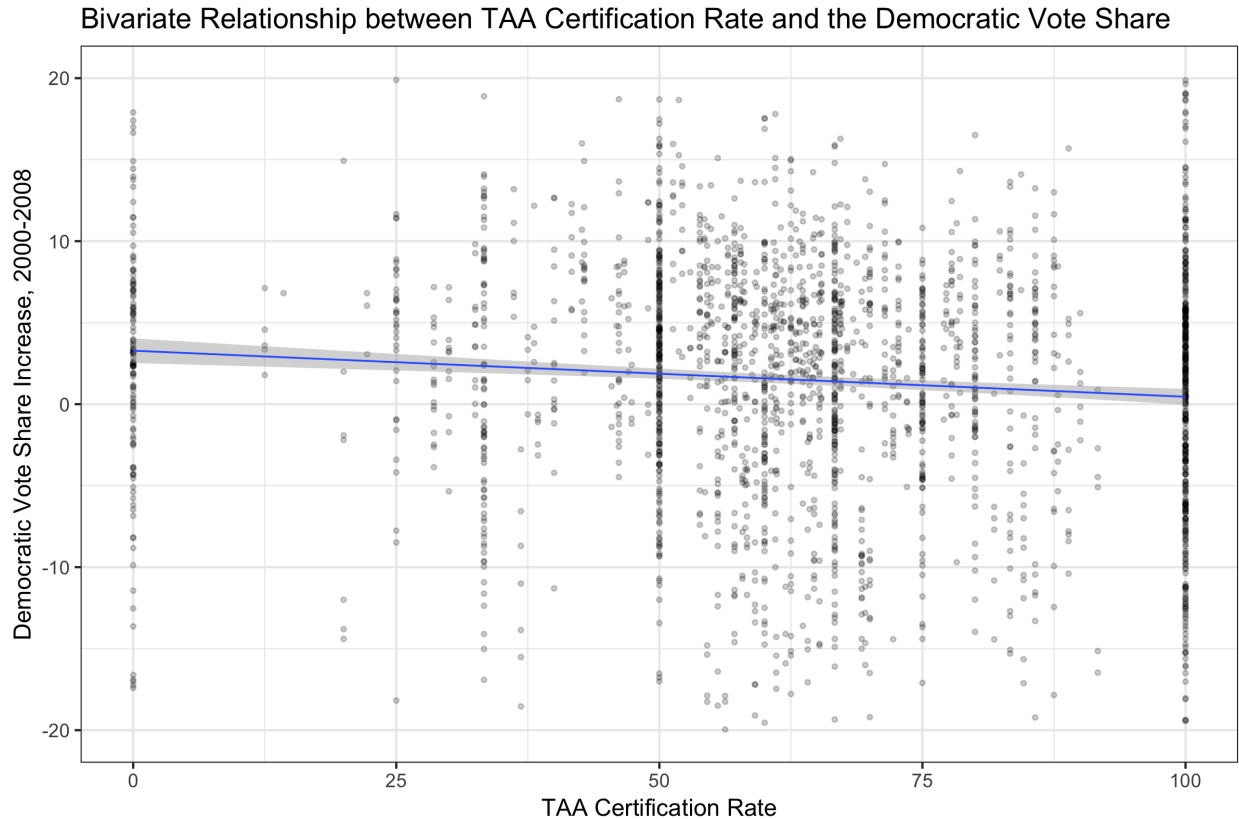


Figure 5: Regional Distribution of the Democratic Vote Share Increase

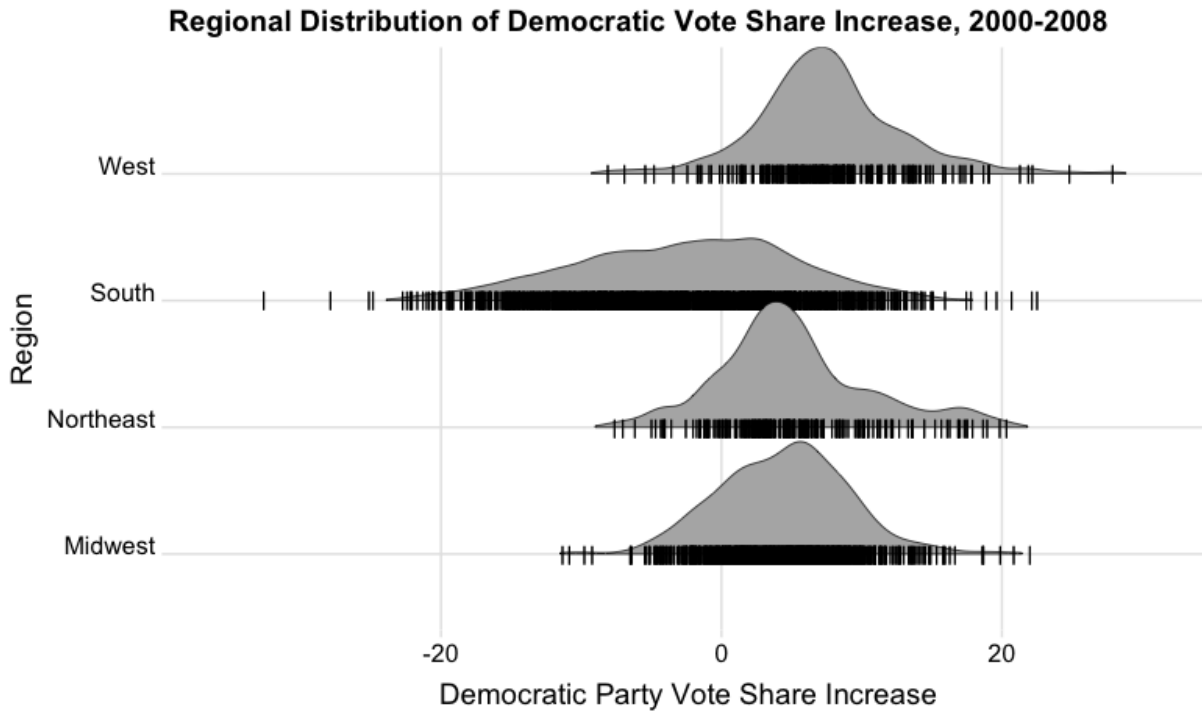


Figure 6: Density plot (Mean threshold in blue line)

