# Globalization Shocks and the Rise of Ethnic Politics: Evidence from India's Trade Liberalization

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#### Abstract

Do globalization shocks contribute to the rise of ethnic politics? We examine this question in the context of India's extensive but unanticipated tariff liberalization episode in 1991. Exploiting pre-liberalization employment patterns across regions, we construct regional exposure to tariff liberalization akin to Topalova (2010). Our empirical findings document a sizeable decline in the vote share of the centre-left Congress Party – the federal ruling party associated with trade liberalization – in regions with higher exposure to tariff reforms. The reduction in popular support to the Congress is driven by areas with low urbanization, low educational attainment, and higher concentration of marginalized populations. The decline of the Congress in these areas is matched by an increase in popular support to caste-based parties promising wider political representation and public redistribution to historically marginalized low caste groups. Examining mechanisms, we find that workers from low caste backgrounds had a significantly higher likelihood of being negatively affected by trade liberalization. In areas with higher exposure to tariff reforms, marginalized workers were less likely to be employed in salaried jobs, or in manufacturing and service occupations. The empirical findings are consistent with the explanation that trade liberalization disproportionately affected citizens with limited shock coping abilities, who in turn voted against the party associated with the reforms.

## 1 Introduction

The presence of winners and losers emerging from policies of trade liberalization have been widely acknowledged. In a recent review of the literature on the economic consequences of trade liberalization, Atkin and Khandelwal (2020) highlight the role of existing domestic market frictions in hindering developing economies from fully realizing the gains from trade openness. The economic dislocation wrought about by the forces of globalization can in turn alter voter preferences, and affect political outcomes (Rodrik, 2021). The current paper empirically examines the electoral consequences of trade liberalization in a developing economy.

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We focus on India, which embarked on a massive program of economic liberalization, starting in 1991, of which trade liberalization formed a key component. India's forms an ideal context for two reasons: first, the adoption of policies of economic liberalization was largely unanticipated, triggered in response to an external balance of payments crisis. Second, India's status as a multi-party democracy with a large number of sub-national elections provides both cross-sectional and longitudinal variation in empirically identifying the impacts of trade liberalization on electoral outcomes across a broad spectrum of political groups.

India's economic reforms were initiated by the Congress Party, which was the federal ruling party in 1991. Drawing political support across a broad spectrum of social groups, the Congress was India's dominant political force for the first four decades since independence in 1947, and also held power across a number of states. Since the 1990s however, the Congress entered into a state of gradual decline over the subsequent two decades, leading us to examine whether being associated with the policies of economic liberalization causally affected the political fortunes of the party.

For causal identification, we adopt the empirical strategy outlined in Topalova (2010) and Edmonds et al. (2010) relying on regional variation in exposure to trade liberalization, exploiting pre-liberalization employment patterns. Specifically, the empirical strategy combines time-series variation in commodityspecific tariffs with cross-sectional variation in the pre-liberalization share of workers employed in the production of that commodity across districts.<sup>1</sup> This generates district-level variation in tariff exposure, with the sudden and sharp reduction in tariff rates in the post-liberalization period generating temporal variation in districts' tariff exposure.

We use data from 10,000 constituency-level elections across 16 of India's largest states to identify the impact of changes in districts' exposure to import tariffs on local electoral support to the Congress. In essence, the empirical strategy compares changes in political support to the Congress before and after trade liberalization, across constituencies located in regions facing a high reduction in tariff protection (treated), relative to those with a low reduction in tariff protection (control). As the harmonization of tariff rates formed a key goal of the trade liberalization process, variation in districts' loss of trade protection stemmed from a combination of two factors: a) pre-liberalization tariff rates assigned to individual commodities; and b) the share of workers employed in the production of that commodity in the district. Consequently, a district's loss in tariff protection was larger if it specialized

<sup>&</sup>lt;sup>1</sup> Districts form the third-tier of adminstration in India, below the state.

(in terms of labour share) in the production of a commodity which witnessed a larger reduction in its post-liberalization tariff rate i.e. was more protected in the pre-liberalization era.

Our empirical results identify a sizeable negative impact of tariff reforms on electoral support to the Congress party. In relative terms, a 1 standard deviation reduction in districts' tariff protection reduced the Congress Party's vote share by .11 standard deviations (approximately 2 percentage points), and its likelihood of winning an election to the state legislative assembly by 7 percentage points. The effect is sizeable when considering that the Congress won 27 percent of state-level elections in the pre-liberalization period. Our preferred specification includes both constituency and stateelectoral cycle fixed effects. The latter controls for aggregate state-level trends in voting patterns and compares electoral outcomes across constituencies located in the same state and electoral cycle, with the identifying variation emanating from changes in districts' tariff exposure.

