

Trade Competition and Worker Compensation: Why Do Some Receive More than Others?

SUNG EUN KIM 

Korea University

AND

KRZYSZTOF J. PELC

McGill University

Dealing with the distributional consequences of trade liberalization has become one of the key challenges facing developed democracies. Governments have created compensation programs to ease labor market adjustment, but these resources tend to be distributed highly unevenly. What accounts for the variation? Looking at the largest trade adjustment program in existence, the US' Trade Adjustment Assistance (TAA), we argue that petitions for compensation are largely driven by legislative attitudes. When legislators express negative views of TAA, individuals in their districts become less likely to petition for, and receive, compensation. This effect is especially pronounced in Republican districts. An underprovision of TAA, in turn, renders individuals more likely to demand other forms of government support, like in-kind medical benefits. We use roll-call votes, bill sponsorships, and floor speeches to measure elite attitudes, and we proxy for the demand for trade adjustment using economic shocks from Chinese import competition. In sum, we show how the individual beliefs of political elites can be self-fulfilling.

Enfrentar las consecuencias distributivas de la liberalización del comercio se ha convertido en uno de los desafíos que enfrentan las democracias desarrolladas. Los gobiernos han creado programas de compensación para facilitar el ajuste del mercado laboral, pero estos recursos tienden a distribuirse de manera muy desigual. Cómo se justifica la diferencia? Analizando el programa de ajustes comerciales más grande que existe, la Asistencia por Ajustes Comerciales (TAA) de EE. UU., sostenemos que las peticiones de compensación son, en gran parte, impulsadas por disposiciones legislativas. Cuando los legisladores expresan opiniones negativas sobre la TAA, es menos probable que las personas soliciten y reciban compensación en sus distritos. Este efecto es especialmente pronunciado en distritos republicanos. Una escasez de los beneficios de la TAA, a su vez, representa personas más propensas a exigir otras formas de apoyo gubernamental, como prestaciones médicas similares. Tenemos en cuenta votaciones nominales, patrocinios de proyectos de ley y discursos en las cámaras para medir las disposiciones de la élite, y representamos la demanda por ajustes comerciales utilizando los impactos económicos de la competencia con las importaciones chinas. En resumen, demostramos cómo las creencias individuales de la élite política pueden ser autocumplidas.

La gestion des conséquences distributionnelles de la libéralisation du commerce est devenue l'un des principaux défis auxquels les démocraties développées sont confrontées. Les gouvernements ont créé des programmes de compensation pour faciliter l'ajustement du marché du travail, mais ces ressources ont tendance à être distribuées d'une manière très inégale. Quels sont les facteurs responsables de cet écart? Nous examinons le plus grand programme d'ajustement commercial existant, l'Aide à l'ajustement commercial (TAA) aux États-Unis, et nous soutenons que les demandes de compensation sont largement motivées par les attitudes législatives. Lorsque les législateurs expriment des avis négatifs sur l'Aide à l'ajustement commercial, les habitants de leurs districts deviennent moins susceptibles de demander et de recevoir une compensation. Cet effet est particulièrement prononcé dans les districts Républicains. Une insuffisance de l'Aide à l'ajustement commercial rend quant à elle les individus plus susceptibles de demander d'autres formes d'aide publique, comme des prestations médicales en nature. Nous nous basons sur les votes par appel nominal, les parrainages de projets de loi et les discours législatifs pour évaluer les attitudes des élites, et nous représentons la demande d'ajustement commercial en nous appuyant sur les chocs économiques liés à la concurrence des importations chinoises. En somme, nous montrons la mesure dans laquelle les convictions individuelles des élites politiques peuvent être auto-réalisatrices.

Introduction

One of the biggest challenges currently facing developed democracies is how to deal with the unequal gains of international economic integration. The stakes are high: regional variation in exposure to foreign imports has been associated with a range of negative political and social outcomes (Autor et al. 2017; Ballard-Rosa et al. 2017; Charles,

Hurst, and Schwartz 2018; Autor, Dorn, and Hanson 2019). Governments have created mechanisms to help cushion their domestic populations from such distributional effects, with a mixed record of success. The largest and oldest domestic trade compensation scheme ever developed is the US Trade Adjustment Assistance (TAA) program. Put in place in 1962 by President Kennedy, TAA is now a billion dollar program. In its current form, it is designed to provide trade-impacted workers with income support, health coverage, and relocation assistance while they complete training to re-enter the workforce, often in a different industry.

In theory, TAA ought to be the means of reconciling two conflicting government objectives: reaping the benefits

Author's note: Sung Eun Kim is an assistant professor of Political Science at Korea University. She specializes in international political economy, with a focus on the role of information in trade politics. Krzysztof J. Pelc is an associate professor and William Dawson Scholar in the Department of Political Science at McGill University. His research looks at the politics of international trade rules.

from trade, while mitigating its distributional effects, and thus decreasing opposition to trade liberalization in the first place. And a number of studies provide evidence that TAA does partly achieve these twin objectives: the anti-incumbent effect of trade-related job losses is smaller in areas that obtained more TAA funding (Margalit 2011), and information about TAA increases support for trade among low-income individuals (Ehrlich and Hearn 2013). But TAA has always been politically fraught—a program frequently held hostage in partisan negotiations over fast track authority and the ratification of trade deals. As a result, it is unloved by both sides of the political spectrum. As we argue, this contention is at the very source of its mixed record.

In this article, we begin by demonstrating how uneven the allocation of TAA is across regions: we show that some trade-exposed areas petition for, and obtain, high levels of compensation, while other areas exposed to identical levels of trade dislocation are under-served by the program. Such unevenness, by itself, is concerning. It leads us to ask, what factors determine who obtains adjustment assistance? We look to the views of political elites for an answer. The way TAA relies on petitions by workers in a low-information environment, we argue, inserts politics back into the equation. When elites hold a dim view of trade adjustment, individuals who lose their jobs to import competition are less likely to think of TAA as a program through which they can successfully obtain support, and they are less likely to petition for compensation.

In other words, we argue that legislators' views on trade compensation are self-fulfilling. When faced with administratively complex measures in the midst of difficult circumstances, workers fall prone to the informational and framing effects generated by the political climate they find themselves in. While TAA is meant to be an apolitical mechanism, we demonstrate that its effectiveness in large measure depends on the local political environment.

We then point to one way in which this unevenness matters. One worrying recent finding is that areas hit by trade shocks see large increases in medical benefits and disability payments that "vastly exceed the expenses of the TAA program" (Autor, Dorn, and Hanson 2013). We show that this greater demand for in-kind medical benefits may be due in part to an underprovision of trade compensation. Elite attitudes about trade adjustment may thus result in unintended spillover effects on other government transfers, ultimately creating greater dependence on the state.

To test our expectations, we code the attitudes of legislators towards TAA using three indicators: roll-call votes on bills concerning the TAA program, (co)sponsorships of TAA-related bills, and all Congressional speeches that relate to TAA, on which we run a text analysis. We then use these measures to explain the volume of TAA petitions in a given area in reaction to trade shocks. The findings support our main contention: controlling for the magnitude of the trade shock, areas where elites hold more negative views of trade compensation see fewer overall petitions, even within political party.

The challenge of the empirical analysis is to demonstrate that variation in TAA is driven by a top-down, rather than a bottom-up phenomenon; that elite views are affecting the level of trade compensation, rather than merely reflecting local economic insecurities. We tackle this challenge in a number of ways. First, the available anecdotal evidence supports the notion that the key reason why eligible workers fail to apply is a lack of information. As *The Economist* magazine recently puts it, "The [TAA] scheme can be confusing and administratively complex. Worse, most Americans have

not heard of it."¹ The program's bureaucratic complexity has increased the role of state governments that have sought to provide a range of services that assist workers in getting through this process. But these programs vary a great deal from state to state. The National Employment Law Project puts it bluntly: "Inconsistent and overly technical administration by the U.S. Labor Department and neglect or lack of experience in many states impedes those certified for TAA from taking full advantage of its features."² Along the same lines, one TAA-eligible worker at a Maytag factory testified to Congress: "Maneuvering through the Trade Adjustment Act and other programs can be like entering a bureaucratic minefield. [...] The result is that programs are *not always uniformly implemented from one area to another*."³ We argue that elite views account for much of this variation.