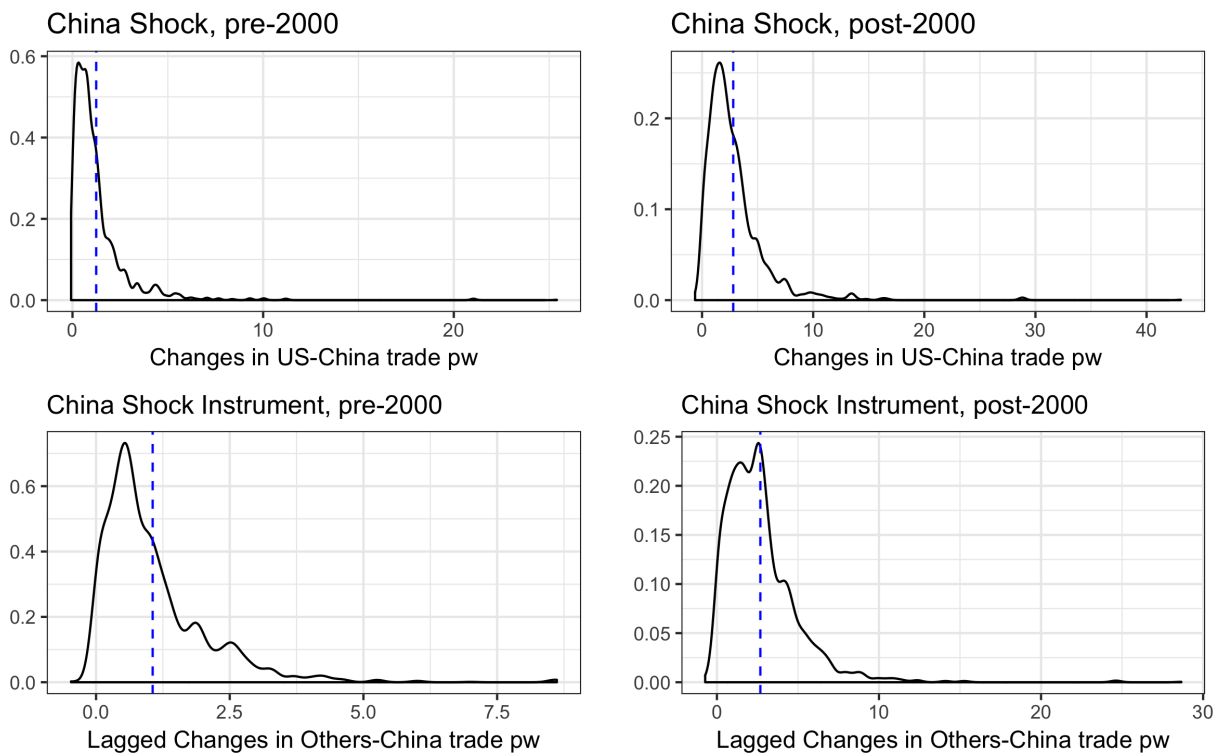


Figure 7: Department of Labor Press Release on TAA

The screenshot shows the Department of Labor website's navigation and content area. At the top, there is a header with the Department of Labor logo, social media icons, and a search bar. Below this is a menu for the Employment and Training Administration (ETA), including links for 'ABOUT OUR PROGRAMS', 'POPULAR TOPICS', 'TOP DOWNLOADS', 'RESOURCE LIBRARY', and 'ABOUT US'. A banner for 'TRADE ADJUSTMENT ASSISTANCE' is visible, with a sub-menu containing 'TAA Home', 'Petitioners', 'Officials', 'Benefits', 'Law', 'Data', 'About Us', and 'Contact Us'. The main content area displays the breadcrumb 'ETA / TAA / PETITIONERS / TAA DECISIONS' and the title 'TAA Decision 63656'. A 'Resources' sidebar on the right lists 'Petitioners', 'File Online', 'Filing FAQ', and 'Understand the Process'. The central text block contains the press release content, starting with 'DEPARTMENT OF LABOR' and 'Employment and Training Administration'. The release is dated 'TA-W-63,656' and concerns 'REVLON CONSUMER PRODUCTS CORPORATION'. The title of the release is 'Certification Regarding Eligibility To Apply for Worker Adjustment Assistance and Alternative Trade Adjustment Assistance'. The text details the investigation and certification process, mentioning the Trade Act of 1974 and the Trade Act of 1974. The release is signed by Linda G. Poole, Certifying Officer, Division of Trade Adjustment Assistance, on August 11, 2008. A 'Text only version' link is located at the bottom of the page.

UNITED STATES
DEPARTMENT OF LABOR

Employment and Training Administration (ETA)

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TAA Decision 63656

Note: Determinations for this case number, this case number with an alphabetic suffix, and any appeals or amendments appear below.

DEPARTMENT OF LABOR
Employment and Training Administration
TA-W-63,656

REVLON CONSUMER PRODUCTS CORPORATION
IMPLEMENTS DIVISION
IRVINGTON, NEW JERSEY

Certification Regarding Eligibility
To Apply for Worker Adjustment Assistance and
Alternative Trade Adjustment Assistance

In accordance with Section 223 of the Trade Act of 1974, as amended (19 USC 2273), the Department of Labor herein presents the results of an investigation regarding certification of eligibility to apply for worker adjustment assistance.

In order to make an affirmative determination and issue a certification of eligibility to apply for Trade Adjustment Assistance, the group eligibility requirements in either paragraph (a)(2)(A) or (a)(2)(B) of Section 222 of the Trade Act must be met. It is determined in this case that the requirements of (a)(2)(B) of Section 222 have been met.

The investigation was initiated in response to a petition received on July 8, 2008, and filed on behalf of workers of Revlon Consumer Products Corporation, Irvington, New Jersey. The workers produced tweezers and emery boards. The workers are not separately identifiable by product line.