Our baseline results are robust to the inclusion of both constituency and district covariates, as well as controling for districts' exposure to industrial deregulation and foreign direct investment: two other key areas which were affected by the liberalization program. This assuages concerns that the measure of tariff liberalization is capturing the effect of other contemporaneous reforms affecting the Indian economy. We also confirm that the results are robust to dropping individual states, negating concerns that the tariff exposure measure was confounded with state-specific policies whose timings coincided with the onset of economic liberalization.

We use the large extant literature studying the economic impacts of trade liberalization to consider heterogeneity in the impact of tariff reforms on party performance across regional characteristics. We show that conditional on exposure to tariff reforms, the decline in electoral support to the Congress is accentuated when the party is a local or regional incumbent, and in districts with relatively low levels of urbanization, low educational attainment, and a high fraction of historically marginalized low caste citizens. These findings echo the observations of Rodrik (2021) who notes that exposure to globalization has the potential to exacerbate existing urban-rural divides, and are also consistent with Dippel et al. (2022), who documents an increase in support for far-right parties amongst low-skilled German manufacturing workers disproportionately affected by import competition from low-wage countries.

Unlike much of the existing literature though, the electoral decline of the centre-left Congress Party in areas with higher exposure to trade liberalization is unaccompanied by a rightward shift in voting behaviour. Instead, we find that conditional on regional exposure to trade liberalization, districts with low educational attainment and a high share of low caste citizens witnessed increased support for caste-based parties: nascent political formations initiated in the 1980s which promised greater political representation for marginalized low caste citizens and increased targeted redistribution to these communities (Aneja and Ritadhi, 2022).

To explore mechanisms explaining the reduction in electoral support to the Congress Party in areas with higher exposure to tariff reforms, we draw from the large body of literature studying the economic impacts of trade openness (for instance Autor et al. (2013, 2014); Dix-Carneiro and Kovak (2017); Topalova (2010)). Using data from a nationally representative employment survey, we examine whether regional exposure to trade liberalization affected individual employment outcomes. Our results unmask significant heterogeneity in the impact of tariff reforms on labour market outcomes across workers' social identity, location and educational qualifications. Thus, in districts facing a relatively higher exposure to tariff reforms, workers hailing from historically marginalized low caste communities saw a lower likelihood of being employed in non-farm activities, and a significantly higher likelihood of being engaged in farm work. We also find evidence indicative of skill-biased technical change: while the likelihood of being employed in manufacturing activities increased in districts with relatively higher exposure to tariff reforms for workers with secondary education, there was also an accompanying decline in non-secondary educated urban individuals' manufacturing employment. When considering that only 16% of the workforce had completed secondary education at the onset of economic liberalization, the findings suggest that the vast majority of working-age individuals were excluded from the gains emanating from increased trade openness.

Collectively, our empirical findings show that the costs and benefits of trade liberalization were asymetrically distributed across citizens' social identity and pre-existing skills. Individuals hailing from historically marginalized backgrounds were disproportionately affected in regions with higher exposure to trade reforms, and switched from non-farm to farm activities, which typically offer lower wages. Electoral support to the Congress Party, responsible for the initiation of the process of economic reforms, also declined in these areas and shifted in favour of parties promising higher redistribution and representation of marginalized groups in public institutions.

Our paper adds to the growing literature studying the political implications of shocks induced by the process of globalization. Rodrik (2021) presents an extensive review of the existing literature, noting that majority of studies on this topic has found an increase in right-wing populism in response to economic downturns induced by processes facilitating greater integration with the global economy. Our paper differs along two dimensions from much of the existing literature: first, unlike most papers which focus on the consequences of increased import competition from developing economies in economically advanced nations, we study an episode of trade liberalization in a multi-party developing country. Second, our empirical results show a decline in popular support of the dominant Congress Party. Conditional on exposure to trade liberalization, the electoral losses of the Congress Party is driven by areas with a higher concentration of populations with limited shock coping abilities. The empirical evidence suggests that voting preferences in these areas switched from the centre-left Congress party to identity-based parties promising greater political representation and increased welfare transfers for underprivileged groups adversely affected by trade liberalization.