Parsing our findings further supports the view of a top-down effect. We break down our analysis, which controls for the magnitude of the trade shock, by type of petitioner: tellingly, elite views appear to have the greatest effect on petitions initiated by workers, who are least informed about TAA, and less of an effect on petitions initiated by unions and firms, who are likely to be better informed *ex ante*.

Ideology also matters. As we show, while the effect of elite attitudes holds intra-party, it is most salient in Republican districts. Republicans are on average less favorable to TAA, but they also vary far more in their attitudes than Democratic legislators. Accordingly, we find that Republican attitudes "matter more" for determining whether workers apply for trade compensation.

We attempt to pin down the underlying mechanism in three more ways in our analysis. First, we test for the presence of neighborhood effects. We find that legislative attitudes affect not only the home district, but also neighboring districts, especially when these feature legislators with different TAA attitudes. These findings provide additional support for a top-down effect, since legislators have less incentive to respond to demands from neighbouring districts. Second, exploiting the exogenous variation in the congruence between media markets and congressional districts, we also find that the effects are stronger in high-information environments, where workers get more information about their legislators. Third, we probe the informational mechanism by looking to web searches. Search patterns of topics relating to TAA suggest that individuals in locations with pro-TAA legislators are more aware of the program, and more likely to seek further information. We also run a placebo test on web searches relating to social security to ensure that we are not simply picking up demand for all support programs. These tests further bolster our contention that the design of TAA reinserts politics into the equation: the views of elites prove decisive for the effectiveness of trade compensation.

Owing to its size and its long history, the TAA may be the world's best laboratory in which to examine governments' ability to compensate those left behind by global integration. But most other developed democracies feature some variant of the same policy. The European Union, for instance, relies on the European Globalization Adjustment

¹ *The Economist*, Jun 29th 2017. "America's Programme to Help Trade's Losers Needs Fixing."

² "Getting Certified for Trade Adjustment Assistance: A Guide for Unions, Workforce Agencies, and Community Groups." 2005. National Employment Law Project and International Union, UAW. p. 2.

³ Emphasis added. Statement by David Lee Bevard, "How Effective Are Existing Programs in Helping Workers Impacted by International Trade?" Monday, March 26, 2007, U.S. House of Representatives. Committee on Education and Labor. Washington, DC. p. 7.

Fund (EGF) to help trade-impacted workers. That program faces similar challenges as the TAA, chiefly a lack of information about the existence of the program, which remains underused.⁴ In both the US and European case, the result is the same: compensation of those left behind by trade integration falls prone to politics, in ways that lead to uneven regional allocation of adjustment assistance.

The Political Geography of Trade Adjustment

TAA is designed to compensate workers who have lost their jobs to trade competition, but TAA benefits are not automatically disbursed to all such trade-impacted workers. The first step toward receiving benefits is to apply for eligibility certification. To be certified, a worker must demonstrate to the Department of Labor (DOL) that (i) a significant number of workers in the firm have become or are threatened to become totally or partially laid off; and (ii) imports or a shift in production to a foreign country are a major factor contributing to these layoffs and to a decline in sales or in production. The DOL reviews each application and determines eligibility.

Given these eligibility criteria, the prevalence of TAA petitions in an area is considered a good proxy for trade-induced labor market shocks. And because location information is available for each application, TAA petitions have often been used as a geographic measure of trade exposure (e.g., Uysal, Yotov, and Zylkin 2015; Monarch, Park, and Sivadasan 2017; Dean 2018). But while the two are highly correlated, there exists considerable variation in TAA petitions across space and time that cannot be explained by trade shocks. For instance, Kondo (2018, 181) notes that in the 2000s, the commuting zone (CZ) surrounding Gaston in North Carolina was in the top-20 of TAA petitions, but did not even make it into the top-100 zones according to import penetration measure. By contrast, the nearby CZ surrounding Catawba, also in North Carolina, was in the top-20 areas on both import penetration and TAA petitions. This mismatch has long been known. As a 1987 Congressional report concluded in its assessment of the program, “there is no reason to believe that TAA certifications accurately reflect the geographic or industrial distribution of trade-affected workers.”⁵ In this article, we set out to explain what accounts for this mismatch: Why do some areas appear to benefit from far more trade compensation than others? The answer, we suggest, is politics.

As a rough first illustration of the role of politics, figure 1 plots the annual average percentage of workers covered by TAA petitions in the 2000s against the level of Chinese import penetration for each CZ (we discuss both measures in greater detail in the next section) in Democratic-leaning versus Republican-leaning states, proxied by Democratic versus Republican governors. Figure 1 shows a positive association between import exposure and TAA petitions for both Democratic and Republican-leaning states, but it also illustrates how CZs exposed to identical levels of imports per worker vary significantly in the amount of TAA support they receive. This variation is in part explained by the partisan orientation of areas: CZs in Democratic-leaning states (blue dots) see a higher level of TAA petitions than the ones in

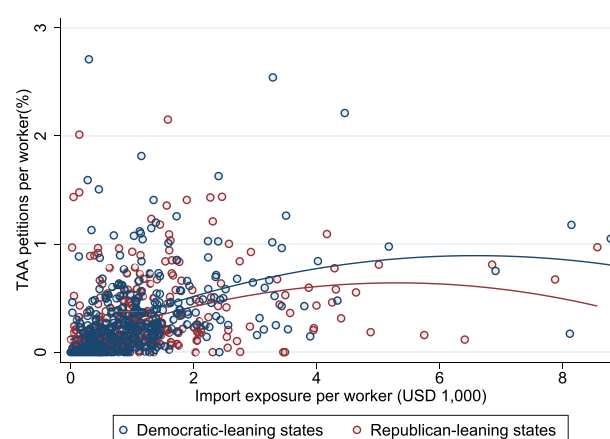


Figure 1.

Republican-leaning states (red dots). Yet, there remains considerable variation in the level of TAA petitions within areas with similar partisan orientation. Next, we discuss how the political divide across and within the parties generates the top-down effects by shaping individual workers' decision to apply for TAA.

The Political Divide over TAA: Ideology and Beyond

TAA represents a political compromise, and this has effects both on its design and its outcomes. Republicans often question its purpose, while Democrats would like to see a broader set of measures to support all workers who have lost their jobs, whatever the proximate cause. Back in 1962, TAA was put forth as an integral part of the Trade Expansion Act, and while it remains a program with traditional bipartisan support, what both sides of the aisle see as its second-best character makes it vulnerable to horse-trading. As Burgoon and Hiscox (2000, 3) put it, “[TAA] tends to be extremely popular in theory (among voters as well as among scholars), but difficult to establish and maintain in practice.”

Within the United States, the political debate over the very need for TAA has never ceased. Some argue that governments have a responsibility to ensure that those negatively affected by federal trade policy be compensated for changes that they had no part in. Others claim that because liberalization amounts to a roll-back of special favors to vested interest groups, no compensatory measure is required.⁶ The difference in opinion comes down to beliefs about what is being righted: the labor dislocation resulting from federal trade policy, or the rent-seeking protection that liberalization lifts in the first place.

Beyond this ideological divide, TAA has proven highly prone to legislative vote trading. Republicans have threatened to block trade agreements they otherwise supported with South Korea, Panama, and Colombia over the TAA benefits tied to those agreements, which they considered overly generous. Democrats, in turn, have also voted against TAA when trying to derail the delegation of “fast track” trade authority to the President. As for labor unions, while they support TAA on its face, they regularly push back against it, since they see it as both accelerating liberalization, and facilitating the move of workers to less unionized industries. Tellingly, union leaders regularly refer to TAA as “burial insurance” (Kletzer and Rosen 2004, 5). In other words,

⁴The EGF has seen very uneven use: some countries, like the Netherlands, rely on it extensively, while others, like the UK, have never availed themselves of it.