The investigation revealed that the declines in employment at the subject firm are related to the shift in production of tweezers to China and Pakistan. The firm has increased imports of tweezers.

In accordance with Section 246 of the Trade Act of 1974 (26 USC 2813), as amended, the Department of Labor herein presents the results of its investigation regarding certification of eligibility to apply for alternative trade adjustment assistance (ATAA) for older workers.

In order for the Department to issue a certification of eligibility to apply for ATAA, the group eligibility requirements of Section 246 of the Trade Act must be met. The Department has determined in this case that the requirements of Section 246 have been met.

A significant number of workers at the firm are age 50 or over and possess skills that are not easily transferable. Competitive conditions within the industry are adverse.

Conclusion

After careful review of the facts obtained in the investigation, I determine that there was a shift in production from the workers' firm or subdivision to China and Pakistan of articles that are like or directly competitive with those produced by the subject firm or subdivision, and there has been or is likely to be an increase in imports of like or directly competitive articles. In accordance with the provisions of the Act, I make the following certification:

"All workers of Revlon Consumer Products Corporation, Implements Division, Irvington, New Jersey, who became totally or partially separated from employment on or after June 15, 2007, through two years from the date of certification are eligible to apply for adjustment assistance under Section 223 of the Trade Act of 1974, and are also eligible to apply for alternative trade adjustment assistance under Section 246 of the Trade Act of 1974."
Signed in Washington, D.C. this 11th day of August 2008

/s/Linda G. Poole

LINDA G. POOLE
Certifying Officer, Division of
Trade Adjustment Assistance

Resources

- Petitioners
- File Online
- Filing FAQ
- Understand the Process

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Figure 8: Media Coverage on TAA

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Pittsburgh Glass Works laid-off workers cleared for federal benefits

MARY ANN THOMAS | Thursday, April 26, 2018, 6:12 p.m.

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The Pittsburgh Glass Works plant in East Deer.

After four months of suspense, about 200 workers who stand to be laid off at Pittsburgh Glass Works Creighton plant in East Deer learned Thursday they will be eligible for federal unemployment benefits.

"This is great news for all the Creighton employees, salaried and hourly," said Kent Crytzer, 63, of Buffalo Township, the Glass Works union president for United Steelworkers.

