# Economic Decline, Social Identity, and Authoritarian Values in the United States<sup>\*</sup>

Cameron Ballard-Rosa University of North Carolina cambr@email.unc.edu Amalie Jensen Princeton University ajensen@princeton.edu

Kenneth Scheve Stanford University scheve@stanford.edu

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#### Abstract

Why is America's backlash against globalization so authoritarian? We argue that sustained economic decline has a negative effect on the social identity of historically dominant groups. These losses lead individuals to be more likely to want to enforce social norm conformity—that is, adopt more authoritarian values—as a way to preserve social status and this effect is greater the larger the size of new groups in the population. The paper formalizes this argument and tests the predicted effect of economic decline from globalization on authoritarian values using an original 2017 representative survey in the United States. We find that individuals living in relatively diverse regions in which local labor markets were more substantially affected by imports from China have more authoritarian values. We further find that the greater effect of globalization-induced labor market decline in more diverse areas is also evident for vote choice in the 2016 Presidential election.

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## 1 Introduction

Why is America's backlash against globalization so authoritarian? Authoritarian values, defined as a preference for order and homogeneity and a belief that these outcomes should be achieved by force if necessary, characterize the rhetoric and many of the proposed policy responses of the contemporary backlash against globalization in the United States. While some political reactions to rising globalization have taken predictable forms emphasizing less globalization and/or more generous policies to help those adversely affected by economic integration (Feigenbaum and Hall, 2015; Che et al., 2016), many journalistic and academic treatments have emphasized that the backlash is also characterized by anger and has evolved into full blown authoritarian populism (see e.g. Haynes (2016), Taub (2016), and Rodrik (2018)). It is not simply a case of wanting to reduce international trade, immigration, and foreign investment. Many of these voters connect globalization to their feelings of being abandoned by a "corrupt elite" that has betrayed the "virtuous people" and of being threatened by the loss of status in an increasingly diverse country (Mudde and Kaltwasser, 2017).

This phenomenon is personified in Donald Trump. He campaigned on a platform for which free trade and immigration were not just bad policies but symptoms of betrayal and disorder and it was at least in part voters with authoritarian values who responded to these appeals. Figure 1 below presents a smoothed locally-weighted average of the proportion of respondents voting for Donald Trump in the 2016 U.S. presidential election against a measure of authoritarian preferences which we describe in detail below.<sup>1</sup> As can be seen in the figure, there is a remarkably strong bivariate association between individuals with greater authoritarian tendencies and the likelihood of voting for Trump.<sup>2</sup>

The connection of globalization to support for Trump and authoritarian populists like him around the world has been made in a number of recent papers. Che et al. (2016), Autor et al. (2017), Jensen, Quinn and Weymouth (2017), and Colantone and Stanig (2018) all provide evidence of a correlation between some dimension of the impact of economic integration on local economic performance and support for populist political outcomes including Trump, more extreme left and right Congressional candidates, non-incumbents, Brexit, and far right parties in Europe. Many of these studies present compelling research designs that support a causal interpretation of these

<sup>&</sup>lt;sup>1</sup>This is drawn from a nationally-representative sample of adults in the United States that was fielded by the authors and is described below.

<sup>&</sup>lt;sup>2</sup>See also MacWilliams (2016).



Figure 1: Authoritarian Values and Voting for Trump

Notes: Smoothed locally-weighted average of the proportion of respondents voting for Trump at the 2016 presidential election by authoritarian values as measured by the ASC scale.

The obvious question is why globalization should lead to the support of these candidates. Che et al. (2016) and others focus on the potential issue voting mechanism, suggesting that candidates like Trump are offering more protectionist policy which is what voters want; in these accounts, the rise of authoritarian sentiment and rhetoric is largely beside the point. Jensen, Quinn and Weymouth (2017) argue that negative shocks from globalization function very similarly to all types of economic shocks, with poor economic performance being linked in the minds of voters to an anti-incumbent inclination. Yet this says little about why voters would respond in particular—among the set of available opposition messages—to the authoritarian kinds of rhetoric that have resonated with publics recently. Autor et al. (2017) focus on polarization and contend that voters respond to the negative consequences of globalization by supporting more extreme versions of whatever ideological leanings they previously held. We think all three of these mechanisms are plausible and contribute to our understanding of how globalization has affected American political behavior. That said, they do not really answer the question of why America's backlash against globalization has had such an authoritarian flavor (and that of other countries as well).

Without an obvious answer to this question, other journalists and scholars have taken a skeptical view that America's rising authoritarian populism has much to do with globalization or other economic sources (see e.g. Rothwell and Diego-Rosell (2016), Inglehart and Norris (2016), and Mutz (2018)). Some of this skepticism is due to different assessments of the correlation between economic decline and voting for populist candidates. But the critique goes deeper than this with the view that even when such a correlation is observed, it is often spurious in that the real forces at work are some form of cultural backlash. After all, if the "backlash against globalization" is solely about its economic consequences, why hasn't the backlash been focused exclusively on economic policies?

This paper proposes a new answer to why regional economic decline associated with globalization would lead to the types of authoritarian political reactions observed in the United States and other countries around the world. Our framework synthesizes the insights in both the economic and cultural value approaches to understanding the rise of authoritarian populism in the United States. We argue that long-run economic changes from globalization have a negative impact on the social identity of historically dominant groups. This leads to an increase in authoritarian values because of an increased incentive to force minority groups to conform to social norms as compensation for identity losses. We further argue that the effect of economic changes from globalization on authoritarian values is greater the larger the relative size of minority groups in the population. We formalize our argument in a manner intended to capture many of the major insights from the literatures on social identity, the origins of authoritarian values, and the economic consequences of globalization.

The paper tests the predicted effect of economic decline on authoritarian values using an original 2017 representative survey in the US; following recent best practices in psychometric measurement of authoritarian values,<sup>3</sup> this included a battery of questions drawn from Dunwoody and Funke (2016) to capture separately three conceptual dimensions argued to be core to the authoritarian personality: aggression, submission, and conventionalism. Based on an established literature documenting the negative consequences of Chinese import penetration for local economies in the US,<sup>4</sup> we identify local economic shocks in the US induced by China's integration with the world economy to estimate the causal impact of long-run structural decline in labor market outcomes on authoritarian values and voting behavior.

We find that individuals living in relatively diverse regions in which local labor markets were more substantially affected by imports from China have more authoritarian values. The implied substantive effect of an economic shock is large and pronounced: in diverse areas, a two-standard deviation increase in the degree of import penetration is associated with approximately two-thirds of a standard deviation increase in our baseline measure of authoritarianism. This impact is much

<sup>&</sup>lt;sup>3</sup>Duckitt et al. (2010); Dunwoody and Funke (2016)

<sup>&</sup>lt;sup>4</sup>E.g., Autor, Dorn and Hanson (2013); Autor et al. (2014); Acemoglu et al. (2016)

larger than the effect of trade shocks in less diverse areas in a way that is consistent with the predictions of our model. Our estimates are robust to the inclusion of a wide variety of demographic variables as well as controls for the extent of manufacturing employment prior to China's integration into the world economy and the size of the foreign born population; results also persist when we instrument for Chinese imports into the US using a combination of Chinese imports into a number of similar economies. We further find that the greater effect of labor market decline in more diverse areas is also evident for vote choice in the 2016 Presidential election – among our survey respondents who live in diverse areas, a two-standard deviation increase in the China shock corresponds to a 25 percentage point increase in the likelihood of voting for Donald Trump.

The paper contributes to three important literatures: the impact of globalization on voting behavior and support for populists, the origins of authoritarian values, and the public behavior literature on the role of economic and value concerns in the determination of mass behavior. First, as discussed above, the existing literature on the impact of globalization on voting in the US emphasizes issue-based voting concerning anti-globalization policy, retrospective voting over poor economic performance, and a policy extremity updating process in explaining the mechanisms that might account for this relationship (Che et al., 2016; Autor et al., 2017; Jensen, Quinn and Weymouth, 2017; Colantone and Stanig, 2018). Our evidence suggests a fourth mechanism is value change in which trade shocks lead voters to adopt more authoritarian values. These values in turn impact voting behavior including the support of populist candidates and parties. This mechanism not only explains the interaction between economic decline and the size of minority groups but also answers our motivating question of why America's backlash is characterized by authoritarian rhetoric and policies: these values resonate with voters experiencing identity losses from the permanent decline in demand for their labor.

Second, our results provide novel empirical evidence linking economic threat to authoritarian values.<sup>5</sup> Previous empirical work showing that economic change fosters authoritarian values has primarily been based on aggregate correlations across countries or across time within countries (Sales, 1973; Doty, Peterson and Winter, 1991; Perrin, 2005) or individual-level correlations between

<sup>&</sup>lt;sup>5</sup>Early work on the origins of authoritarian values took different views on whether these values were acquired in childhood and early adulthood and therefore pre-determined for purposes of understanding adult political behavior (Adorno et al., 1950), or whether to instead view them as at least in part determined by contemporaneous factors (Fromm, 1941; Lipset, 1959; Rokeach, 1960). More recent work has tended to adopt the view that such values are predetermined and then focus on what authoritarian values explain (see Pettigrew (2016) for a recent review). An important body of work takes various intermediate views about how contemporaneous factors might activate individuals with predetermined authoritarian values or actually make individuals more authoritarian (Feldman, 2003; Stenner, 2005; Hetherington and Suhay, 2011).

economic characteristics and authoritarian values (Sniderman, Peri and de Figueiredo Jr, 2002; Feldman, 2003; Stenner, 2005; Hetherington and Suhay, 2011).<sup>6</sup> Our study provides credible causal estimates that Chinese imports had a positive effect on authoritarian values. This result suggests that in addition to socialization, contemporary economic threats can affect levels of authoritarian values as theorized in early work by Fromm (1941), Lipset (1959), and Rokeach (1960).

Third, our study highlights the importance of understanding how certain types of economic shocks might affect political behavior. Much of the literature on the role of economic interests and cultural values in determining behavior views these explanations as competing rather than complementary. Even when researchers consider them complementary, they still tend to view these forces as orthogonal. In contrast, we argue that exploring the interplay between contemporary material interests and identity considerations is of fundamental importance to understanding some of the central political puzzles of our era.<sup>7</sup>

The paper is structured as follows. In the next section, we outline our formal model linking authoritarian values to concerns over material and identity payoffs. Section 3 describes our research design and data, while section 4 introduces our baseline results as well as a series of robustness checks. Section 5 provides additional empirical analysis to facilitate the interpretation of our primary findings, while section 6 concludes.

# 2 Social Identity and Authoritarian Values

In this paper, we argue that long-run economic changes from globalization have a negative impact on the social identity of historically dominant groups. This leads to an increase in authoritarian values because of an increased incentive to force minority groups to conform to social norms.

The model that supports these arguments begins with adopting the insights of social identity theory (Tajfel and Turner, 1979; Tajfel, 1981). The key idea is that globalization-induced economic change influences not only the economic returns to work but also how satisfactorily individuals fulfill their social roles: put simply, there is a social identity cost to economic decline. In some environments, individuals will seek to compensate for these identity losses by seeking to enhance other identity-related payoffs. To elucidate this framework clearly, we follow the work of Akerlof

<sup>&</sup>lt;sup>6</sup>Note that there is a more well-developed set of causal findings on the effect of security threats—not economic threats as we discuss here—activating authoritarian behavior; see, e.g., Hetherington and Weiler (2009); Hetherington and Suhay (2011); Richey (2012).

<sup>&</sup>lt;sup>7</sup>See Gidron and Hall (2017) for recent work that posits a similar inter-relationship between cultural and economic decline and support for the populist right in Europe.

and Kranton (2000, 2005), Dickson and Scheve (2006), Shayo (2009), and Sambanis and Shayo (2013) and formalize the social identity concerns of individuals and investigate how these concerns may influence authoritarian values.