⁵U.S. Congress, Office of Technology Assessment, Trade Adjustment Assistance: New Ideas for an Old Program-Special Report, OTA-ITE-346. Washington, DC: U.S. Government Printing Office, June 1987.

⁶CATO Institute. Sallie James. “The Flawed Logic of Trade Adjustment Assistance.” June 2, 2011.

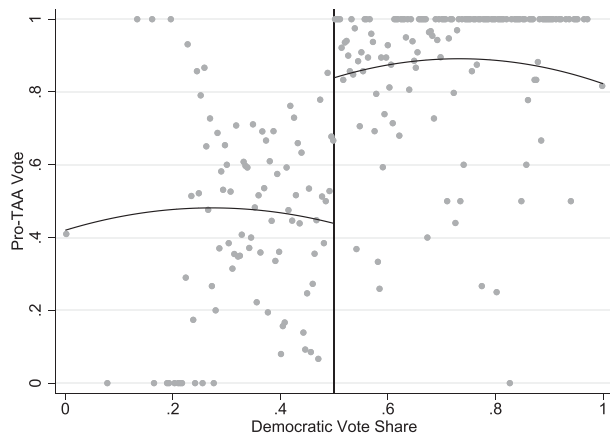


Figure 2.

support and condemnation of the program are often strategic, and linked to other issues (Burgoon and Hiscox 2000).

In the face of such disagreements, the emergence and continued existence of TAA reflect pragmatic concerns that cut across simple partisanship. In this view, the overarching purpose of trade compensation is to decrease domestic opposition to trade agreements. Because import-competing groups tend to be politically powerful, governments find it necessary to extend some credible promise of compensation to ratify trade deals. Findings thus show that Republican legislators, traditionally opposed to government assistance programs, tend to support TAA programs when a large portion of their constituents stands to gain from trade (Rickard 2015).

In figure 2, we show relationship between partisanship and TAA attitudes within-party: specifically, we measure the relation between a district's Democratic vote share and its legislator's pro-TAA vote (the measure of which we describe in the next section), over the range of the data, separating Republican victories from Democratic ones. Each dot represents a sample average within a given bin. Figure 2 offers a few takeaways: first, the average stance of Democratic legislators is indeed more favorable to TAA than that of Republicans. Second, there is substantial within-party variation of views towards TAA, and this variation is much wider within the Republican Party. These points prove relevant to the remainder of our analysis.

Political Elites, Information, and TAA Petitions

Our central theoretical expectation is that this variation in elites' political attitudes towards trade adjustment accounts for the highly uneven distribution of TAA benefits in areas exposed to the same trade shock. When legislators hold a dim view of trade adjustment, we expect that workers in that legislator's district will be less likely to know about the program's existence, and less likely to successfully jump through the required hoops to secure benefits. Specifically, we focus on two mechanisms through which the views of political elites affect workers' decisions in applying for TAA: (1) information and framing effects; and (2) the amount of administrative support provided to workers.

First, we expect that legislators who are more (less) supportive of TAA as a policy are more (less) likely to provide information about TAA to displaced workers and in a more positive (negative) light. In turn, individuals exposed to the views of pro-(anti-) TAA legislators, either directly or indi-

rectly through co-workers, neighbors or friends, would be more (less) willing to apply for the program.⁷ Our posited mechanism, centered around elite-provided information, builds on the findings that information environment created by political elites influence the way individuals think about policy issues in general (Zaller 1992; Broockman and Butler 2015) and specific economic issues including international trade or austerity (Ardanaz, Murillo, and Pinto 2013; Barnes and Hicks 2018).

We contend that individuals are particularly prone to the information and framing effects with respect to TAA due to the low-information environment where they have little *ex ante* knowledge about the existence and the effects of TAA. TAA caseworkers, tasked with assisting workers through the petitioning process, speak to this information problem. As one such TAA caseworker from Indiana described it, TAA can be the opportunity of a lifetime, but "they [laid off workers] have to want it."⁸ And wanting it may not be enough, if workers aren't aware of the program's existence. As the *Economist* magazine puts it, "most Americans have not heard of [TAA]."⁹ A labor liaison to the American Federation of Labor and Congress of Industrial Organizations that we spoke to confirmed that when it comes to trade adjustment, "people don't know what they don't know," and recounted cases of workers who were in retraining programs without realizing that they would have been TAA-eligible, and might have gotten \$20,000 in income support during their retraining.¹⁰

In such a low-information environment, the role of political elites can be critical in encouraging or discouraging workers from applying for trade compensation. Legislators opposed to TAA are not likely to provide much information on the presence of TAA to their constituents. If any information is provided, it is likely to be a discouraging. Consider Senator Hatch of Utah, who has argued, "there is little evidence that the TAA programs actually work. In fact, the opposite is true [...] the TAA program has no discernible impact on the employment outcomes of the participants."¹¹ Or Congressman Doug Lamborn of Colorado's fifth district, who has claimed, "this bloated, wasteful, and unsuccessful program is a budget-busting handout designed to placate union activists [...] and that's why I opposed TAA."¹² This was the only press release about TAA that Lamborn sent while serving as a member of the House: the one signal his constituents would have gotten about TAA was a negative one. Without any meaningful information on the types of assistance and training available through TAA, we expect that laid-off workers in districts like Congressman Lamborn's are less likely, all else equal, to avail themselves of its benefits. Such negative or indifferent elite attitudes should act as a deterrent to mounting a petition in a complex application process.

By contrast, other legislators send strongly favorable information on trade compensation. In a representative instance, former Congressman Bruce Poliquin, who served Maine's 2nd district, promptly responded to layoffs at the

⁷ Individuals can acquire information disseminated by legislators through direct contacts with legislators, local news coverage, online communication by legislators, or through other constituents who acquired information through aforementioned channels.

⁸ Cited in: "Aid for Trade". July 1st 2017. *The Economist*.

⁹ *ibid*

¹⁰ Interview materials with authors.

¹¹ Press Release, September 20, 2011. "In Speech, Hatch Outlines Opposition to Trade Adjustment Assistance Legislation."

¹² Press Release, June 12, 2015. "Opposing TAA (Trade Adjustment Assistance) and Increasing Trade Transparency."

Verso Paper Corporation by “urging Verso to file a petition for Trade Adjustment Assistance, which could provide employment training, income support, and job search assistance to affected workers.”¹³ When a petition for TAA for another mill was approved, Poliquin distributed a press release noting that “TAA assistance will help these workers get back on their feet by providing them with the opportunity to acquire the new skills and new training necessary to prepare for jobs in other industries. It is a crucial lifeline for workers in Maine and across the nation.”¹⁴ Beyond those working at the mill in question, displaced workers in such a district are more likely to be informed about TAA and more willing to apply for the program. In short, elite attitudes toward TAA largely determine the amount and type of information about TAA available to trade-affected workers.

Second, political elites can also play a more direct role in the process of trade adjustment by providing administrative support. As one manual for TAA applicants puts it, “The participation of members of Congress can influence employers, local officials, and others to assist petitioners in obtaining supporting information for TAA certification.” As a result, that same manual suggests to applicants, “consider giving your U.S. Representative and Senators notice when filing TAA petitions.”¹⁵ This type of coordination can prove crucial to workers. For instance, the former Congressman Paul Hodes of New Hampshire’s 2nd district “wrote to Labor Secretary Elaine Chao and requested a swift approval of the TAA application [by the Groveton Mill].” He also provided detailed information about the program benefits and encouraged workers to call his office for assistance.¹⁶ This type of support becomes more likely when the legislator in question is a champion of TAA, rather than an opponent of the program, who would be less likely to invest in assisting workers obtain the benefits they may be eligible for. Beyond shaping information about trade-compensatory programs and framing beliefs about their effectiveness, politicians can thus play a direct role in supporting petitions for relief. This is consistent with [Ritchie and You ’s \(2019\)](#) finding that direct contacts between legislators and the DOL increase the approval rate of TAA petitions—but even before the petition is filed, political elites play a crucial role in the application process by providing direct administrative assistance to workers. This belief finds support in anecdotal evidence. The aforementioned 1987 Congressional report that claimed that there was “no reason to believe that TAA certifications accurately reflect the geographic or industrial distribution of trade-affected workers” also went on to identify a cause of the mismatch. As it put it, “some states have done a much better job of outreach than others.”¹⁷