The United Steelworkers, which represents the workers, filed a petition Dec. 13 with the U.S. Department of Labor's Trade Adjustment Assistance Program (TAA), claiming the workers were adversely affected by foreign trade.

Under TAA, laid-off workers can receive extended unemployment compensation, job retraining and allowances for relocation expenses, in addition to state benefits.

PGW, a division of Mexico-based Vitro, announced last year it would shutter the plant and lay off about 200 employees. Vitro agreed in late 2016 to purchase the 133-year-old original glass factory of Pittsburgh Plate Glass.

The Creighton plant's production will move to other Vitro locations and will be handled by the company's current workforce at those plants, while the Creighton plant is shuttered sometime in June, according to PGW.

"This will finally allow the impacted employees an opportunity to plan a life ahead," said James Watt, international staff representative for the United Steelworkers, who filed the TAA petition.

The benefits will be especially valuable to employees without specialized skills, about 80 percent of PGW's workforce, who will need to find a different career path.

Older workers such as Crytzer will opt to retire.

But first, the workers need to know more about the federal benefits, according to Crytzer.

Jennifer Eck, PGW spokeswoman, said, "PGW will work with all responsible entities to ensure these employees know how to access any and all resources they are eligible for as part of the TAA program."

TAA allows a much longer period of time for workers to retrain and receive unemployment compensation while going to school.

For example, other union workers who have received the TAA benefits were able to enroll in an 18-month program in heating and air conditioning, while receiving income benefits, according to Watt.

The state unemployment income benefit only runs for 26 weeks.

For workers close to retirement, TAA offers supplemental income for up to \$10,000 to fill the gap if the worker takes a job that pays less than their current position, he added.

The Creighton plant is closing for a number of reasons, according to PGW CEO and President Joe Stas. The aging facility couldn't keep up with increasing technological demands. And it had the capacity to produce 2 million more units per year than the market demands.

Mary Ann Thomas is a Tribune-Review staff writer. Reach her at 724-226-4691, mthomas@tribweb.com or via Twitter @MaThomas_Trib.

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He should run again

He should sit it out

No opinion

NEXT

Table 10: Heterogeneous Effect of Economic Relief on Changes in Democratic Vote Share, by Binary China shock Measure and Instrument

	<i>Dependent variable:</i>
	Changes in Democratic Vote Share, 2008 vs. 2000
High China shock	28.43** (11.30)
Predicted TAA Certification	0.31*** (0.06)
High China shock*Predicted TAA Certification	-0.49*** (0.18)
Constant	-32.51*** (4.56)
Estimation	2SLS
2000 Ind/Occ Controls	Yes
2000 Demography Controls	Yes
Census Division Dummies	Yes
Observations	4,808
R ²	0.29
Adjusted R ²	0.29
Residual Std. Error	1,007.47 (df = 4794)

Note:

*p<0.1; **p<0.05; ***p<0.01
N=2,404 counties, excluding counties in AK and HI

Table 11: Heterogeneous Effect of Economic Relief on Changes in Democratic Vote Share, by Continuous China shock Measure and Instrument

	<i>Dependent variable:</i>
	Changes in Democratic Vote Share, 2008 vs. 2000
China shock	3.37* (1.96)
Predicted TAA Certification	0.29*** (0.07)
China shock*Predicted TAA Certification	-0.06* (0.03)
Constant	-27.63*** (4.84)
Estimation	2SLS
2000 Ind/Occ Controls	Yes
2000 Demography Controls	Yes
Census Division Dummies	Yes
Observations	4,808
R ²	0.31
Adjusted R ²	0.30
Residual Std. Error	998.31 (df = 4794)

Note:

*p<0.1; **p<0.05; ***p<0.01
N=2,404 counties, excluding counties in AK and HI

Table 12: Relationship between Chinese Exports to High-income Markets (DZ) and Predicted TAA Certification (MZ)

	<i>Dependent variable:</i>
	Chinese Exports to High-income Markets (ZD)
Predicted TAA Certification (ZM)	0.0052** (0.0025)
Lagged Share of Female Employed	0.0103*** (0.0016)
Lagged Share of College Population	-0.0032** (0.0013)
Lagged Share of Manufacturing	0.0253*** (0.0008)
Lagged Share of Foreign Born	0.0059*** (0.0013)
Lagged Share of Routineness	-0.0014 (0.0034)
Lagged Offshorability	-0.1110*** (0.0213)
Northeast	0.3997*** (0.0227)
South	0.1987*** (0.0156)
West	0.0828*** (0.0260)
Constant	-1.1280*** (0.2077)
Observations	4,808
R ²	0.3420
Adjusted R ²	0.3406
Residual Std. Error	0.4044 (df = 4797)
F Statistic	249.3177*** (df = 10; 4797)

Note: *p<0.1; **p<0.05; ***p<0.01