We assume that the population of a polity is partitioned into two exogenous social identity groups *A* and *B* indexed by *J*. All individual members of the polity—indexed by *i*—are members of one and only one of these social groups. Group *A* is assumed to be the majority group of size  $\alpha$  where  $\alpha > 0.5$ . *B* is the minority group and is of size  $1 - \alpha$ .

Individual utility is determined by net income and the realization of identity-related payoffs. To simplify, income is determined exogenously and is the same for all individuals within a group. Let  $w_A(w_B)$  equal the wage of group A(B). The polity has to decide among a wide range of policies that regulate and punish behaviors that violate social norms. While in practice these policies are multidimensional, we summarize them in this model in a single dimension of punishments, p, for norm-violating behavior. Detecting and punishing the violation of norms is costly and regardless of whether they prefer to punish norm-violators or not, each individual has to pay a cost associated with whatever level of punishment is adopted by the polity. Suppose  $p_*$  is the punishment adopted, then each individual has to pay the cost  $c(p_*)$ . For simplicity, we assume  $c(p) = p^2$ . Therefore, net income is equal to  $w_J - p_*^2$ .

Individuals derive identity-related payoffs,  $I_i$ , from the ways in which their actions and those of others interact with group membership and shape their self-esteem (Akerlof and Kranton, 2000). We focus on several ideas to explore the dynamics of how identity may influence authoritarian values. First, both groups are assumed to have an exogenous status in society,  $\sigma_J$ , and individuals gain self-esteem as their group has a higher status. Second, both groups are assumed to enjoy identity payoffs proportional to their wages:  $\omega(w_J) = \rho w_J$ . This operationalizes the idea that having a good job and income means having a recognized, valued role in one's family and community and failing on these fronts creates a distance between an individual and the idealized characteristics of a group member.

We assume that the final component of identity-related utility differs for minority and majority group members. For minority group members, this component depends on their decision to conform or not to the behavioral prescriptions associated with "acceptable" minority group behavior. We assume that conforming is costly in terms of identity but the extent of this identity cost varies across individuals and is more costly the larger is the minority group. The first assumption of individual variation is straightforward as some individuals are simply more invested in exclusionary identities than others. The second assumption is based on the idea that there are greater intrinsic and extrinsic benefits associated with being a member of a larger, more viable minority group than a smaller one. This suggests a cost function to conforming for minority group members that is a function of the size of the minority group,  $k((1 - \alpha))$  and that is increasing in the size of the minority group at an increasing rate  $(k'((1 - \alpha)) > 0 \text{ and } k''((1 - \alpha)) > 0)$ . We will let  $k((1 - \alpha)) = k_i(1 - \alpha)^2$  where  $k_i$  is a scalar that varies across minority group members on the uniform unit interval.

Minority group members who do not conform are assumed to be at risk of punishment by institutions, laws, and social norms that regulate behavior. A defining characteristic of authoritarian values is a general preference for stricter punishments for perceived non-conformers. We assume all deviations are punished and that the level of punishment, p, is decided by the state. More specifically, the policy is decided by the median voter. The equilibrium p chosen by voters is denoted  $p_*$ .

For majority group members, their final identity-related payoff is determined by the aggregate degree of norm violation in society and how strong their taste is for homogeneity and order. Specifically, we assume an identity loss equal to  $\delta_i(1 - \alpha - \pi)$  where  $\delta_i$  is increasing in an individual's taste for homogeneity and order ( $\delta > 0$ ),  $(1 - \alpha)$  is the size of the minority group, and  $\pi$  is the proportion of the total population who are members of the minority group and conform.<sup>8</sup>

In addition to these identity-related components of utility, we assume that individuals are averse to feeling worse about who they are. Specifically, we assume that individuals have lexi-graphic preferences over identity losses. Individuals compare identity payoffs now with those in the past and if identity payoffs now are lower than in the past, they suffer an additional identity loss *L*. To keep things relatively simple and focused, we assume identity loss aversion only applies to majority group members.

To summarize, utilities are:

$$U_{i} = w_{B} - p_{*}^{2} + \sigma_{B} + \rho(w_{B}) - k_{i}(1 - \alpha)^{2}$$

if the individual is in the minority group and conforms.

$$U_i = w_B - p_*^2 + \sigma_B + \rho(w_B) - p_*$$

<sup>&</sup>lt;sup>8</sup>With  $\pi \in [0, (1 - \alpha)]$ . We determine the proportion of conformers endogenously below.

Period 0	Period 1	Period 2	Period 3
Nature determines wage	Vote on <i>p</i>	Minority conform or not	Payoffs realized
and group status			

Figure 2: Timeline

if the individual is in the minority group and does not conform.

$$U_i = w_A - p_*^2 + \sigma_A + \rho(w_A) - \delta_i(1 - \alpha - \pi)$$

if the individual is in the majority group and identity payoffs now are greater than or equal to identity payoffs in the past  $I_i^{now} \ge I_i^{past}$  where  $I_i^{now} = \sigma_A^{now} + \rho(w_A^{now}) - \delta_i(1 - \alpha - \pi^{now})$  and  $I_i^{past} = \sigma_A^{past} + \rho(w_A^{past}) - \delta_i(1 - \alpha - \pi^{past}).$ 

$$U_i = w_A - p_*^2 + \sigma_A + \rho(w_A) - \delta_i(1 - \alpha - \pi) - L$$

if the individual is in the majority group and identity payoffs now are less than identity payoffs in the past  $I_i^{now} < I_i^{past}$ . The aversion to identity loss is assumed to be sufficiently large to make preferences lexigraphical—if individuals can avoid losses, they will. We assume that  $\rho$ ,  $\delta_i$ ,  $k_i$ , and  $\alpha$  do not change over time.

The relationship between these utilities and authoritarian values is found in the parameters  $\delta_i$  and  $p_i$ .  $\delta_i$  models a preference for homogeneity and order on the part of the majority group while  $p_i$  indicates a preference for punishing non-conforming behavior. These components of authoritarian values are in our view both in part pre-determined as a product of socialization and in part adopted in reaction to the social, economic, and political environment. To simplify the role of pre-determined and contemporaneously determined values, we have assumed  $\delta_i$  to be a fixed preference of individuals and  $p_i$  to be an endogenously determined value that maps into regulatory preferences for punishing norm deviation.

Figure 2 illustrates the timeline for the interactions in the model. Nature first selects the wages of the majority and minority group. We can think of this selection as a shock from globalization or other structural features of the economy. Nature also selects the values of group status. All members of society then vote for their ideal p and the median  $p_*$  is selected and informs the polity's regulation of minority behavior. Given  $p_*$ , members of the minority group choose to conform or not and then payoffs are realized. The model is solved by backward induction via subgame perfect

Nash equilibrium.

Appendix A presents a discussion of the solution. For our purposes, the result of interest is the preferred ideal value of  $p_i$  among majority group members. Given the lexigraphic preferences, it matters whether identity payoffs now are less than in the past. We focus our attention specifically on what preferences for  $p_i$  are when majority group members are experiencing identity losses–losses that may arise from structural economic decline or non-economic factors that lower the group's status.

If identity payoffs now are lower than those in the past, the  $p_i$  that maximizes utility depends on whether there is a value of  $p_i$  that will move majority group members out of identity losses. The lowest cost way to avoid identity losses is to set p so that the difference between identity payoffs now and in the previous period is equal to zero. This  $p_i$  is equal to:

$$p_i = p^{past} + \frac{\rho(w_A^{past} - w_A^{now})(1-\alpha)}{\delta_i} + \frac{(\sigma_A^{past} - \sigma_A^{now})(1-\alpha)}{\delta_i}$$

If there is no  $p_i$  that makes identity losses equal to zero, then the optimal  $p_i$  is the same as for majority group members with identity gains and does not depend on wages or group status. However, if  $p_i$  can be set to make up for identity losses due to changes in  $w_J$  or  $\sigma_J$ ,  $p_i$  is increasing in the decline in the wage  $(w_A^{past} - w_A^{now})$ , in the decline in group status  $(\sigma_A^{past} - \sigma_A^{now})$ , in how important wages are in determining identity ( $\rho$ ), and in the size of the minority group  $(1 - \alpha)$ .  $p_i$ is decreasing in the magnitude of  $\delta_i$ .

It is worth briefly unpacking the logic behind these relationships. First, the expression  $\rho(w_A^{past} - w_A^{now})$  expresses the impact of wage losses on identity and the model predicts that under some conditions, majority group members will increase punishments for non-conforming behavior to compensate for these identity-related losses. The impact of  $\rho(w_A^{past} - w_A^{now})$  on preferred punishment levels is moderated by  $\delta_i$  in a somewhat counterintuitive direction. Individuals who have a stronger preference for homogeneity (larger  $\delta_i$ ) increase their optimal  $p_i$  less in response to wage shocks. This is because it takes less aggregate induced conformity to make up for a given identity loss related to a wage shock, the more one cares about conformity. Finally, the impact of  $\rho(w_A^{past} - w_A^{now})$  on preferred punishment levels is also moderated by  $(1 - \alpha)$  with its impact being larger in polities with a larger minority group. This is because it takes a greater increase in p to induce conformity when the minority group is larger. An analogous dynamic is present for iden-

tity losses due to exogenous changes in group status. It is important to emphasize that although our empirical work will focus on better understanding how economic change from globalization may interact with identity concerns to increase the adoption of authoritarian values, our model also expects that cultural competition that threatens the status of historically dominant groups also matters as Mutz (2018) and others have argued.

For purposes of answering the question of why the backlash against globalization has had such authoritarian characteristics, the key insights of our model are the predictions for the majority group members' preferred levels of punishment for non-conforming behavior. In our framework, globalization-induced structural change to individuals' economic prospects matter for the extent to which they adopt authoritarian values because such changes induce identity losses in a way closely related to the direct loss of group status. Our model predicts that majority group members will seek to compensate for these losses by inducing greater conformity on the part of the minority group. Thus, our core expectations from the model are that local economic decline will be associated with rising authoritarian values among the majority group in society, and that this effect will be most pronounced in areas with greater diversity.

## 3 Research Design

Our empirical strategy uses geographic variation in economic change and demographic characteristics in the United States to evaluate these two predictions. We specifically exploit exogenous variation in the effect of China's integration into the world economy on local labor markets to estimate both quantities of interest.

Two important clarifications about the research design are essential. First, focusing our attention on the impact of trade integration on values is of inherent interest because of the specific role that the "globalization backlash" has been thought to play in recent trends in American political behavior. Second, we study the effect of trade integration on authoritarian values because we think there is a compelling research design for doing so. This focus does not mean, however, that we think that other economic shocks that reflect long-run structural change such as deindustrialization are less important.