There is a rich literature that tries to account for the under-utilization of various social provisions, from unemployment insurance (UI) and food stamps to college financial aid and family cash assistance ([Currie 2004](#); [Hernanz, Malherbet, and Pellizzari 2004](#); [Hoxby et al. 2013](#); [Sheran and Swann 2007](#)). Lack of information is a major explanation in each case, and especially for targeted, or means-tested programs. We contribute to this literature by highlighting the prior role of politics. In sum, we argue that the US approach to trade adjustment is highly vulnerable

to the attitudes of political elites. The more negative elites’ views are, the less likely individuals will know about, and petition for, TAA benefits. Anecdotal evidence suggests at least two inter-related channels through which an elite effect might operate: (1) policymakers opposed to trade adjustment are less likely to bring attention to the program’s existence and may negatively affect beliefs about the likelihood that the program will actually deliver benefits; and (2) they may withhold direct assistance as intermediaries between workers and the DOL. In other words, because of the design of TAA, and how it relies on worker petitions, elite attitudes have a self-fulfilling aspect: areas where elites view TAA as ineffective will end up seeing fewer worker-initiated petitions for trade adjustment.

Data and Empirical Strategy

To test the elite effect on trade compensation, we bring politics into the equation of TAA applications: we measure legislators’ views about trade adjustment and test their effect on the rate of TAA petitions in the face of trade shocks. In other words, we keep the economic shock constant, but vary the political environment. We measure import penetration at the CZ level, while congressional districts are the key political geographical unit that we are interested in. As CZs often straddle two or more districts, we spatially merge maps of CZs and districts and take CZ-by-district as our geographical unit of analysis, at which level we construct our data on trade compensation.¹⁸

Measuring Trade Compensation

The dependent variable of our analysis is the intensity of TAA applications measured at the CZ-by-district level. We obtained data on all TAA applications filed between 1990 and 2007, each of which was geo-coded to a latitude and longitude coordinate and then aggregated at the CZ-by-district level. Our dataset aggregates information acquired from 36,646 petitions covering 3,225,421 workers. Each petition includes information about the name of the employer, the petitioner (e.g., union, state one-stop center, or workers), the address of the workplace, the application and determination date, the estimated number of affected workers, and the certification status. We utilize this information to construct the annual number of petitions filed and the annual number of workers covered by the petitions in each CZ-by-district cell.

Measuring Elite Attitudes

We measure elite attitudes toward trade compensation using roll-call voting records, bill sponsorship information, and floor speeches. For roll-call voting records, we examine all House votes on TAA between 1990 and 2007. We only include major roll-call votes that are consequential to the direction of the policy, excluding procedural votes. Following [Rickard \(2015\)](#), we consider roll-call votes that are specific to TAA in order to isolate legislators’ positions on TAA.¹⁹ As votes on TAA are often bundled with other issues,

¹³ Press Release, September 10, 2015, “Collins, King, Poliquin Urge Labor Dept. to Approve Assistance for Displaced Verso Mill Workers.”

¹⁴ Press Release, August 12, 2016, “Collins, King, Poliquin Announce Trade Adjustment Assistance for Displaced Cascades Auburn Fiber Mill Workers.”

¹⁵ National Employment Law Project TAA Manual, 2005.

¹⁶ Press Release, November 27, 2007. “Hodes Announces Trade Adjustment Assistance for Groveton Mill Workers.”

¹⁷ See *supra*, fn. 5.

¹⁸ The number of CZ-by-district cells ranges from 1,483 in 1990 to 1,513 in 2007, which changes over time due to redistricting. In the case of 2007, 316 out of 722 CZs were contained within a single districts, while the rest of CZs straddled at least two districts. For illustrations, see Section A1.1 on page A-3 in the Supporting Information (SI).

¹⁹ We leave out roll-call votes on trade or appropriations bills that are only partially relevant to TAA (e.g., H.R. 2621 Reciprocal Trade Agreement Authorities Act of 1997 and H.R. 1, the American Recovery and Reinvestment Act of 2009).

Table 1. Roll-call votes on TAA, 1990–2007

Congress	Vote date	Bill	Vote no.	Summary	Results
105	Sep-25-1997	H.R.2267	455	On the amendment to reduce funds for TAA program by \$90 million	Failed (107-305)
106	Jun-22-2000	H.R.4690	316	On the amendment to increase funding for TAA program by \$49.5 million.	Failed (128-284)
107	Dec-6-2001	H.R.3008	477	To reauthorize the TAA program under the Trade Act of 1974	Agreed to (420-3)
110	Oct-31-2007	H.R.3920	1025	On passage of Trade and Globalization Assistance Act of 2007	Agreed to (264-157)

we have a limited number of TAA-specific roll-call votes as shown in table 1. Only one roll-call was targeted to reduce funds appropriated for TAA (the vote on the amendment for H.R.2267 in the 105th Congress), votes for (against) which are considered as anti-TAA (pro-TAA). The others were to reauthorize the program or increase funding for it. We consider votes for (against) these bills or amendments as a pro-TAA (an anti-TAA) stance.

We also consider bill sponsorships. A bill has a single formal sponsor, but an unlimited number of legislators can join the sponsor in support of the legislation. While legislators are not required to reveal their policy position as in roll-call voting, they can express their support for the bill by choosing to (co)sponsor it (Rocca and Gordon 2010). We collected information on sponsors and co-sponsors of all TAA-related bills introduced in the House between 1990 and 2007. Once again, we focus on those bills that are directly related to TAA, leaving out only partially relevant ones. During this period, a total of 44 TAA-specific bills were introduced, and there was at least one bill specific to TAA in every congressional session. A bill had 18.5 co-sponsors on average, but the number of co-sponsors varies widely, from 0 to 111. Since every one of these bills aimed to extend or expand TAA coverage, sponsors and cosponsors of these bills are coded as having pro-TAA attitudes.

We also examine floor speeches by all members of the House during the same period. We collected all remarks by members of the House containing the words “TAA” or “Trade Adjustment Assistance” anywhere in their speeches, which resulted in a collection of 448 speeches delivered by 207 legislators. We classified these speeches into pro-TAA, anti-TAA, and other, using a supervised learning technique.²⁰ Speeches are classified as pro-TAA (anti-TAA) when legislators express explicit support (opposition) for its expansion or reauthorization. In the majority of speeches (64.5 percent), TAA is only mentioned in passing; these were not included in our measuring of elite attitudes. While press releases are also a useful source of information for measuring legislative attitudes, we focus on floor speeches because of the limited availability of press release data for the period under examination.

Measuring Import Penetration

As the intensity of TAA applications is largely determined by the import shock workers are exposed to, we control for

the CZ-level import exposure per worker (IPW) by employing Autor, Dorn, and Hanson’s (2013) measure of Chinese import penetration. They developed the measure by taking into account of industry-level trade shocks from China and regional industrial specialization across CZs (calculated as the proportion of workers in a given industry relative to all workers in the CZ). The measure is available at the CZ-level for the years 1990, 2000, and 2007, from which they calculate the decade-level change. To address a potential issue of endogeneity whereby realized Chinese imports to the United States might be correlated with product demand in the United States, they instrument for Chinese import penetration to the United States using import penetration to eight other developed countries. We follow this approach, which allows us to zero in on the effects of different political climates on TAA applications within the same CZ with the same degree of economic shock.