#### 3.1 Data

Our analysis is based on a combination of data on local Chinese import penetration over time, data on local economic and demographic conditions, and an original survey conducted in the US.<sup>9</sup> Measures of Chinese import penetration are from the replication data and files provided by Autor, Dorn and Hanson (2013) and Acemoglu et al. (2016). The measures are constructed using international trade data from the UN Comtrade Database and data on commuting zone employment by industry from the County Business Patterns. Data on local conditions are from the US Census. Our survey was implemented by YouGov in September 2017 and includes 1,800 respondents.<sup>10</sup> The survey data are nationally representative of the US adult population and contain information about the respondent's county and zipcode of residence as well as a battery of questions measuring authoritarian values.<sup>11</sup>

Our main dependent variable is a combined index of measures designed to capture authoritarian aggression, submission, and conventionalism (*ASC*). While past scholarship on authoritarianism is replete with multiple suggestions of potential measurement approaches, we follow the recommendations of recent research in the psychometric literature emphasizing the importance of separating out each of the three subdimensions of authoritarianism identified by Altemeyer (1981). Specifically, we follow the design proposed in Dunwoody and Funke (2016), who develop three sets of six questions for each sub-dimension of authoritarianism. The entire battery of questions is provided in the Appendix. The order of the statements was randomized. For each statement, there was a five-point scale from "strongly disagree" to "strongly agree"; we take the arithmetic mean of each subset to generate measures of average aggression, average submission, and average conventionalism, and subsequently take the average of these three components to generate our baseline outcome ASC.<sup>12</sup>

To empirically assess the effect of labor market shocks on authoritarian values, we follow a now commonly-employed measurement and identification strategy originally developed by Autor, Dorn and Hanson (2013) for estimating the effect of Chinese import shocks on labor market outcomes in the United States. Autor, Dorn and Hanson (2013), Autor et al. (2014) and Acemoglu

<sup>&</sup>lt;sup>9</sup>The survey was reviewed by the Institutional Review Boards at Stanford University and the University of North Carolina.

<sup>&</sup>lt;sup>10</sup>13 respondents from Alaska and Hawaii are dropped from the analysis, as we do not have trade shock measures for these states.

<sup>&</sup>lt;sup>11</sup>See Appendix B for discussion of the sample.

<sup>&</sup>lt;sup>12</sup>We also examine each of these sub-indices individually below. Descriptive statistics for each sub-component, and the correlation matrix across the sub-components, are presented in Appendix Tables A.2 and A.3.

et al. (2016) provide evidence that Chinese import shocks had negative effects on local and individual labor market outcomes including manufacturing employment, labor market participation, and earnings. The measurement and identification strategy has since been applied to study other political economy outcomes in the United States including Congressional support for protectionism (Feigenbaum and Hall, 2015), incumbent party vote share (Jensen, Quinn and Weymouth, 2017), political polarization and Congressional voting (Autor et al., 2017), and marriage and fertility (Autor, Dorn and Hanson, 2018).

The measure of a local labor market shock is the average change in Chinese import penetration across industries, weighted by each industry's share of initial employment. We use U.S. commuting zones to define local labor markets. Commuting zones are administrative geographic units made up of counties, and they are constructed to reflect the local economy where people live and work. We use data from Acemoglu et al. (2016) to get commuting zone-level measures of the shocks. We link these data to the respondents in our survey by information about respondents' county of residence. The trade shock data contain 722 commuting zones covering the U.S. mainland, with boundaries defined by the beginning of the period of China's integration into the world economy (1990). Our survey data cover 366 of these commuting zones.

Following existing studies of the effects of Chinese import penetration on local economies (Autor et al. 2014; Acemoglu et al. 2016; Autor et al. 2017; Autor, Dorn and Hanson 2018), we define local labor market shocks as the average change in Chinese import penetration in the commuting zone's industries, weighted by each industry's share in the commuting zones's initial employment. This is done by first constructing—at the level of a US manufacturing industry *j*—the import penetration ratio of Chinese imports over time period  $\tau$ , given by<sup>13</sup>

$$\Delta I P_{j\tau} = \frac{\Delta M_{j,\tau}^{uc}}{Y_{j,91} + M_{j,91} - E_{j,91}} \tag{1}$$

where the numerator  $(\Delta M_{j,\tau}^{uc})$  captures change in Chinese imports into the US over the relevant time period  $\tau$ , and the denominator captures "initial absorption" as measured by industry shipments  $(Y_{j,91})$  plus industry imports  $(M_{j,91})$  less industry exports  $(E_{j,91})$  at the beginning of the period. We construct our baseline measure over the years 1991-2007; we choose to end our baseline time period in 2007 so as to prevent the possibility of confounding an effect of Chinese import penetration on local labor markets with any consequences potentially arising during the Great

 $<sup>^{13}</sup>$ This corresponds to Equation (1) in Acemoglu et al. (2016).

Recession.<sup>14</sup> Having constructed this measure of industry import penetration, we subsequently generate a location-specific measure of changing import exposure for a given commuting zone r as<sup>15</sup>

$$\Delta I P_{r\tau}^{cu} = \sum_{j} \frac{L_{rj\tau}}{L_{r\tau}} \Delta I P_{j\tau}^{cu}$$
<sup>(2)</sup>

As explained in Acemoglu et al. (2016, S176),  $L_{rj\tau}/L_{r\tau}$  "is industry j's start-of-period share of total employment in CZ r. The variation in  $\Delta IP_{r\tau}^{cu}$  across local labor markets stems entirely from variation in local industry employment structure at the start of period  $\tau$ ."  $\Delta IP_{r\tau}^{cu}$  weights changing industry exposure to Chinese imports by the initial importance of employment in that industry within a given labor market, with the final value simply the sum of industry exposure across all manufacturing industries. In essence, the import penetration measure will be higher in those commuting zones characterized by a larger initial share of employment in import-competing sectors, this measure should be zero. In what follows, for ease of notation we suppress superscripts and sub-scripts on our primary treatment measure, referred to as  $\Delta IP$  (91-07) below. To help describe our shock data, we first present a breakdown of commuting zones by quartile of import competition, as demonstrated in Figure 3.

The main idea behind treating the China import shock measure as exogenous is to take advantage of the fact that China's integration into the world economy was primarily a consequence of its decision to reform its economy and this was motivated by domestic political economy considerations in China. Nonetheless, to the extent that import demand is potentially affected by localized economic conditions, concern may still exist that this measure of changing Chinese imports is not truly exogenous to characteristics of labor markets across the US. In order to address this source of potential endogeneity, we follow a host of work (Autor et al., 2014; Acemoglu et al., 2016; Autor, Dorn and Hanson, 2018) that employs an instrumental variables strategy, instrumenting for changes in imports of Chinese goods into the US with a weighted average of changing imports into other "similar" countries. More precisely, we construct a measure of changing trade exposure to Chinese imports in other countries (*O*) for an industry *j* as

$$\Delta IPO_{j\tau} = \frac{\Delta M_{j,\tau}^{oc}}{Y_{j,88} + M_{j,88} - E_{j,88}}$$
(3)

<sup>&</sup>lt;sup>14</sup>However, as reported in Appendix Tables A.6 and A.7, our primary findings are not affected by this choice.

<sup>&</sup>lt;sup>15</sup>This corresponds to Equation (8) in Acemoglu et al. (2016).



Figure 3: Trade Shock Exposure across Commuting Zones

Quartile of  $\Delta$  *IP* (91-07) Controlling for Initial Manufacturing



Notes: The top panel shows a map indicating the quartile of each commuting zone's trade shock value,  $\Delta$  *IP* (91-07). The bottom panel shows a map indicating the quartile of this measure controlling for the initial value of manufacturing employment in the commuting zone.

where " $\Delta M_{j,\tau}^{oc}$  is the growth in imports from China in industry *j* during the period  $\tau$ ...in eight other high-income countries excluding the United States" (Acemoglu et al., 2016, S152).<sup>16</sup> As argued elsewhere, much of China's expansion as a prominent exporter arose due to supply-side considerations within the country, which should be uncorrelated with the characteristics of particular labor markets within the US. To the extent that most developed economies experienced similar exposure to rising Chinese manufacturing production, instrumenting for US imports of Chinese goods with imports into other similar countries should remove any potentially endogenous component of Chinese import exposure to a given commuting zone in the US. The exclusion restriction holds so long as individual-level values in particular regions of the country are not impacted by changing flows of Chinese manufacturing goods in specific industries to other countries except through their consequences for the economic conditions in local labor markets. While impossible to prove definitively, it is difficult to construct an argument linking flows of Chinese goods to other advanced economies and individual authoritarian values in the US other than via the effect such imports would have on the economic conditions in local labor markets.

In the analysis, we investigate how trade shocks affect authoritarian values differentially depending on the relative size of minority groups in the local area. We simplify the complex patterns of diversity across U.S. regions and focus on the relative size of the population that is white and non-white. This characterization of diversity in local regions most closely approximates the majority/minority group partition of the population in our theoretical model.

Information about local ethnic composition is obtained from the Census Bureau's American FactFinder database. We define the variable *Diversity* equal to the value 1 if the respondent lives in a county with a non-white population of more than 30%.<sup>17</sup> Based on this definition, about one-third of our respondents live in a diverse area; the commuting zones that contain racially diverse populations are depicted in Figure 4.

In some estimations, we include measures of additional individual and regional characteristics to strengthen our research design. At the individual level, we introduce measures for whether survey respondents identified as *Female*, their *Age* in years, an indicator variable *College* if the respondent's highest level of completed education was either "some college" or an associate's degree, an indicator variable *University* if the respondent reported completing a bachelor's degree,

<sup>&</sup>lt;sup>16</sup>The eight similar countries are Australia, Denmark, Finland, Germany, Japan, New Zealand, Spain, and Switzerland.

<sup>&</sup>lt;sup>17</sup>As reported in Appendix Table A.8, our primary findings hold for a range of particular cutpoints designating a locale as "diverse."



Figure 4: Diversity across Commuting Zones

Notes: The map shows commuting zones (in red) with at least one diverse county, defined as a county with a non-white population of more than 30%.

master's degree, professional degree or doctoral degree,<sup>18</sup> whether the respondent reported being *Married*, and whether they had any *Children* under the age of 18.

We also introduce a series of commuting zone-level and county-level measures to account for variation across different regions that may affect the values of individuals in those regions outside of our proposed mechanism. First, we include a measure of initial *Manufacturing* employment share in the respondent's local labor market (commuting zone).<sup>19</sup> In addition, given accounts of recent political mobilization based on perceived threats from immigration, we also include a measure of the percent of the local population that is *Foreign Born*, as well as the *Change in* % *Foreign Born*, measured at the county level.

#### 3.2 Econometric model

We model authoritarian values as a function of exposure to trade shocks from China's integration into the world economy, individual socio-demographic characteristics, and other regional characteristics. Our baseline model is:

$$ASC_{i} = \beta_{0} + \beta_{1}\Delta IP_{r} + \beta_{2}Diversity_{k} + \beta_{3}Diversity_{k} * \Delta IP_{r} + \mathbf{X}_{i}'\psi + \mathbf{Z}_{k}'\phi + \epsilon_{i}$$
(4)

<sup>&</sup>lt;sup>18</sup>29% of respondents score a 1 on the *University* measure, while 33% score a 1 on the *College* measure, leaving about another third of the sample in the high school degree or less reference category.

<sup>&</sup>lt;sup>19</sup>This measure is from the replication data and files provided by Autor, Dorn and Hanson (2013).

where *i* indexes individual respondents, *r* indexes commuting zones, and *k* indexes counties;  $\Delta IP$  and *Diversity* are defined above;  $X_i$  are individual-level covariates;  $Z_k$  are county-level covariates;  $\epsilon_i$  is the error term; and  $\beta_0$ ,  $\beta_1$ ,  $\beta_2$ ,  $\beta_3$ ,  $\psi$ , and  $\phi$  are parameters to be estimated. We initially estimate this equation by ordinary least squares and report standard errors clustered on commuting zones.<sup>20</sup> Given our theoretical interest in the effects of economic shocks on majority group members' values, in our baseline results we restrict our analysis to respondents who self-identified as white only, then subsequently estimate our models on our full sample (as well as non-whites). As discussed above, we also estimate this equation using  $\Delta IPO$  (91-07) to instrument for  $\Delta IP$  (91-07).

### 4 **Results**

We first present baseline results from the OLS regression of average authoritarian values (*ASC*) on Chinese import competition, as well as its interaction with local diversity, on our sample of white respondents. As reported in column 1 of Table 1, the coefficient estimate on  $\Delta$  *IP* (91-07) is positive but not statistically significant. Once we condition the effect of import competition on local diversity in Column 2, we find strong support for our core hypothesis that economic shocks are associated with significantly higher authoritarianism in regions with greater levels of diversity (the marginal effect of the trade shock in diverse commuting zones is equal to the sum of the coefficient on  $\Delta$  *IP* (91-07) and the coefficient on the interaction term). It is worth noting that the coefficient on diversity itself is negative, consistent with the idea that majority group members who select into diverse regions are likely to have less intense preferences for homogeneity and order in the first place. These results are unchanged when we subsequently introduce our battery of individual- and regional-level covariates in column 3.

Of course, as mentioned above, if demand for imports is in part a function of economic conditions in differing parts of the US, our measure of  $\Delta$  *IP* (*91-07*) may not be exogenous to labor market characteristics that could also affect authoritarianism. To address this concern, we replicate our primary specifications in an instrumental variables (IV) framework reported in Table 2, instrumenting for imports into the US with information on Chinese imports into other similar countries. The lower half of columns 1, 2, and 3 report the first stage results from our IV estimations; as can be seen, our instrument for Chinese imports in other developed economies ( $\Delta$  *IPO* (*91-07*)) is always a significant predictor of Chinese imports into the US.

<sup>&</sup>lt;sup>20</sup>All reported regression results employ population weights.

	(1)	(2)	(3)
VARIABLES	ASC	ASC	ASC
$\Delta$ IP (91-07)	0.024	0.005	0.022
	(0.015)	(0.016)	(0.018)
Diversity		-0.179***	-0.141**
		(0.058)	(0.064)
Diversity* $\Delta$ IP (91-07)		0.107***	0.106***
		(0.029)	(0.030)
Female			-0.011
			(0.033)
Age			0.009***
			(0.001)
University			-0.224***
			(0.041)
College			-0.167***
			(0.037)
Married			0.039
			(0.035)
Has children			0.179***
			(0.041)
Manufacturing			-0.426
			(0.290)
% Foreign Born			-0.002
			(0.002)
$\Delta$ % Foreign Born			0.012
			(0.010)
Observations	1 225	1 005	1 225
Duser varions Deguared	1,223	0.000	0.119
K-squared	0.002	0.009	0.118
Commuting zones	324	324	324

Table 1: OLS: Trade Shock Exposure and Authoritarianism. The table shows results from an OLS regression of the variable *ASC* on the trade shock measure  $\Delta$  *IP* (91-07). In column 2, a dummy variable for living in a diverse county and an interaction between the diversity variable and the trade shock variable are added. In column 3, a set of controls are added. Standard errors are clustered at the commuting zone-level and reported in parentheses. Significance levels are reported in the following way: \*\*\* p<0.01, \*\* p<0.05, \* p<0.1.

Figure 5: Marginal Effect of Trade Shock Exposure on Authoritarian Values



Notes: The plot shows the marginal effect of a one standard deviation increase in trade shock exposure for low and high diversity commuting zones on the ASC measure of authoritarian values expressed as a standard deviation change (dot is the point estimate and whiskers are the 95% confidence interval). The plot is based on the IV estimates in Table 2 with control variables. The histogram indicates the fraction of observations in low and high density commuting zones.

Turning to our second-stage estimates, when employing an instrumental variable approach we now recover evidence of an (unconditional) positive and statistically significant association between local import penetration and individual authoritarian values in column 1, although the substantive size of this effect is somewhat small. After including an interaction of the shock with local diversity in column 2, we again recover strong support for our core supposition: the effect of import penetration on individual authoritarian values is much stronger in regions of the country with greater ethnic and racial diversity. As shown in Figure 5, these effects are also of significant substantive magnitude: using the estimates from column 3—which include our full set of individual and regional covariates—a one-standard deviation increase in  $\Delta IP$  (91-07) is associated with approximately one-third of a standard deviation increase in *ASC* in diverse communities, whereas a one-standard deviation increase in the shock is associated with about half that much change in less diverse areas. Thus, under either OLS or IV approaches, we find strongly robust support for our hypothesis regarding the effects of economic shocks on authoritarian values, as conditioned by local ethnic and racial geography.

The core finding from our baseline specifications is maintained across a host of robustness checks; in the interest of space, we simply discuss these results here and report the output in the Appendix. To begin, we include several additional covariates—at the individual and regional level—to our primary specifications. The first is a measure of *Household Income*; while including this variable may introduce post-treatment bias, as reported in column 1 of Appendix Table

	(4)		
	(1)	(2)	(3)
ZND STAGE	ASC	ASC	ASC
A IP (91-07)	0 038**	0.019	0.060**
	(0.017)	(0.019)	(0.028)
Diversity	(0.017)	-0.151**	-0.124*
5		(0.066)	(0.069)
Diversity* $\Delta$ IP (91-07)		0.091***	0.098***
-		(0.034)	(0.033)
Female			-0.012
			(0.033)
Age			0.009***
			(0.001)
University			-0.220***
0.11			(0.041)
College			-0.166***
Maurical			(0.037)
Married			(0.037)
Has children			(0.055) 0.180***
rids criniciteit			(0.041)
Manufacturing			-0.782**
			(0.365)
% Foreign Born			-0.003
0			(0.002)
$\Delta$ % Foreign Born			0.012
			(0.010)
1ST STAGE	ΔIP	ΔIP	ΔIP
	1 1 70 ***	1 00/***	1 074***
Δ IPO (91-07)	$1.179^{***}$	1.206	$1.0/4^{***}$
Disconcity	(0.068)	(0.079)	(0.088)
Diversity		(0.142)	(0.204)
Diversity*A IPO (91-07)		-0 1 <b>2</b> 1	-0.157
		(0.121)	(0.129)
Controls		(01120)	(0.1 <u></u> )
			·
Observations	1,225	1,225	1,225
R-squared	0.002	0.008	0.115
Weak ID F stat	300.6	117.6	84.10

Table 2: IV: Trade Shock Exposure and Authoritarianism. The table shows first stage and second stage results from an IV regression of the variable *ASC* on the trade shock measure  $\Delta$  *IP* (91-07), using the variable  $\Delta$  *IPO* (91-07) as instrument. In column 2, a dummy variable for living in a diverse county and an interaction between the diversity variable and the trade shock variable are added. In column 3, a set of controls are added. Standard errors are clustered at the commuting zone-level and reported in parentheses. Significance levels are reported in the following way: \*\*\* p<0.01, \*\* p<0.05, \* p<0.1.

A.4 our primary findings are unchanged if we include this measure. Given early work on the strong association between authoritarian values and religious belief, we also introduce a measure capturing individual *Religious Importance* in column 2; this measure is indeed strongly positively correlated with *ASC*, but its inclusion has no perceptible consequence for our primary estimates of interest. Column 3 introduces a measure of individual belief that success is due to hard work (as opposed to luck), which is also found to be strongly associated with authoritarian values but has no appreciable effect on the interaction of *Diversity*\* $\Delta$  *IP* (91-07).

At the regional level, we introduce county-level measures capturing the percentage of the population that lives in *Rural* areas in column 4 and a (logged) measure of *Total Population* in column 5; as expected, individuals from smaller and more rural counties do report somewhat higher average levels of authoritarianism, but our core estimate of interest remains unchanged. Given concerns over the possibility of regional concentration of high shock areas with greater racial diversity, column 6 introduces dummies for the main *Regions* of the US; while respondents from the US South do report somewhat higher levels of *ASC* than the baseline levels (in the Midwest), this effect no longer remains significant in Column 7 once we introduce all of the aforementioned covariates simultaneously. Crucially for our purposes, in all of these specifications we continue to find positive (and statistically significant) evidence that individuals in racially-diverse regions more exposed to Chinese imports have higher average authoritarian values.

Beyond controlling for a host of additional covariates, we also probe the robustness of our results to different operationalizations of our shock measure. As reported in Appendix Table A.5, we continue to find a positive and statistically significant interaction between diversity and shock intensity after transforming our shock variable into its natural log, or instead simply dichotomizing regions into "high" versus "low" shock areas.<sup>21</sup> In addition, while we follow convention in constructing our import competition measure over the period 1991-2007 in order to avoid confounding effects of the Great Recession, our core findings are robust to selecting several different base and end years for the time period; in Appendix Tables A.6 and A.7, we report consistent results across five different time periods: 1991-1999, 1991-2007, 1991-2011, 1999-2007, and 1999-2011.

Finally, while our baseline specification identifies regions as "diverse" when the share of the population that is non-white exceeds 30%—corresponding approximately to the top tercile of diverse counties—this threshold is somewhat arbitrary. In Appendix Table A.8, we replicate our

<sup>&</sup>lt;sup>21</sup>In columns 3 and 4 of Appendix Table A.5, we report the effect on *High*  $\Delta$  *IP* (91-07) as those areas in the top third of the distribution of our import penetration measure.

core specification with varying thresholds for classifying a community as diverse. We continue to find strong support for our hypothesized positive interaction of *Diversity*\* $\Delta$  *IP* (91-07) employing thresholds that range from the top quarter to the top half of regions in terms of diversity. As should be expected, for thresholds that include more racially homogeneous areas in our "diverse" measure, we fail to recover a significant effect of import penetration on authoritarian values.<sup>22</sup>

# 5 Interpretation

#### 5.1 Sorting

One potential concern with our interpretation of our estimates is that they could be due to geographic sorting rather than value change. Two types of sorting seem relevant. First, if more authoritarian individuals sorted into industries and regions later hit by the China trade shock, our estimates might be spurious. We have, however, already controlled for most of the factors that would plausibly lead to such sorting – e.g., the percent employed in manufacturing at the beginning of the period, whether or not the area was rural, and the size of the population. We explore this further by collecting data from the American National Election Studies. We identify a set of questions in the ANES from 1990 through 2016 that plausibly measure authoritarian aggression, conventionalism, and submission.<sup>23</sup> In each survey wave, we conduct factor analysis among white respondents on this set of questions which yields three separate dimensions with eigenvalues greater than one; each of these dimensions loads on to the questions we included as likely to be associated with authoritarian values. Although China's integration into the world economy certainly started in the 1990s, it became much more intense after it joined the WTO in 2001. To include as many geographic regions as possible, we pool all available ANES waves prior to Chinese WTO accession and calculated average "pre-trade shock" authoritarian values (based on the underyling three dimensions from the factor analysis) for each county available; we similarly pool all ANES waves following 2001 to generate average "post-trade shock" values by county.<sup>24</sup>

<sup>&</sup>lt;sup>22</sup>In the main results, the measure of authoritarianism averaged across the three dimensions of authoritarian aggression, submission, and conventionalism. We also estimated our OLS and IV specifications for all 3 subdimensions separately and, as reported in Appendix Tables A.9, A.10, and A.11, we generally find evidence of a positive marginal effect of import penetration on each for respondents in diverse areas. Given our theoretical model, all our main analyses have been estimated on white respondents. Consistent with our theoretical framework, if we conduct our analysis on the full sample, our main results are robust but the size of the effect is attenuated (Table A.12) and for the sample of non-whites, there is no effect of trade-shocks on authoritarian values (Table A.13).

<sup>&</sup>lt;sup>23</sup>See Appendix for further details.

<sup>&</sup>lt;sup>24</sup>This generates average authoritarian values for 549 counties in the "pre-trade shock" period and 1,443 counties in the "post-trade shock" period.