Estimation

Based on this collection of information, we estimate the effect of having pro-TAA legislator on TAA applications, while controlling for the economic shock for each CZ as follows:

$$Y_{ijt} = \alpha + \beta_1 IPW_{it}^{US} + \beta_2 \text{Pro-TAA}_{jt} + \beta_3 \ln(\text{Pop})_{ijt} + \epsilon_{ijt}, \quad (1)$$

where Y_{ijt} is the logged number of petitions (or the logged number of workers included in the petitions), filed in a CZ i by district j cell in year t . IPW_{it}^{US} is the level of IPW in CZ i in the beginning of the decade of year t , for which we proxy using IPW_{it}^{OT} as an instrumental variable.²¹ Specifically, we use 1990 values of import exposure for all observations between 1990 and 1999, and values from 2000 for all observations from 2000 to 2007.²² *Pro-TAA* is a binary measure constructed for each legislator representing a district j in year t , that takes the value of 1 if the legislator has cast a pro-TAA vote, (co)sponsored a pro-TAA bill, or delivered a pro-TAA speech at least once during the two-year period of each Congress, and 0 otherwise. Throughout the analysis, we control for population ($\ln(\text{Pop})$) for each CZ-by-district cell.²³ All observations are weighted by the CZ-by-district cell’s share of the district population.

²⁰ We hand-coded 20 percent of the collected documents. The rest are machine-coded through three supervised learning algorithms (support vector machine, maximum entropy, and decision trees) using the RTextTools package in R (Jurka et al. 2013). When the three algorithms returned a different classification for a given text, we manually reviewed and revised the classification. For details, see Section A2 on page A-5 in the SI.

²¹ IPW_{it}^{US} denotes the level of import exposure calculated based on Chinese import penetration to the United States. Its instrumental variable IPW_{it}^{OT} is calculated using Chinese import penetration to eight other developed countries.

²² We do not use the decade-level change in import exposure, since doing so would amount to explaining the outcome in preceding years with the variable in later years, given how our dependent variable is coded at the year level.

²³ We obtained information on county-level population from Charles, Li, and Stephens (2018). We aggregate the county-level population to the CZ-by-district level. When counties are divided into multiple districts, we apportion the population into districts based on their population share in different districts in the

Table 2. Elite attitudes and TAA applications

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	<i>Petitions</i>			<i>Affected Workers</i>				
	<i>Full</i>	<i>Dem.</i>	<i>Rep.</i>	<i>Full</i>	<i>Full</i>	<i>Dem.</i>	<i>Rep.</i>	<i>Full</i>
IPW	0.185** (0.051)	0.223** (0.080)	0.165** (0.051)	0.151** (0.053)	0.359** (0.125)	0.455* (0.217)	0.282** (0.109)	0.272* (0.133)
Pro-TAA	0.077** (0.021)	0.064+ (0.034)	0.080* (0.036)	0.030 (0.029)	0.208** (0.062)	0.150 (0.108)	0.247* (0.108)	0.088 (0.089)
IPW*Pro-TAA				0.060* (0.027)				0.155* (0.077)
CZ FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	26,087	11,162	14,626	26,087	26,087	11,162	14,626	26,087

Note: Robust standard errors clustered on CZs in parentheses. Dependent variable is logged number of TAA applications in columns 1–4 and logged number of estimated affected workers in TAA applications in columns 5–8. All models control for population (logged). All observations are weighted by the cell's share of district population. + $p < 0.10$, * $p < 0.05$, ** $p < 0.01$.

Results

Table 2 presents the results. Our dependent variable is the logged number of TAA applications in columns 1–4, and the logged number of estimated affected workers included in the applications in columns 5–8. Beginning with columns 1 and 5, we find that the trade shock (*IPW*) and the legislative attitudes toward TAA (*Pro-TAA*) are positively associated with TAA applications. We then estimate the same models separately for the sample of Democratic (columns 2 and 6) and Republican districts (columns 3 and 7). The results reveal two major differences in the patterns of TAA applications in areas with Democratic versus Republican legislators. First, TAA petitions are more responsive to the trade shock under Democratic legislators than Republican legislators. We know Democratic legislators are generally more in favor of TAA than Republicans, and accordingly, we see a higher responsiveness of TAA to the trade shock (as seen by the difference in the appendix of the *IPW* coefficient in models 6 and 7). Second, the legislator's attitudes toward TAA has a larger effect on TAA applications in Republican districts, which see greater variation in legislators' preferences toward TAA. Turning to columns 4 and 8, we add an interaction term between *IPW* and *Pro-TAA*. The positive and statistically significant coefficient on the interaction term suggests that TAA petitions are more responsive to the trade shock with a pro-TAA legislator. Given the identical level of trade shock, areas with a pro-TAA legislator are expected to see 6.0 percent more applications (column 4) and 15.5 percent more petitioning workers (column 8) than areas with an anti-TAA legislator.

Testing the Mechanism (i): Who Petitions?

Next, we attempt to further pin down the mechanism. We begin by separating the effect of elite attitudes on TAA applications, according to who the petitioner was. The DOL requires that petitions be submitted by a group of at least three workers (43 percent of petitions in our data), a union (15 percent), a company (35 percent), or a state government agency (6 percent). Among the three main potential petitioners, we expect workers to be least informed about the presence of the program. Individual workers should find it costlier to search for information about the program and its effectiveness. They may decide to apply only once they

obtain outside information and encouragement. By contrast, the other types of potential petitioners (unions, companies, and state agencies) can be reasonably expected to have more information about the program, and be capable of filing the petition on their own without encouragement or assistance from political actors.

Table 3 shows the effects of elite attitudes on petitions according to who initiated them: workers, a union, a company, or a state agency. The unit of analysis and the estimating equation are the same as for the models presented above (and thus present the same number of observations); only the dependent variable varies, according to the petitioner. All models control for population as above, and include CZ fixed effects and year fixed effects. Columns 1–4 present the results for the logged number of petitions, while columns 5–8 consider the logged number of affected workers. As expected, the coefficient for *Pro-TAA* appears statistically significant for worker-initiated petitions (columns 1 and 5). The number of petitions filed by workers is on average 6.2 percent higher in the areas with pro-TAA legislators than the other districts. Similarly, the number of petitioning workers is on average 23.4 percent higher in the pro-TAA districts than the others. The substantive effects of *Pro-TAA* are much smaller on firm- or union-initiated petitions. In sum, while workers appear most prone to elite effects, unions and firms appear less affected, in a way consistent with an informational effect. Again, the robustness of findings to the inclusion of CZ fixed effects underscores the importance of political environment in explaining the pattern of TAA allocation, even for areas within the same economic geography.

The varying effects of *IPW* also merit further discussion. According to table 3, petitions from firms appear to be the most responsive to import shocks, with petitions from unions least so. There may be a couple of reasons for this. First, firms are best informed about the causes of layoffs, and may thus be best able to clear TAA's requirement for demonstrating that layoffs are due to import competition. Second, while factories tend to be specific to a CZ, unions, which often operate nationally, are not. As a result, unions may be less responsive to local shocks: information about the benefits of TAA, and its application process, may be sent across the entire membership, which could then account for why the CZ-specific effect of *IPW* is imprecisely estimated.

In addition to the models presented in tables 2 and 3, we account for factors that may confound the relationship between elite attitudes and TAA applications. First, it could

year of redistricting. We obtained this population allocation information from the Missouri Census Data Center.