We use these data to evaluate concerns about pre-trade-shock sorting. First, we merge the ANES county-level measures with our individual-level survey data. We regress our *ASC* measure on the ANES "pre-shock" measure and find that they are positively but somewhat weakly correlated.<sup>25</sup> This is consistent with the pre-sorting concern. We then regress our *ASC* measure on the ANES "post-shock" measure and find that they are strongly positively correlated.<sup>26</sup> The strengthening of this relationship is inconsistent with the view that evidence above is driven only by pre-trade-shock geographic sorting of authoritarian types. If individuals were geographically sorted by authoritarian values prior to the sharp rise in Chinese import competition, including this measure of pre-shock sorting into our primary regressions should attenuate our main effect if this primarily arises due to pre-period sorting of types. However, as demonstrated in Column 4 in Table 3, our key results are robust to including this control.<sup>27</sup>

The second type of sorting is in response to the trade shock. If individuals respond to economic shocks in their area by leaving regions more hard hit by crisis, and if capacity for geographic mobility is correlated with individual authoritarian values, then our observed association between regions hit by economic downturn and average authoritarian values may be driven by locational sorting, not by changes in values themselves. While conceptually plausible, we note first that existing literature shows a relatively modest response in terms of geographic mobility across local labor markets in response to trade shocks, at both the commuting zone level (Autor, Dorn and Hanson, 2013) as well as at the level of the individual worker (Autor et al., 2014). In addition, recent work has found that regional labor mobility in the US, while quite high from the 1950s through the late 1980s, has declined precipitously over the past 25 years (Kaplan and Schulhofer-Wohl, 2017). Thus, there are reasons to suspect that individuals have not actually sorted themselves following trade shocks.

However, to address this issue, we included a question in our survey asking respondents whether they had moved their primary residence over the past 20 years. We restrict our analysis only to those individuals who report not having moved in the past two decades. As reported in Table 3, we continue to find a strongly positive and statistically significant relationship between trade shock exposure and authoritarian values among respondents who live in diverse areas and have not moved over the past 20 years.

 $<sup>^{25}</sup>p < 0.1$ 

<sup>26</sup>p < 0.001

<sup>&</sup>lt;sup>27</sup>Note that we lose a significant number of observations because of individuals in our sample who live in counties not represented in the ANES from 1990 to 1998.

	(1)	(2)	(2)	(4)
	(1)	(2)	(3)	(4)
VARIABLES	ASC	ASC	ASC	ASC
OLS				
$\Delta$ IP (91-07)	0.025	-0.007	0.008	0.047
	(0.025)	(0.027)	(0.037)	(0.028)
Diversity		-0.174**	-0.177*	-0.201***
-		(0.084)	(0.100)	(0.075)
Diversity* $\Delta$ IP (91-07)		0.140***	0.134***	0.126***
		(0.038)	(0.042)	(0.038)
Pre-shock values				0.008
				(0.017)
				(,
2SLS				
<u>A IP (91-07)</u>	0.022	0.002	0.028	0.062
	(0.022)	(0.002)	(0.020)	(0.045)
Divorcity	(0.024)	_0.020)	_0.009	-0 202**
Diversity		-0.071	(0.00)	(0.084)
Disconsiter*A ID (01 07)		0.090	(0.10+) 0.097*	(0.004)
Diversity $\Delta \Pi (91-07)$		(0.009)	(0.007)	(0.054)
D 1 1 1		(0.049)	(0.048)	(0.054)
Pre-shock values				0.008
				(0.017)
Observations	472	472	472	751
Commuting zones	209	209	209	150
Weak ID F stat for 2SLS	230	25.94	58.38	86.39
Controls			$\checkmark$	$\checkmark$

Table 3: OLS & IV: Trade Shock Exposure and Authoritarianism (Sorting). The top panel of the table shows results from an OLS regression of the variable *ASC* on the trade shock measure  $\Delta$  *IP* (91-07), while the bottom panel shows results from an IV regression of the variable *ASC* on the trade shock measure  $\Delta$  *IP* (91-07) using the variable  $\Delta$  *IPO* (91-07) as instrument. The results in columns 1-3 are based on a sub-sample of respondents that have not moved over the past 20 years. Results in column 4 are from the original sample of respondents after adding a measure of average "pre-shock" regional authoritarian values. Significance levels are reported in the following way: \*\*\* p<0.01, \*\* p<0.05, \* p<0.1.

#### 5.2 Effects on Voting Behavior

Our motivating discussion at the outset of this paper highlighted the role of a "backlash against globalization" as an important account of the election of Donald Trump to the office of President. Further, we showed that authoritarian values were strongly associated with voting for Trump and highlighted a larger literature that has suggested that authoritarian values are important for understanding political behavior. Thus, it is natural to ask the question of whether import shocks explain voting behavior in the 2016 US presidential election. This general idea has been explored by other researchers but they have primarily emphasized policy voting (voting for Trump because he offered protectionist policy alternatives), retrospective voting (voting for Trump because he was the anti-establishment alternative and as such not responsible for prior economic outcomes), and ideological polarization (voting for Trump among those with prior ideological beliefs that government should have a limited role in the economy because he was offering a more extreme alternative of that policy disposition).<sup>28</sup> In this paper, we argue that a fourth mechanism is value change as trade shocks lead voters to adopt more authoritarian values and expect for this effect to be greater in more diverse geographic regions.

While we demonstrated above a remarkably robust association between our measure of *ASC* and support for Donald Trump, we present here results of a "reduced form" exercise in which we directly regress presidential vote choice by our survey respondents on our measure of Chinese trade competition. As demonstrated in Table 4, we find that individuals living in more diverse regions exposed to greater import penetration are significantly more likely to report voting for Donald Trump, and significantly less likely to report voting for Hillary Clinton, even after including our battery of individual- and regional-level controls. Interpreting our coefficients in the context of a linear probability model, the implied substantive effect of this is quite large: a two-standard deviation increase in  $\Delta$  *IP* (91-07) in a diverse region is associated with an increased probability of voting for Donald Trump of approximately 25 percentage points.

### 6 Conclusion

Several recent studies conclude that globalization has had important economic and political consequences all over the developed world. However, our understanding of the potential link between globalization and the rise of populism and why globalization would lead to the types of authori-

<sup>&</sup>lt;sup>28</sup>Che et al. (2016); Jensen, Quinn and Weymouth (2017); Autor et al. (2017)

	(1)	(2)
VARIABLES	Trump	Clinton
OLS		
Δ IP (91-07)	0.024	-0.015
	(0.016)	(0.016)
Diversity	-0.113	0.134*
-	(0.069)	(0.069)
Diversity* $\Delta$ IP (91-07)	0.086**	-0.093***
-	(0.034)	(0.029)
2SLS		
Δ IP (91-07)	0.053**	-0.045*
	(0.025)	(0.024)
Diversity	-0.137**	0.153**
-	(0.068)	(0.072)
Diversity* $\Delta$ IP (91-07)	0.104***	-0.107***
	(0.034)	(0.033)
	. ,	. ,
Observations	1,023	1,023
Commuting zones	301	301
Weak ID F stat for 2SLS	105.4	105.4
Controls	$\checkmark$	$\checkmark$

Table 4: OLS & IV: Trade Shock Exposure and Voting. The top panel of the table shows results from an OLS regression of a dummy variable for voting for Trump regressed on the trade shock measure  $\Delta$  *IP* (91-07), while the bottom panel shows results from an IV regression of a dummy variable for voting for Trump regressed on the trade shock measure  $\Delta$  *IP* (91-07) using the variable  $\Delta$  *IPO* (91-07) as instrument. In column 2, a dummy variable for living in a diverse county and an interaction between the diversity variable and the trade shock variable are added. In column 3, a set of controls are added. Standard errors are clustered at the commuting zone-level and reported in parentheses. Significance levels are reported in the following way: \*\*\* p<0.01, \*\* p<0.05, \* p<0.1.

tarian political reactions that have characterized so many countries is very limited. The main argument of this paper is that long-run economic changes from globalization have a negative impact on the social identity of historically dominant groups. This leads to an increase in authoritarian values because of an increased incentive to force minority groups to conform to social norms. We further argue that the effect of economic changes from globalization on authoritarian values is greater the larger the relative size of minority groups in the population.

We show this formally with a social identity model for how economic changes affect authoritarian values—expressed as a desire to enforce social norm conformity—among majority group members. We test the predictions of our model using data from the U.S. Consistent with these hypotheses, we find that individuals in regions where labor markets were more exposed to increased imports from China, and where the local population is more diverse, express more authoritarian values. We furthermore find that individuals in these areas were more likely to vote for Donald Trump in the 2016 election.

Our paper contributes to existing literatures in at least three important ways. First, it sheds new light on the sources of populism and support for extreme parties and candidates. Our findings show that changes in authoritarian values caused by changes in economic conditions and labor market status is one mechanism through which globalization can lead to support for extreme candidates. This implies that explanations for the election of Trump, and the rise of extreme candidates and parties in general, cannot be simplified to either pure economic self-interest or pure non-economic values. In fact, our study shows that economic conditions and non-economic values interact in important ways to shape political opinions and behavior.

Second, we shed new light on the origins of authoritarian values. Authoritarian values are known to be an important predictor of political preferences and behavior, but we know very little about where these values come from. Our results show that at least parts of authoritarian values are sensitive to contemporary economic and social conditions.

Third, our study highlights the importance of understanding how certain types of economic shocks might affect social identity and status, and ultimately political behavior. Here, it is important to note that there presumably are differing social identity effects of and political responses to different types of economic shocks. China's integration with the world economy caused a specific type of labor market change. The result of increased Chinese import penetration was a permanent negative shock to demand for certain types of domestic workers and hence put these workers on a very different life path in terms of career and income. This is very different from business cycle-

type unemployment shocks which are often temporary and idiosyncratic. In addition, the shocks from Chinese import penetration were highly geographically concentrated, which is again different from other economic shocks, and which might have important consequences for the political effects. A better understanding of how economic changes affect values and ultimately political behavior—and how effects vary depending on the nature of the economic shocks—is an important direction for future research.

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Taub, Amanda. 2016. "The rise of American authoritarianism.". URL: https://www.vox.com/2016/3/1/11127424/trump-authoritarianism Online Appendix for "Economic Decline, Social Identity, and Authoritarian Values in the United States"

# A Model Solution and Comparative Statics

Section 2 in the paper describes the set up of the model and discusses its logic and substantive predictions. This Appendix discusses the solution to the model and basic comparative statics. Figure 2 in the paper illustrates the timeline for the interactions in the model. Nature first selects the wages of the majority and minority group. We can think of this selection as a shock from globalization or other structural features of the economy. Nature also selects the values of group status. All members of society then vote for their ideal p and the median  $p_*$  is selected and informs the polity's regulation of minority behavior. Given  $p_*$ , members of the minority group choose to conform or not and then payoffs are realized. The model is solved by backward induction via subgame perfect Nash equilibrium.

Since Period 3 is simply the realization of payoffs, first examine the choice of the minority group *B* to conform or not in Period 2. Given that  $p_*$  has already been selected, each individual simply compares their utility under conforming or not conforming and conforms if  $p_* \ge k_i(1-\alpha)^2$ . To determine the proportion of minority members that conform and therefore also  $\pi$  (the proportion of the total population who are both members of the minority and conform), we need to make an assumption about the distribution of  $k_i$ . As mentioned above, we assume it is uniform on the unit interval. Then  $\pi = \frac{p_*}{(1-\alpha)}$  if  $0 < p_* < (1-\alpha)^2$ . If *p* is less than or equal to 0, no minority members will conform.