Table 3. Elite attitudes and TAA applications by petitioners

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	<i>Petitions</i>				<i>Affected workers</i>			
	<i>Workers</i>	<i>Unions</i>	<i>Firms</i>	<i>States</i>	<i>Workers</i>	<i>Unions</i>	<i>Firms</i>	<i>States</i>
IPW	0.080** (0.030)	0.025 (0.018)	0.138** (0.041)	0.052 (0.035)	0.203* (0.085)	0.008 (0.046)	0.417** (0.117)	0.168 (0.125)
Pro-TAA	0.062** (0.018)	0.027* (0.011)	0.022 (0.016)	0.033** (0.010)	0.234** (0.064)	0.048 (0.040)	0.079 (0.062)	0.109* (0.046)
CZ FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	26,087	26,087	26,087	26,087	26,087	26,087	26,087	26,087

Note: Robust standard errors clustered on CZs in parentheses. Dependent variable is logged number of TAA applications in columns 1–4 and logged number of estimated affected workers in TAA applications in columns 5–8. All models control for population (logged). All observations are weighted by the cell's share of district population. + $p < 0.10$, * $p < 0.05$, ** $p < 0.01$.

be that the findings above are driven by prevalent attitudes over social provisions. A series of empirical studies point to significant variation in take-up rates of a wide range of government assistance programs (Currie 2004; Hernanz, Malherbet, and Pellizzari 2004; Sheran and Swann 2007) as well as in general attitudes toward government compensation (Lim and Burgoon 2018). One way such attitudes can manifest is in the stigmatization of social program recipients, which could underlie both elite attitudes toward TAA and TAA applications. To account for this possibility, we control for take-up rates of UI, a program that enjoys high worker awareness, but that is prone to stigma.²⁴ As presented in tables A5 and A6 in the SI, our key coefficients remain almost identical throughout, which suggests that our findings on elite influence are not reducible to general attitudes toward social policy.²⁵

We also ensure that our findings are not simply driven by an area's partisan orientation by controlling for the two-party vote share of Democratic candidates in the previous House elections. Union density is another factor that may account for the variation in TAA applications. Unions are well informed about the TAA process, they can file a petition on behalf of workers, or provide administrative support for groups of workers going through the petition process. We also account for the partisanship of governors, who may disseminate relevant information for workers and invest state-level resources to help workers applying for it. Our findings remain robust to the inclusion of these variables, as presented in tables A7 and A8 in the SI. The state-level union density appears to be negatively associated with an overall level of petitions, which appears driven by its negative effects on petitions filed by firms. The lack of micro-level data on unions does not allow us to fully account for the role of unions in the allocation of TAA, but the positive effect of unions on union-initiated petitions provides some evidence of the direct role played by unions. As for governor partisanship, having a democratic governor appears to be positively associated with an overall level of petitions.

²⁴We use the state-level estimates of UI take-up rates as calculated by Auray, Fuller, and Lkhagvasuren (2019) and Auray and Fuller (2020). They provide an estimate of the fraction of eligible unemployed collecting UI over the 1989–2012 period.

²⁵In table A5 in the SI, we also show that there is no significant effect of pro-TAA elite attitudes on UI take-up rates. This shows that the effects of pro-TAA attitudes are specific to TAA applications.

Table 4. Neighborhood effects on TAA applications

	(1) <i>Petitions</i>	(2) <i>Affected workers</i>
IPW	0.070+ (0.036)	0.198* (0.088)
Pro-TAA	0.044** (0.014)	0.145** (0.045)
Pro-TAA (neighbor)	0.039* (0.020)	0.081 (0.061)
CZ FE	Yes	Yes
Year FE	Yes	Yes
Observations	20,357	20,357

Note: Robust standard errors clustered on state in parentheses. Dependent variable is logged number of TAA applications in column 1 and logged number of estimated affected workers in TAA applications in column 2. All models control for population (logged). All observations are weighted by the cell's share of district population. + $p < 0.10$, * $p < 0.05$, ** $p < 0.01$.

Testing the Mechanism (ii): Neighborhood Effects

As a second test of the informational mechanism, and as a means of tackling one possible source of endogeneity, we test for the presence of neighborhood effects: Does having pro-TAA legislators in neighboring districts affect workers' TAA applications? TAA-related information can easily travel to neighboring districts through different channels, including the news media, co-workers, family, and friends. If legislative attitudes affect levels of TAA-related information in their home district, we might also expect these attitudes to have geographic spillovers on applications in neighbouring districts.

To test this expectation, we create an indicator for pro-TAA attitudes of legislators in geographically contiguous neighbors. We generate a variable *Pro-TAA (neighbor)*, which takes the weighted mean value of *Pro-TAA legislator* in all geographically contiguous districts within the same CZ.²⁶ We use the length of shared border between a given CZ-district and its neighbors for weighting. If a neighborhood effect is present, it will be driven by information, as opposed to any direct effect of legislators supporting application processes.

Table 4 presents the results. The effects of *Pro-TAA (neighbor)* appear positive across the estimations. According to the

²⁶Observations are missing when there is no other neighboring district within the CZ. This is the case when the CZ is contained in a single district.

first model, the number of petitions is on average 3.9 percent higher when all of one's neighboring legislators within the CZ are favorable toward TAA, compared to a neighborhood of all anti-TAA legislators. In the second model with the logged number of affected workers covered in petitions as dependent variable, the coefficient again appears positive but falls short of statistical significance. The number of affected workers included in petitions is on average about 8.1 percent higher in areas with all pro-TAA legislators in the neighborhood than areas with all anti-TAA legislators. This finding is notable given that the models already control for one's own legislator's TAA-related attitudes, so this effect comes on top of these.

These findings also go some way in addressing a possible concern about endogeneity. It might be that legislators' attitudes about TAA are shaped by their constituents' interests, or by other factors that influence both legislators and constituents. The effects observed in [table 2](#) could then be due to legislators responding to workers' attitudes, rather than the other way around. While we partly address this concern by controlling for constituent demand for TAA through the inclusion of the trade exposure measure, there may be other factors that are not captured by this measure. Neighborhood effects are not subject to this concern: legislators have no incentive to respond to the demand of constituents in other districts. Our findings on neighborhood effects thus provide additional support that we are observing a top-down effect of legislative attitudes on TAA activity.

Testing the Mechanism (iii): Media Congruence

Next, we test the informational mechanism by exploiting variation in local media environments. Specifically, we examine whether elite effects are stronger when voters are more exposed to information about their legislator's behavior. To do so, we rely on the measure of media congruence developed by [Snyder and Strömberg \(2010\)](#). This measure is based on the geographical match between congressional districts and media markets. As the economic geography of media markets is different from the boundary of congressional districts, voters are exposed to information about out-district legislators as well as their own legislators. The measure for the level of media congruence ranges from 0 to 1, with higher numbers indicating a larger share of in-district news coverage relative to out-district news coverage. If legislators' views have an effect on framing workers' attitudes to trade adjustment, in a way that has an effect on the odds of petitioning for relief, we would expect to see stronger (weaker) elite effects on TAA applications in districts with higher (lower) media congruence.

We test this expectation by separately re-estimating our baseline models ([table 2](#)) for districts with high congruence versus low congruence.²⁷ The results, in [table 5](#), show a stark difference in the estimated effects of *Pro-TAA* according to media congruence. The substantive effect of *Pro-TAA* on TAA petitions is larger in the high information environment than in the low information environment. According to the second model, the estimated effect of *Pro-TAA* on the number of petitioning workers is 28.5 percent in the high media congruence districts, while it is imprecisely estimated in the low congruence districts. As one might expect, the estimated effect in the high information environment is also

Table 5. Elite attitudes and TAA applications by media congruence Level

	(1) <i>Petitions</i>	(2) <i>Affected workers</i>
High media congruence		
IPW	0.181** (0.063)	0.345** (0.129)
Pro-TAA	0.094 (0.063)	0.285+ (0.169)
CZ FE	Yes	Yes
Year FE	Yes	Yes
Observations	7,393	7,393
Low media congruence		
IPW	0.304 (0.197)	0.628 (0.495)
Pro-TAA	0.029 (0.036)	0.087 (0.118)
CZ FE	Yes	Yes
Year FE	Yes	Yes
Observations	2,476	2,476

Note: Robust standard errors clustered on CZs in parentheses. Dependent variable is logged number of TAA applications in column 1 and logged number of estimated affected workers in TAA applications in column 2. All models control for population (logged). All observations are weighted by the cell's share of district population. + $p < 0.10$, * $p < 0.05$, ** $p < 0.01$.

substantively higher than the average effect across all areas shown in [table 2](#). In sum, information about legislators magnifies their impact on TAA responsiveness.

These findings are consistent with our informational mechanism: when individuals receive more news about their legislators, they appear more responsive to their legislator's attitudes toward TAA. But might reverse causality be an issue here? In other words, might it be that legislators become more responsive to their voters' need for TAA where the media environment makes them more accountable to their constituents? While plausible, this seems unlikely for two reasons. First, as discussed above, our estimation effectively controls for voter demand for TAA by including the measure for IPW, and reveals an interactive effect of legislative attitude and the trade shock. Second, this reverse causality account could not explain why legislators would be more responsive to workers than unions or companies. If the effect were driven primarily by legislators varying their responsiveness according to constituents' information about them, we should expect no real difference across different types of petitioners.