In Period 1, each individual determines their ideal  $p_i$  and then votes in a referendum which determines  $p_*$ . All minority members maximize their utility if  $p_i = 0$  and they do not conform. Consequently, they all prefer  $p_i = 0$ . Given the lexigraphic preferences, majority group members first determine if their identity payoffs now are greater than or equal to those in the past (determined exogenously). If  $I_i^{now} \ge I_i^{past}$ , majority members choose  $p_i$  to maximize  $U_i = w_A - p^2 + \sigma_A + \rho(w_A) - \delta_i(1 - \alpha - \pi)$ . Substituting for  $\pi = \frac{p}{(1-\alpha)}$ ,  $U_i = w_A - p^2 + \sigma_A + \rho(w_A) - \delta_i(1 - \alpha - \frac{p}{(1-\alpha)})$ .

$$\begin{aligned} \frac{\partial U}{\partial p_i} &= -2p_i + \frac{\delta_i}{(1-\alpha)} = 0\\ 2p_i &= \frac{\delta_i}{(1-\alpha)}\\ p_i &= \frac{\delta_i}{2(1-\alpha)} \end{aligned}$$

The key result here is that the preferred  $p_i$  is increasing in  $\delta_i$  because majority members are more willing to enact costly punishments the greater their losses from diversity and non-conforming behavior. Interestingly, the preferred  $p_i$  is decreasing in the size of the minority group. This reflects the fact that although majority group members incur greater losses from diversity as the size of the non-conforming minority group increases, the costs to minority groups of conforming as the group becomes larger increase at an even faster rate and so greater punishments will not induce greater conformity as the minority group increases in size. Finally, it is the case that when there are no identity losses, the wage of the majority group has no impact on the choice of  $p_i$ .

If majority group members determine that their identity payoffs now are lower than those in the past ( $I_i^{now} < I_i^{past}$ ), the calculation of  $p_i$  that maximizes their utility changes. Each majority

group member needs to determine if there is a value of  $p_i$  that will move them out of identity losses. Since the lowest cost way to avoid identity losses is to set p so that the difference between identity losses now and in the past is equal to zero, we evaluate this difference at 0.

$$(\sigma_A^{now} + \rho(w_A^{now}) - \delta_i(1 - \alpha - \frac{p_i}{(1 - \alpha)})) - (\sigma_A^{past} + \rho(w_A^{past}) - \delta_i(1 - \alpha - \frac{p^{past}}{(1 - \alpha)})) = 0$$

$$p_i = p^{past} + \frac{\rho(w_A^{past} - w_A^{now})(1 - \alpha)}{\delta_i} + \frac{(\sigma_A^{past} - \sigma_A^{now})(1 - \alpha)}{\delta_i}$$

If there is no  $p_i$  that makes identity losses equal to zero, then the optimal  $p_i$  is the same as for majority group members with identity gains and does not depend on wages or group status. However, if  $p_i$  can be set to make up for identity losses due to changes in  $w_J$  or  $\sigma_J$ ,  $p_i$  is increasing in the decline in the wage  $(w_A^{past} - w_A^{now})$ , in the decline in group status  $(\sigma_A^{past} - \sigma_A^{now})$ , in how important wages are in determining identity ( $\rho$ ), and in the size of the minority group  $(1 - \alpha)$ .  $p_i$  is decreasing in the magnitude of  $\delta_i$ .

The equilibrium  $p_*$ —the median value—chosen in the referendum will always be from the majority group. It's exact value, however, will vary depending on the size of minority group and the exact distribution of preferred  $p_i$ 's.

# **B** Sample

The survey was conducted in September 2017 by YouGov. YouGov employs matched sampling to approximate a random sample of the adult population. Matched sampling involves taking a stratified random sample of the target population and then matching available internet respondents to the target sample.<sup>1</sup> Ansolabehere and Rivers (2013) and Ansolabehere and Schaffner (2014) show that matched sampling produces accurate population estimates and replicates the correlational structure of random samples using telephones and residential addresses. The respondents were matched to a sampling frame based on gender, age, race, education, party identification, ideology, and political interest. The frame was constructed by stratified sampling from the full 2010 American Community Survey (ACS) sample with selection within strata by weighted sampling with replacements (using the person weights on the public use file). Data on voter registration status and turnout were matched to this frame using the November 2010 Current Population Survey. Data on interest in politics and party identification were then matched to this frame from the 2007 Pew Religious Life Survey. The matched cases were weighted to the sampling frame using propensity scores. The matched cases and the frame were combined and a logistic regression was estimated for inclusion in the frame. The propensity score function included age, gender, race/ethnicity, years of education, and ideology. The propensity scores were grouped into deciles of the estimated propensity score in the frame and post-stratified according to these deciles.

- Interview period: September 2017
- Sample size: 1,800
- Source of data on population socio-demographics: US Census
- Weights range from 0.144 to 5.076, with a mean of 1 and a standard deviation of 0.39.

	01	5	1
Group	Population	Weighted Sample	Raw Sample
Gender: Male	49.2	48.6	47.3
Gender: Female	50.8	51.3	52.7
Age: 18-34	30.1	31.7	29.6
Age: 35-54	33.0	31.3	30.1
Age: 55+	36.8	35.5	38.9
Bachelor's degree or greater:	30.3	25.6	28.9
HS or greater:	87.0	91.3	92.5

Table A.1: Distribution	of Socio-demograp	phics in the Surve	y Sample and	l the Population.
		-		

Notes: The table shows the distributions of socio-demographics in the population, the weighted sample, and the raw sample. See text for data sources on the population socio-demographics.

# C ANES Regional Data

The American National Election Study has collected nationally-representative panels of American voters for many years. While the exact survey questions included have varied somewhat over time, there are a set of questions that approximate our three subdimensions of authoritarian values that have appeared consistently in the ANES since 1990. More precisely, we argue that the authoritarian aggression subdimension is likely to be well proxied by an individual's preference over the use of the death penalty; the ANES includes questions asking about respondent support for the use of the death penalty to punish respondents convicted of murder, and also asks separately about the strength of support or opposition to the death penalty. We next argue that questions about appropriate values for child rearing should serve as a close proxy for authoritarian submission; these questions ask respondents to report whether they favor children who are respectful versus obedient, well-mannered versus curious, obedient versus self-reliant, and well-behaved versus considerate. Finally, the *authoritarian conventionalism* subdimension is quite closely related to a battery of questions that the ANES labels as "moral traditionalism;" these questions ask respondents whether they believe that society should adjust its values in light of a changing world, whether newer lifestyles are contributing to the breakdown of society, whether individuals should be more tolerant of others who live differently, and whether the country would be better off with more emphasis on traditional family ties.

We collected responses to each of these questions for the following ANES survey waves: 1990, 1992, 1994, 1996, 1998, 2000, 2004, 2008, 2012, and 2016.<sup>2</sup> We then performed principal component analysis on the full set of questions listed above for respondents who self-identified as white. In each case, factor analysis identified three subdimensions with eigenvalues greater than one. In each case, the questions on child rearing all loaded strongly onto one dimension, which we labeled "submission;" the questions on the death penalty loaded strongly onto another dimension, which we labeled "aggression;" and the moral traditionalism questions loaded strongly onto the third dimension, which we labeled "conventionalism."<sup>3</sup>

Having generated these measures of authoritarianism based on ANES data, we generated average values for each subdimension at the county level (based on the arithmetic mean of such values for all respondents in a given county). These provided county-level averages of our three dimensions of authoritarian aggression, submission, and conventionalism. However, as there was not sufficient coverage of all US counties in a given survey wave, in order to maximize potential geographic coverage we subsequently generated a "pre-trade shock" measure of average authoritarian values by pooling data for all survey waves fielded prior to China's accession to the WTO in 2001, as well as a "post-trade shock" measure that pooled across all waves after 2001. Finally, we calculated our average regional ASC measure by taking the average of the regional measures for aggression, submission, and conventionalism.

<sup>&</sup>lt;sup>2</sup>The 2002 wave did not contain these questions, and so was omitted. Note that the 1996 and 1998 waves did not contain questions about child rearing, and the 1990 wave only contained one such question.

<sup>&</sup>lt;sup>3</sup>For the 1996 and 1998 waves, there were only two dimensions identified, as there were no questions on child rearing.

# D ASC Component Questions

Dunwoody & Funke (2016) propose a battery of 18 questions to capture three distinct subdimensions of authoritarianism that they call "aggression, submission, and conventionalism." Each dimension is measured by taking the average level of support across six questions, three of which are protrait and three of which are contrait and are therefore reverse coded. The exact set of questions for each dimension is provided below:

Authoritarian Aggression
Strong force is necessary against threatening groups.
It is necessary to use force against people who are a threat to authority.
Police should avoid using violence against suspects.*
People should avoid using violence against others even when ordered to do so by the proper authorities.*
Using force against people is wrong even if done so by those in authority.*
Strong punishments are necessary in order to send a message.
Authoritarian Submission
We should believe what our leaders tell us.
Our leaders know what is best for us.
People should be critical of statements made by those in positions of authority.*
People in positions of authority generally tell the truth.
People should be skeptical of all statements made by those in positions of authority.*
Questioning the motives of those in power is healthy for society.*
Conventionalism
People emphasize tradition too much.*
Traditions are the foundation of a healthy society and should be respected.
It would be better for society if more people followed social norms.
Traditions interfere with progress.*
People should challenge social traditions in order to advance society.*
People should respect social norms.
* = reverse coding.

# **E** Additional Tables

	Count	Mean	Variance	Min	Max	
Avg. Aggression	1787	2.97	0.81	1	5	
Avg. Submission	1787	2.28	0.67	1	4.3	
Avg. Conventionalism	1787	3.22	0.76	1	5	

 Table A.2: Summary Statistics for ACS Components

Table A.3: Correlation Matrix for ACS Components

		, , , , , , , , , , , , , , , , , , ,	
	Avg. Aggression	Avg. Submission	Avg. Conventionalism
Avg. Aggression	1.000		
Avg. Submission	0.336	1.000	
Avg. Conventionalism	0.530	0.318	1.000

VARIABLES	(1) ASC	(2) ASC	(3) ASC	(4) ASC	(5) ASC	(6) ASC	(7) ASC
Δ IP (91-07)	0.023	0.023	0.019	0.010	0.015	0.016	0.006
	(0.018)	(0.017)	(0.017)	(0.018)	(0.018)	(0.019)	(0.018)
Diversity	-0.154**	-0.18/***	-0.13/**	$-0.145^{**}$	-0.133**	$-0.142^{**}$	-0.184***
Diversity*A IP (91-07)	0.000)	0.104***	0.000)	0.003)	0.108***	0.101***	0.105***
Diversity 2 II (91-07)	(0.030)	(0.033)	(0.027)	$(0.10)^{-0.10}$	(0.103)	(0.030)	(0.103)
Female	-0.014	-0.051*	-0.007	-0.012	-0.014	-0.010	-0.045
	(0.033)	(0.029)	(0.032)	(0.033)	(0.033)	(0.033)	(0.029)
Age	0.009***	0.006***	0.009***	0.009***	0.009***	0.009***	0.006***
0	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
University	-0.228***	-0.187***	-0.213***	-0.208***	-0.213***	-0.221***	-0.171***
	(0.047)	(0.040)	(0.038)	(0.040)	(0.039)	(0.040)	(0.041)
College	-0.169***	-0.144***	-0.155***	-0.158***	-0.162***	-0.165***	-0.125***
	(0.038)	(0.035)	(0.037)	(0.038)	(0.038)	(0.038)	(0.036)
Married	0.033	-0.000	0.026	0.042	0.040	0.040	-0.007
Has shildren	(0.040)	(0.033)	(0.033)	(0.035)	(0.034)	(0.035)	(0.034)
Has children	(0.041)	(0.042)	(0.040)	(0.040)	(0.040)	(0.041)	(0.028)
Manufacturing	-0.429	-0 521*	-0.375	-0.403	-0.363	-0.292	-0.362
Manufacturing	(0.293)	(0.268)	(0.282)	(0.285)	(0.286)	(0.292)	(0.265)
% Foreign Born	-0.002	0.000	-0.001	0.002	0.004	-0.002	0.005**
0	(0.002)	(0.002)	(0.002)	(0.002)	(0.003)	(0.002)	(0.003)
Δ % Foreign Born	0.012	0.012	0.011	0.021**	0.014	0.009	0.012
C C	(0.010)	(0.009)	(0.009)	(0.009)	(0.010)	(0.011)	(0.009)
HH income	0.002						0.000
	(0.007)						(0.006)
Religion is important		0.449***					0.402***
		(0.031)	0 000++++				(0.030)
Success comes from hard work			$0.322^{***}$				$0.250^{***}$
$\mathbf{R}_{\mathrm{ural}}$ non $(\%)$			(0.055)	0.004***			(0.031)
Kulai pop. (78)				(0.004)			(0.001)
Total pop. (logged)				(0.001)	-0.057***		-0.023
I I ( 88- )					(0.016)		(0.021)
Northeast						0.059	0.083*
						(0.057)	(0.047)
South						0.085*	0.045
						(0.049)	(0.046)
West						0.042	0.015
						(0.052)	(0.050)
Observations	1,217	1,225	1,225	1,225	1,225	1,225	1,217
R-squared	0.118	0.240	0.187	0.131	0.128	0.121	0.290
Commuting zones	323	324	324	324	324	324	323

Table A.4: OLS: Trade Shock Exposure and Authoritarianism (Add. Covariates). The table shows results from an OLS regression of the variable *ASC* on the trade shock measure  $\Delta$  *IP* (91-07), a dummy variable for living in a diverse county, an interaction between the diversity variable and the trade shock variable, and different sets of control variables. Standard errors are clustered at the commuting zone-level and reported in parentheses. Significance levels are reported in the following way: \*\*\* p<0.01, \*\* p<0.05, \* p<0.1.

	(1)	(2)	(3)	(4)
VARIABLES	ASC (OLS)	ASC (IV)	ASC (OLS)	ASC (IV)
ln Δ IP (91-07)	0.004	0.051		
	(0.035)	(0.044)		
Diversity*ln $\Delta$ IP (91-07)	0.124**	0.128**		
	(0.057)	(0.065)		
High ∆ IP (91-07)			0.037	0.195**
			(0.052)	(0.096)
Diversity*High $\Delta$ IP (91-07)			0.177**	0.226**
			(0.086)	(0.113)
Diversity	-0.010	-0.005	-0.021	-0.020
	(0.048)	(0.049)	(0.049)	(0.052)
Female	-0.012	-0.013	-0.010	-0.013
	(0.033)	(0.033)	(0.033)	(0.033)
Age	0.009***	0.009***	0.009***	0.009***
	(0.001)	(0.001)	(0.001)	(0.001)
University	-0.227***	-0.226***	-0.227***	-0.217***
	(0.041)	(0.041)	(0.041)	(0.041)
College	-0.166***	-0.164***	-0.164***	-0.158***
	(0.037)	(0.037)	(0.038)	(0.038)
Married	0.042	0.040	0.043	0.044
	(0.035)	(0.035)	(0.035)	(0.034)
Has children	0.178***	0.179***	0.175***	0.171***
	(0.041)	(0.041)	(0.041)	(0.040)
Manufacturing	-0.183	-0.471	-0.239	-0.789**
	(0.304)	(0.352)	(0.275)	(0.397)
% Foreign Born	-0.002	-0.003	-0.003	-0.004
	(0.002)	(0.002)	(0.002)	(0.003)
$\Delta$ % Foreign Born	0.012	0.013	0.013	0.016
	(0.010)	(0.010)	(0.009)	(0.010)
Observations	1,225	1,225	1,225	1,225
R-squared	0.113		0.115	
Commuting zones	324	324	324	324
Weak ID F stat		180		35.06

Table A.5: OLS: Trade Shock Exposure and Authoritarianism (Different shock codings). The table shows results from OLS and IV regressions of the variable *ASC* on alternative trade shock measures. The regressions also include a dummy variable for living in a diverse county, an interaction between the diversity variable and the trade shock variable, and a set of control variables. Standard errors are clustered at the commuting zone-level and reported in parentheses. Significance levels are reported in the following way: \*\*\* p < 0.01, \*\* p < 0.05, \* p < 0.1.

VARIABLES	(1) ASC	(2) ASC	(3) ASC	(4) ASC	(5) ASC
Δ IP (91-99)	0.069**				
Diversity*∆ IP (91-99)	(0.032) 0.393*** (0.136)				
$\Delta$ IP (91-07)	(0.130)	0.022			
Diversity*∆ IP (91-07)		0.106***			
$\Delta$ IP (91-11)		( )	0.017 (0.016)		
Diversity*∆ IP (91-11)			0.093*** (0.025)		
$\Delta$ IP (99-07)			. ,	-0.006 (0.039)	
Diversity* $\Delta$ IP (99-07)				0.170***	
Δ IP (99-11)				(0.010)	-0.004
Diversity* $\Delta$ IP (99-11)					0.117***
Diversity	-0.119* (0.063)	-0.141** (0.064)	-0.134** (0.062)	-0.140** (0.061)	-0.108*
Female	-0.011	-0.011	-0.011	-0.012	-0.012
Age	0.009***	0.009***	0.009***	0.009***	0.009***
University	-0.226*** (0.041)	-0.224*** (0.041)	-0.223*** (0.041)	-0.228*** (0.041)	-0.228*** (0.041)
College	-0.170*** (0.037)	-0.167*** (0.037)	-0.167*** (0.037)	-0.170***	-0.169*** (0.037)
Married	0.044	0.039	0.041	0.042 (0.035)	0.044 (0.035)
Has children	0.176***	0.179***	0.180***	0.176***	0.176***
Manufacturing	-0.344 (0.256)	-0.426	-0.393 (0.287)	-0.173	-0.148 (0.269)
% Foreign Born	-0.002 (0.002)	-0.002 (0.002)	-0.003	-0.002 (0.002)	-0.002 (0.002)
$\Delta$ % Foreign Born	0.012 (0.010)	0.012 (0.010)	0.012 (0.010)	0.013 (0.009)	0.012 (0.009)
Observations	1,225	1,225	1,225	1,225	1,225
K-squared Commuting zones	0.117 324	0.118 324	0.118 324	0.115 324	0.115 324

Table A.6: OLS: Trade Shock Exposure and Authoritarianism (Different time periods). The table shows results from OLS regressions of the variable *ASC* on alternative trade shock measures with varying time periods. The regressions also include a dummy variable for living in a diverse county, an interaction between the diversity variable and the trade shock variable, and a set of control variables. Standard errors are clustered at the commuting zone-level and reported in parentheses. Significance levels are reported in the following way: \*\*\* p < 0.01, \*\* p < 0.05, \* p < 0.1.

VARIABLES	(1) ASC	(2) ASC	(3) ASC	(4) ASC	(5) ASC
Δ IP (91-99)	0.300***				
Diversity*∆ IP (91-99)	(0.106) 0.549***				
$\Delta$ IP (91-07)	(0.178)	0.060**			
Diversity*∆ IP (91-07)		(0.028) 0.098*** (0.022)			
$\Delta$ IP (91-11)		(0.033)	$0.047^{*}$		
Diversity* $\Delta$ IP (91-11)			(0.023) $0.094^{***}$ (0.034)		
$\Delta$ IP (99-07)			(0.001)	0.121 (0.087)	
Diversity*∆ IP (99-07)				0.140**	
$\Delta$ IP (99-11)				(0.000)	0.114 (0.077)
Diversity*∆ IP (99-11)					$0.110^{*}$ (0.061)
Diversity	-0.163** (0.080)	-0.124* (0.069)	-0.125* (0.074)	-0.105 (0.076)	-0.091 (0.082)
Female	-0.009 (0.033)	-0.012 (0.033)	-0.013 (0.033)	-0.019 (0.033)	-0.022 (0.034)
Age	0.009*** (0.001)	0.009*** (0.001)	0.009*** (0.001)	0.009*** (0.001)	0.009*** (0.001)
University	-0.220*** (0.042)	-0.220*** (0.041)	-0.219*** (0.041)	-0.225*** (0.041)	-0.225*** (0.041)
College	-0.172*** (0.037)	-0.166*** (0.037)	-0.166*** (0.037)	-0.177*** (0.037)	-0.182*** (0.038)
Married	0.040 (0.035)	0.037 (0.035)	0.039 (0.035)	0.041 (0.035)	0.042 (0.035)
Has children	0.174*** (0.041)	0.180*** (0.041)	0.181*** (0.041)	0.183*** (0.041)	0.185*** (0.042)
Manufacturing	-1.004*** (0.377)	-0.782** (0.365)	-0.728** (0.356)	-0.852* (0.507)	-0.897* (0.508)
% Foreign Born	-0.003 (0.002)	-0.003 (0.002)	-0.004 (0.002)	-0.003 (0.003)	-0.004 (0.003)
$\Delta$ % Foreign Born	0.016 (0.010)	0.012 (0.010)	0.012 (0.010)	0.015 (0.009)	0.014 (0.009)
Observations	1,225	1,225	1,225	1,225	1,225
Commuting zones Weak ID F stat	324 14.02	324 84.10	324 24.14	324 13.65	324 9.192

Table A.7: IV: Trade Shock Exposure and Authoritarianism (Different time periods). The table shows results from IV regressions of the variable *ASC* on alternative trade shock measures with varying time periods. The regressions also include a dummy variable for living in a diverse county, an interaction between the diversity variable and the trade shock variable, and a set of control variables. Standard errors are clustered at the commuting zone-level and reported in parentheses. Significance levels are reported in the following way: \*\*\* p < 0.01, \*\* p < 0.05, \* p < 0.1.

VARIABLES	(1) ASC (OLS)	(2) ASC (OLS)	(3) ASC (OLS)	(4) ASC (OLS)	(5) ASC (OLS)	(6) ASC (OLS)	(7) ASC (OLS)
Δ IP (91-07)	0.037**	0.033*	0.028	0.022	0.023	0.019	0.026
Diversity (10th pc)	(0.018) 0.072	(0.018)	(0.018)	(0.019)	(0.019)	(0.021)	(0.019)
Diversity (10th pc)*∆ IP (91-07)	0.026						
Diversity (25th pc)	(0.043)	-0.089					
Diversity (25th pc)* $\Delta$ IP (91-07)		(0.067) 0.087***					
Diversity (33rd pc)		(0.032)	-0.120*				
Diversity (33rd pc)*∆ IP (91-07)			0.098***				
Diversity (50th pc)			(0.027)	$-0.141^{**}$			
Diversity (50th pc)* $\Delta$ IP (91-07)				0.075**			
Diversity (67th pc)				(0.029)	-0.089		
Diversity (67th pc)* $\Delta$ IP (91-07)					0.038		
Diversity (75th pc)					(0.030)	-0.114*	
Diversity (75th pc)*∆ IP (91-07)						0.035	
Diversity (90th pc)						(0.029)	-0.139*
Diversity (90th pc)*∆ IP (91-07)							0.013
Female	-0.008	-0.011	-0.012	-0.011	-0.011	-0.012	-0.013
Age	0.009***	0.009***	0.009***	0.009***	0.009***	0.009***	0.009***
University	-0.221***	-0.221***	-0.225***	-0.222***	-0.222***	-0.221***	-0.219***
College	(0.041) -0.164***	(0.041) -0.164***	(0.041) -0.168***	(0.041) -0.167***	(0.041) -0.165***	(0.041) -0.162***	(0.041) -0.160***
Married	(0.038) 0.042	(0.037) 0.041	(0.037) 0.040	0.037	(0.037) 0.039	0.038	(0.037) 0.043
Has children	(0.035) 0.178***	(0.036) 0.181***	(0.035) 0.178***	(0.034) 0.181***	(0.035) 0.182***	(0.035) 0.181***	(0.035) 0.178***
Manufacturing	(0.041) -0.378	(0.041) -0.442	(0.041) -0.437	(0.041) -0.406	(0.041) -0.369	(0.041) -0.349	(0.041) -0.333
% Foreign Born	(0.295) -0.003	(0.296) -0.003	(0.291) -0.002	(0.289) -0.001	(0.294) -0.001	(0.292) -0.000	(0.294) -0.000
$\Delta$ % Foreign Born	(0.002) 0.012	(0.002) 0.010	(0.002) 0.011	(0.002) 0.012	(0.002) 0.011	(0.002) 0.013	(0.002) 0.014
	(0.010)	(0.010)	(0.009)	(0.010)	(0.010)	(0.010)	(0.010)
Observations	1,225	1,225	1,225	1,225	1,225	1,225	1,225
K-squared Commuting zones	324	0.114 324	324	324	324	0.114 324	324

Table A.8: OLS: Trade Shock Exposure and Authoritarianism (Different diversity cutpoints). The table shows results from an OLS regression of the variable *ASC* on the trade shock measure  $\Delta$  *IP* (91-07), a dummy variable for living in a diverse county, an interaction between the diversity variable and the trade shock variable, and different sets of control variables, for different cutpoints of the diversity definition. Standard errors are clustered at the commuting zone-level and reported in parentheses. Significance levels are reported in the following way: \*\*\* p<0.01, \*\* p<0.05, \* p<0.1.