Testing the Mechanism (iv): Web Searches

We conduct a fourth test to assess the informational mechanism, using patterns of web searches across areas. Our central expectation is that more favorable elite attitudes render workers more aware of the existence of the program in the first place, and thus more likely to apply. We expect that in such areas, workers would be more likely to search for TAA-related information. Consistent with existing work, we take "knowing what to search for" as an indication of awareness, rather than ignorance ([Choi and Varian 2012](#); [Pelc 2013](#)). In this way, seeking information related to TAA captures the step prior to putting together a petition. We also run a placebo test on searches related to social security, to ensure that the effect is specific to TAA, and not merely a reflection of overall need.

²⁷ Our data on media congruence come from [Feigenbaum and Hall \(2015\)](#) who calculated the decade-average media congruence for each district for the two decades under investigation. Following their approach, we consider districts as high (low) media congruence if the calculated measure is higher than 0.75 (lower than 0.25), excluding districts with medium levels of congruence.

Table 6. Elite attitudes and web searches on government transfer programs

	(1) TAA	(2) SSDI
IPW	-0.067 (0.054)	-0.124* (0.058)
Pro-TAA	0.214** (0.065)	-0.038 (0.063)
Income per capita (logged)	0.873** (0.319)	0.280* (0.136)
State FE	Yes	Yes
Year FE	Yes	Yes
Observations	4,604	4,604

Note: Robust standard errors clustered on CZs in parentheses. Dependent variable is logged search volume on “TAA” in column 1 and on “SSDI” in column 2. All observations are weighted by the cell’s share of district population. + $p < 0.10$, * $p < 0.05$, ** $p < 0.01$.

To test our expectations, we collected city-level data on web search volume for the keywords “TAA” and “Trade Adjustment Assistance,” using Google Trends. We also collected the same data for the keywords “SSDI” and “Social Security Disability Insurance” for the placebo test. The index for search volume ranges from 0 to 100, and reflects the relative importance of a given search in a given area, relative to all searches in that area. As might be expected, most observations show low search volumes: 78 percent of the data are recorded as 0 on the 0–100 index. We take the log of that index as our dependent variable. As the web search data are only available from 2004, our analysis is limited to the period from 2004 to 2007, for which we have data on legislative attitudes toward TAA.²⁸ When the city spans different CZs and districts, we aggregate the city-based data to CZ-by-district level by apportioning the data into different cells in proportion to population.

Table 6 presents the results, which provide measured support for our expectations. We present the results for TAA in the first column, and for SSDI in the second as a placebo. In the first model, *Pro-TAA* appears to be positively related with TAA-related web search volume. In the locations where legislators are in favor of the program, the search volume index is on average 21.4 percent higher than other locations. When we rerun the same estimation on variation in Social Security-related searches as presented in the second column, we find strictly no relationship. The inferences that can be made on the basis of observations from four years remain limited, but the results do provide suggestive evidence that elite attitudes are related to an increased awareness of TAA, and appear to generate further information-seeking by individuals.

Signs of Reverse Causality?

In a further effort to pin down the direction of causality, we explicitly check for any sign that legislators’ views are instead responses to local demands for adjustment. To do this, we examine the determinants of elite attitudes toward TAA. With district-year as the unit of analysis, we estimate a probit model focusing on districts with newly elected represen-

²⁸ As *IPW* is measured at the CZ-decade and does not vary within CZ during the period due to the limited period, we cannot include fixed effects for CZs. We instead include fixed effects for states in table 6.

Table 7. Elite attitudes toward TAA

	(1)	(2)	(3)	(4)
DW-nominate	-1.096** (0.238)	-1.211+ (0.670)	-1.600* (0.669)	-1.613* (0.677)
IPW			0.151* (0.068)	0.143* (0.068)
TAA petitions (lagged)				0.175 (0.417)
Democrat		-0.040 (0.480)	-0.249 (0.459)	-0.250 (0.461)
Dem vote share		-0.278 (0.631)	-0.230 (0.658)	-0.224 (0.662)
State FE	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes
Observations	294	294	294	294

Note: Marginal effects. Robust standard errors clustered on states in parentheses. Dependent variable is a binary indicator for pro-TAA attitude by legislator. The sample includes districts with newly elected representatives. + $p < 0.10$, * $p < 0.05$, ** $p < 0.01$.

tatives.²⁹ If our results merely reflected bottom-up effects, the number of petitions filed in a district in a previous year should be associated with the attitudes towards TAA of these newly elected legislators. With legislative preferences over TAA as the dependent variable, we thus examine the effect of lagged TAA petitions, looking only at years in which new representatives took office. We include fixed effects for state and year throughout. Table 7 presents the results. Controlling for legislators’ ideology (measured using DW-nominate scores), and each district’s trade shock, the lagged number of TAA petitions filed in a district falls short of significance as presented in model 4. By contrast, and as expected, legislators’ ideology, and the district’s trade exposure appear as significant determinants of legislative attitudes toward TAA. In sum, our attempt to explain elite attitudes towards TAA yields little evidence of a bottom-up effect, further bolstering the argument: the elite attitudes that we have shown driving trade adjustment do not seem to merely be a response to local demands.

Spillover Effects: TAA Petitions and Medical Benefits

Our last theoretical expectation is that the variation in TAA responsiveness may have an effect on other government transfers. The most disconcerting finding in Autor, Dorn, and Hanson (2013) may be the way in which the import shock from China increases demand for government benefits over and above trade compensation, from disability payments, to early retirement and in-kind medical benefits. As Autor, Dorn, and Hanson point out, “these transfer payments vastly exceed the expenses of the TAA program.” Such transfers, by definition, are not designed to get people back into the labor force. Insofar as they are “filling in” individual needs following trade exposure, they represent a suboptimal policy response.

We focus our analysis on in-kind per-capita medical transfer benefits, which make up the biggest share of the government transfers examined by Autor, Dorn, and Hanson.³⁰ We expect that TAA has a role to play here too.

²⁹ We cannot estimate fixed effects for districts because their geographical boundaries change over time during the examined period.

³⁰ Data on medical transfer benefits are from the Bureau of Economic Analysis’s Regional Economic Accounts. We aggregated the county-level medical benefits to the CZ level.

Table 8. TAA petitions and in-kind medical benefits

	(1)	(2)
IPW	22.317 (15.400)	67.816** (20.803)
Workers covered by TAA petitions	-0.005 (0.004)	
Workers covered by certified TAA petitions		-0.010* (0.004)
Workers covered by non-certified TAA petitions		-0.004 (0.004)
CZ FE	Yes	Yes
Year FE	Yes	Yes
Observations	12,274	12,274

Note: Robust standard errors clustered on CZs in parentheses. Dependent variable is per-capita in-kind medical transfer benefits. All observations are weighted by the cell's share of district population. + $p < 0.10$, * $p < 0.05$, ** $p < 0.01$.

That is, individuals who successfully apply to TAA will have less need for these alternative forms of government support. This may be because of direct health effects: if a worker obtains assistance after being laid off, s/he may be less likely to develop a range of illnesses that correlate with anxiety and economic distress (Case and Deaton 2015), and have less need for substitute forms of government support. Or it may be due to income effects: if laid-off workers see their income decline, they may become eligible for Medicaid benefits, which fall under the measured in-kind medical transfers.

As a result, in those areas that see a higher level of trade compensation, we might see lesser reliance on in-kind medical transfers from the government, controlling for the level of trade exposure. As trade-impacted workers become less likely to petition for TAA support, they—and their dependents—become more likely to demand medical benefits.

We test this expectation by examining the effect of the number of workers covered by TAA petitions, with CZ-by-year as the unit of analysis. We also exploit the information we have on which petitions were certified, versus not certified. Just under 72 percent of the workers applying to the program are certified. It follows that these should have a greater effect suppressing demand for medical benefits than non-certified petitions. We lag all TAA measures by a year.

The empirical challenge entailed in estimating this effect is that TAA is far more targeted than medical benefits, and much smaller in scale. On the other hand, medical benefits tend to be long-lasting (Autor and Duggan 2003), while the TAA program is limited to two years. The short TAA transfer may thus have a lasting effect on decreasing the demand for medical benefits, which would cumulate across time, as TAA recipients of the past re-enter the workforce and thus avoid becoming recipients of medical benefits for years to come. In other words, trade compensation today may be proxying for the effect of trade compensation in the past, which would render the substitution effect more noticeable in any given year.

Table 8 presents the results. We find that *workers covered by TAA petitions* is indeed negatively associated with the level of government medical benefits, suggesting some substitution effect is at work. When we distinguish between certified and non-certified TAA petitions, we see the expected difference: certified petitions have a substantively stronger and statistically significant effect on decreasing demand for

medical benefits. Non-certified TAA petitions, meanwhile, remain negative, but fall short of statistical significance.

These findings provide preliminary evidence of the purported spillover effect: TAA applications can affect demand for other government transfers to individuals, including in-kind medical benefits. Combined with our prior findings about the drivers of TAA petitions, the implication is that elite attitudes may have the unanticipated effect of increasing demand for a range of alternative government transfers.

Conclusion

On its face, TAA is a solution to one of the key challenges facing developed democracies: How to pursue policies that grow the economic pie, but do so unevenly? Yet because of the difficulty in identifying its targeted recipients, the program has always relied on demand-side petitions, as do analogous programs like the EGF. The result is a highly uneven compensation of trade impacted workers: areas facing the same level of trade exposure receive very different levels of trade compensation. Why is this?

The answer, we argue, is politics. TAA's design and its sheer complexity reinsert politics into what is meant to be an apolitical, technocratic mechanism. We test this belief by coding legislators' attitudes towards TAA: we collect roll-call and bill (co)sponsorship data and all speeches concerning trade adjustment over the relevant period. If elite attitudes frame individual knowledge of, and beliefs about, trade adjustment, then legislators' attitudes should be reflected in the rate of petitions, controlling for the magnitude of the trade impact. This is what we find. Legislators' stances on the TAA program have far-reaching effects, significantly affecting the odds of displaced workers successfully applying for trade adjustment benefits. Specifically, given an identical trade shock, a pro-TAA legislator is associated with 16 percent more workers petitioning for TAA. Attitudes towards TAA thus appear to be partly self-fulfilling.

The story we tell is most evident in Republican-leaning districts. On average, Republicans are less favorable to the TAA. As we show, this means that in Republican districts, trade shocks result in a much smaller increase in trade compensation. But it is also the case that the Republicans' attitudes towards TAA vary far more than those of Democratic legislators. Accordingly, it is Republican attitudes that appear to "matter the most" in determining whether workers apply for, and receive, trade compensation.

Our belief is that this effect operates primarily through an information channel: workers in pro-TAA districts are simply more likely to be aware of programs at their disposal, and more likely to seek to use them. We test this in several ways: we find that petitions initiated by unions, which are most likely to be informed about TAA, are least prone to elite effects, while petitions initiated by workers and firms are most prone to elite effects. We also show the existence of neighborhood effects, whereby elite attitudes matter not only in the home district, but also in neighboring districts, in a way that is consistent with a top-down effect. Districts with pro-TAA legislative attitudes also see more TAA-related web searches, presumably by workers aware of the program who are seeking additional information. Finally, we show that the effect of elite attitudes is greatest in high-media congruence districts, that is, in areas where the media provides voters with most information about their elected officials. Where elite views are most publicized, their views on TAA appear to have the greatest impact on the volume of petitions.

We end by examining whether trade adjustment has observable spillover effects. One of the most arresting

findings about import competition is the extent to which the demand for medical benefits appears to increase as a result of import exposure. Might it be that this is a consequence of individuals failing to petition for trade adjustment benefits? We find suggestive evidence that this indeed the case: TAA petitions are negatively related to the demand for in-kind medical benefits at the commuting zone level. Moreover, and as expected, this effect is limited to certified petitions, while non-certified petitions have a smaller, and statistically insignificant effect. Those opposed to TAA on ideological grounds are often suspicious of individuals' dependence on the state. What our findings suggest is that they may actually be contributing to such dependence by deterring workers from applying for, and receiving, trade adjustment benefits that are more likely to get them back into the labor force than alternative transfers. Paradoxically, then, political elites' low support of TAA may increase long-term dependence on state benefits in their districts.

A large literature is devoted to explaining lower-than-expected take-up rates of a range of social programs, from UI to food stamps (Currie 2004; Hernanz, Malherbet, and Pellizzari 2004; Sheran and Swann 2007). Variation in information among eligible recipients is among the main explanations offered. We add to this literature by demonstrating how elite attitudes can play a prior role, in this case by driving workers' awareness of trade adjustment compensation. This also holds broader implications for the debate over the optimal design of social provisions. Targeted programs like TAA suffer from many of the shortcomings attributed to means-tested, versus universal, social programs. As we show, one additional shortcoming of targeted programs is that they may be especially prone to politicization, which can exacerbate regional differences in take-up rates.

Another, more specific implication of our findings is that TAA petitions are a highly imperfect proxy for trade exposure or trade-induced labor market shocks, though they are often used as such.³¹ The gap between need and response varies systematically, and this gap is political in nature. In more recent periods, especially, TAA petitions are likely to underestimate the underlying need: trade exposure has grown since 1990, while TAA provision has decreased, or remained unchanged. Studies relying on a time-series of TAA petitions to estimate trends in trade exposure are thus especially prone to bias.

That the binding constraint on trade adjustment has to do with information also holds significant policy implications. Before other improvements to trade adjustment are made, resources should be allocated to informing workers about the existence of TAA benefits, and facilitating the petition process. The program has undergone a series of reforms that expanded program benefits and broadened program eligibility to include service sector workers. Yet, the program's success depends on worker participation. While lack of awareness has been repeatedly flagged as a major obstacle to increasing participation, little progress has been made on this issue.³² In 1987, the House passed a bill that would have required states to inform workers about TAA when the workers apply for the UI.³³ The bill was ultimately

vetoed by the President.³⁴ Three decades later, most eligible workers still do not know about TAA.

The TAA program is the best test we have of an active labor market policy in the United States. It is also the oldest trade adjustment program of its scale, anywhere. This makes it an ideal testing ground not only for the US' ability to respond to trade shocks specifically, but also for Organisation for Economic Co-operation and Development countries' overall ability to respond to labor dislocation. With growing concerns over how technology will impact the labor market in coming years, the findings in this article point to the obstacles ahead. While we show that TAA is far more responsive to trade shocks than current estimates suggest, we also document the extent to which the deployment of trade adjustment benefits is vulnerable to politics, which means their allocation across space and time is uneven. The mere enactment of these programs, without local political will to support them, is unlikely to meet the challenges currently facing developed democracies.

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Data Statement

The data underlying this article are available on the ISQ Dataverse, at <https://dataverse.harvard.edu/dataverse/isq>

Supplementary Information

Supplementary information is available at the *International Studies Quarterly* data archive.

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³¹ See Uysal, Yotov, and Zylkin 2015; Monarch, Park, and Sivadasan 2017.

³² US Government Accountability Office (GAO) 2006. Trade Adjustment Assistance: Most Workers in Five Layoffs Received Services, but Better Outreach Needed on New Benefits. GAO-06-43. Washington: Government Accountability Office.

³³ U.S. Congress, Office of Technology Assessment, Trade Adjustment Assistance: New Ideas for an Old Program-Special Report, OTA-ITE-346 (Washington, DC: U.S. Government Printing Office, June 1987).

³⁴ H.R. 3 (100th) was an omnibus bill that contained a great number of provisions pertaining to tariffs and trade; it is unlikely that the veto was decided on the basis of the TAA provision. But the proposal was never repeated.

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