	(1)	(2)	(3)	(4)	(5)	(6)
VARIABLES	Aggr. (OLS)	Aggr. (OLS)	Aggr. (OLS)	Aggr. (IV)	Aggr. (IV)	Aggr. (IV)
$\Delta$ IP (91-07)	0.035	0.015	0.031	0.055**	0.030	0.087**
	(0.022)	(0.025)	(0.029)	(0.026)	(0.030)	(0.042)
Diversity		-0.200**	-0.110		-0.206**	-0.123
		(0.091)	(0.099)		(0.102)	(0.101)
Diversity* $\Delta$ IP (91-07)		0.113**	0.107**		0.119**	0.121**
		(0.045)	(0.045)		(0.053)	(0.049)
Female			-0.131***			-0.132***
			(0.048)			(0.048)
Age			0.012***			0.012***
			(0.001)			(0.001)
University			-0.298***			-0.292***
~ "			(0.064)			(0.064)
College			-0.123**			-0.122**
			(0.057)			(0.057)
Married			0.060			0.055
			(0.048)			(0.048)
Has children			0.222***			0.224***
			(0.054)			(0.054)
Manutacturing			-0.433			-1.015**
			(0.426)			(0.514)
% Foreign Born			-0.006*			-0.007**
			(0.003)			(0.003)
$\Delta$ % Foreign Born			0.020			0.021
			(0.015)			(0.015)
Observations	1.225	1.225	1,225	1.225	1.225	1.225
R-squared	0.003	0.007	0.103	- <b>)</b> C	- <b>)</b> C	1 <b>)</b> 0
Czone	324	324	324	324	324	324
Weak ID F stat				300.6	117.6	84.10

Table A.9: Trade Shock Exposure and Authoritarian Aggression. The table shows results from OLS and IV regressions of the variable for Authoritarian Aggression on the trade shock measure  $\Delta$  *IP* (91-07), using the variable  $\Delta$  *IPO* (91-07) as an instrument in the IV regressions. Standard errors are clustered at the commuting zone-level and reported in parentheses. Significance levels are reported in the following way: \*\*\* p<0.01, \*\* p<0.05, \* p<0.1.

	(1)	(2)	(3)	(4)	(5)	(6)
VARIABLES	Subm. (OLS)	Subm. (OLS)	Subm. (OLS)	Subm. (IV)	Subm. (IV)	Subm. (IV)
$\Delta$ IP (91-07)	0.024	0.007	0.024	0.038*	0.027	0.065*
	(0.016)	(0.017)	(0.018)	(0.020)	(0.023)	(0.033)
Diversity		-0.153**	-0.182**		-0.079	-0.124
		(0.069)	(0.085)		(0.075)	(0.093)
Diversity* $\Delta$ IP (91-07)		0.101***	0.113***		0.056	0.079*
		(0.035)	(0.036)		(0.043)	(0.044)
Female			0.061*			0.060*
			(0.035)			(0.035)
Age			0.000			0.001
			(0.001)			(0.001)
University			-0.173***			-0.168***
			(0.045)			(0.045)
College			-0.239***			-0.236***
			(0.047)			(0.046)
Married			0.057			0.054
			(0.042)			(0.042)
Has children			0.092*			0.092*
			(0.051)			(0.051)
Manufacturing			-0.498			-0.841**
			(0.322)			(0.419)
% Foreign Born			0.001			0.000
			(0.002)			(0.002)
$\Delta$ % Foreign Born			-0.000			-0.001
			(0.012)			(0.012)
Observations	1,225	1,225	1,225	1,225	1,225	1,225
R-squared	0.002	0.007	0.042	,	,	,
Czone	324	324	324	324	324	324
Weak ID F stat				300.6	117.6	84.10

Table A.10: Trade Shock Exposure and Authoritarian Submission. The table shows results from OLS and IV regressions of the variable for Authoritarian Submission on the trade shock measure  $\Delta$  *IP* (91-07), using the variable  $\Delta$  *IPO* (91-07) as an instrument in the IV regressions. Standard errors are clustered at the commuting zone-level and reported in parentheses. Significance levels are reported in the following way: \*\*\* p<0.01, \*\* p<0.05, \* p<0.1.

	(1)	(2)	(3)	(4)	(5)	(6)
VARIABLES	Conv. (OLS)	Conv. (OLS)	Conv. (OLS)	Conv. (IV)	Conv. (IV)	Conv. (IV)
$\Delta$ IP (91-07)	0.012	-0.007	0.012	0.020	-0.001	0.027
	(0.021)	(0.023)	(0.027)	(0.023)	(0.026)	(0.039)
Diversity		-0.184**	-0.132		-0.169*	-0.124
		(0.084)	(0.087)		(0.096)	(0.094)
Diversity* $\Delta$ IP (91-07)		0.107***	0.098***		0.098**	0.094**
		(0.039)	(0.038)		(0.045)	(0.042)
Female			0.036			0.035
			(0.044)			(0.043)
Age			0.015***			0.015***
			(0.001)			(0.001)
University			-0.200***			-0.198***
			(0.055)			(0.055)
College			-0.140***			-0.140***
			(0.052)			(0.052)
Married			0.002			0.001
			(0.048)			(0.048)
Has children			0.224***			0.224***
			(0.056)			(0.056)
Manufacturing			-0.347			-0.491
			(0.370)			(0.465)
% Foreign Born			-0.002			-0.002
			(0.003)			(0.003)
$\Delta$ % Foreign Born			0.017			0.017
			(0.013)			(0.013)
Observations	1,225	1,225	1,225	1,225	1,225	1,225
R-squared	0.000	0.004	0.126	,	,	,
Czone	324	324	324	324	324	324
Weak ID F stat				300.6	117.6	84.10

Table A.11: Trade Shock Exposure and Authoritarian Conventionalism. The table shows results from OLS and IV regressions of the variable for Authoritarian Conventionalism on the trade shock measure  $\Delta$  *IP* (91-07), using the variable  $\Delta$  *IPO* (91-07) as an instrument in the IV regressions. Standard errors are clustered at the commuting zone-level and reported in parentheses. Significance levels are reported in the following way: \*\*\* p<0.01, \*\* p<0.05, \* p<0.1.

	(1)	(2)	(3)	(4)	(5)	(6)
VARIABLES	ASC (OLS)	ASC (OLS)	ASC (OLS)	ASC (IV)	ASC (IV)	ASC (IV)
$\Delta$ IP (91-07)	0.013	-0.001	0.015	0.021	0.011	0.042*
	(0.012)	(0.015)	(0.016)	(0.013)	(0.017)	(0.023)
Diversity		-0.104**	-0.098*		-0.075	-0.081
		(0.044)	(0.051)		(0.048)	(0.054)
Diversity* $\Delta$ IP (91-07)		0.048**	0.052**		0.031	0.044*
		(0.021)	(0.025)		(0.024)	(0.026)
Female			-0.013			-0.013
			(0.027)			(0.027)
Age			0.007***			0.007***
			(0.001)			(0.001)
University			-0.206***			-0.203***
			(0.033)			(0.033)
College			-0.140***			-0.139***
			(0.030)			(0.030)
Married			0.061**			0.059**
			(0.028)			(0.028)
Has children			0.122***			0.124***
			(0.030)			(0.030)
Manufacturing			-0.346			-0.599**
			(0.241)			(0.287)
% Foreign Born			0.000			-0.000
			(0.002)			(0.002)
$\Delta$ % Foreign Born			0.002			0.002
			(0.008)			(0.008)
Observations	1,787	1,787	1,787	1,787	1,787	1,787
R-squared	0.001	0.003	0.089			
Czone	366	366	366	366	366	366
Weak ID F stat				403.8	152.1	111.2

Table A.12: Trade Shock Exposure and Authoritarianism (Full Sample). The table shows results from OLS and IV regressions of the variable *ASC* on the trade shock measure  $\Delta$  *IP* (91-07), using the variable  $\Delta$  *IPO* (91-07) as instrument in the IV regressions, for the full sample (white and non-white respondents). Standard errors are clustered at the commuting zone-level and reported in parentheses. Significance levels are reported in the following way: \*\*\* p<0.01, \*\* p<0.05, \* p<0.1.

	(1)	(2)	(3)	(4)	(5)	(6)
VARIABLES	ASC (OLS)	ASC (OLS)	ASC (OLS)	ASC (IV)	ASC (IV)	ASC (IV)
Δ IP (91-07)	-0.021	-0.029	-0.021	-0.014	-0.019	-0.006
	(0.015)	(0.029)	(0.033)	(0.016)	(0.030)	(0.033)
Diversity		-0.033	-0.038		-0.019	-0.045
		(0.076)	(0.082)		(0.076)	(0.077)
Diversity* $\Delta$ IP (91-07)		0.017	0.008		0.009	0.014
		(0.040)	(0.046)		(0.040)	(0.041)
Female			-0.009			-0.009
			(0.047)			(0.046)
Age			0.003**			0.003**
			(0.001)			(0.001)
University			-0.196***			-0.194***
			(0.058)			(0.057)
College			-0.111**			-0.111**
			(0.051)			(0.050)
Married			0.088**			0.087**
			(0.040)			(0.040)
Has children			0.057			0.058
			(0.049)			(0.049)
Manufacturing			-0.054			-0.247
			(0.414)			(0.435)
% Foreign Born			0.003			0.003
			(0.002)			(0.002)
$\Delta$ % Foreign Born			-0.007			-0.007
			(0.010)			(0.009)
Observations	562	562	562	562	562	562
R-squared	0.002	0.002	0.055			
Czone	177	177	177	177	177	177
Weak ID F stat				173.8	49.91	63.59

Table A.13: Trade Shock Exposure and Authoritarianism (Non-Whites). The table shows results from OLS and IV regressions of the variable *ASC* on the trade shock measure  $\Delta$  *IP* (91-07), using the variable  $\Delta$  *IPO* (91-07) as an instrument in the IV regressions, for the sample of non-white respondents. Standard errors are clustered at the commuting zone-level and reported in parentheses. Significance levels are reported in the following way: \*\*\* p<0.01, \*\* p<0.05, \* p<0.1.