By documenting heterogeneity in the economic impacts of trade liberalization across vulnerable populations, our paper also joins the broader literature studying how trade openness affects labour market outcomes. Broadly, our results are consistent with the works of Autor et al. (2014), Dix-Carneiro and Kovak (2017) and Dippel et al. (2022) who show that economic downturns from increased exposure to import competition is concentrated amongst low skilled workers. Using the specific context of India, we show that historical discrimination induced by the hierarchical caste system in access to human capital and public resources made marginalized workers particularly vulnerable to shocks induced by the forces of globalization. The upshot was an exit from non-farm occupations offering higher returns to labour in areas with higher exposure to tariff reforms, and an increased propensity to engage in farm work yielding low returns. Our paper in this regard documents the differential effects of trade liberalization not just across workers' skill, but also social identity.

The remainder of the paper is organized as follows: Section 2 offers a descriptive framework of India's trade liberalization process, political parties, and a conceptual framework on how trade liberalization can affect political outcomes. Section 3 describes the datasets used for the empirical analysis while Section 4 presents the empirical strategy for causal identification. Section 5 discusses our key empirical findings while Section 6 presents mechanisms.

# 2 Background and Conceptual Framework

We briefly summarize here India's trade liberalization process, the trajectory of political parties during this period, and posit possible channels through which trade liberalization could have affected electoral politics.

#### 2.1 Trade Liberalization in India

The Indian economy embarked on an extensive liberalization programme in 1991, primarily in response to a balance of payments crisis triggered by the reduction in foreign remittances on account of the first Gulf War. While there were efforts to open up the economy through the 1980s, the scale of liberalization since 1991 was previously unmatched. Importantly, as the adoption of policies of economic liberalization was in response to an external crisis, the process itself was arguably unanticipated by both households and firms, allowing it to be treated as a natural experiment for causal identification (Topalova, 2010).

The liberalization process included trade liberalization, industrial deregulation, the opening of the economy to capital flows and foreign investment, and financial sector reforms. We focus on the trade liberalization component, comprising primarily of a sharp reduction in the rates of import tariffs, the harmonization of tariff rates across commodities, and a reduction in the list of products which could be imported without a license.<sup>2</sup> As described in Topalova (2010), average tariff rates declined from 80% to 37% between 1990 and 1996, and dispersion of the rates shrunk by 50%. Importantly for our empirical strategy, while tariffs pertaining to capital and intermediate goods were liberalized first, there was no systematic reduction of tariffs across certain products. Indeed, as reported by Topalova (2010), future tariffs remained uncorrelated with sectoral productivity till 1997, allaying concerns that the government strategically protected select industries from import competition.

#### 2.2 Politics in India

India's political firmament was dominated in the first four decades post independence by the Congress Party (INC), which was the federal ruling party for all but three years between 1947 and 1989. In particular, there was a strong wave of support for the party in 1984 when it secured over 50% of the

 $<sup>^2</sup>$  Topalova reports that prior to 1991, only 12% of products could be imported without a license.

popular vote in the federal elections.<sup>3</sup> A large body of work by political scientists refer to the Congress during this period as a "catch-all" party, eliciting support across a broad social coalition comprising of upper-caste elites, *Dalits, Adivasis* and Muslim voters (see for instance Manor (1998)). However, as seen from Figure 1, the party since the peak of 1985 has been in a state of gradual decline in terms of both popular support, and electoral wins. While there was a mean reversion between 1987 and 1991 when the party won approximately 30% of the popular vote in state elections, it was followed by a steady decline in electoral support, to 25% of the popular vote in 1997. Following a short revival between 1997 and 2000, there was again a reversion to the 1997 levels over the next three-year interval. By 2012, the party received less than 20% of votes in state elections and also lost power in the federal elections in 2014.

Appendix Figure A1 traces the evolution of three major non-Congress political formations over this period: namely the right-wing Bharatiya Janata Party (BJP), caste-based parties, and Left parties. While the electoral performance of the Left parties have remained relatively constant over this period, the right-wing BJP exhibited modest gains and emerged from the mid-1990s as the principal challenger to the Congress. In contrast, the caste-based parties underwent a period of electoral ascendancy during the first half of the 1990s and was the primary challenger to the Congress, before declining in the latter half of the 1990s. These parties were formed in the latter half of the 1980s in response to the apathy of India's mainstream parties to the political representation of historically discriminated low caste communities and indigenous populations (see Jaffrelot (2003) for an extensive discussion). Caste-based parties promised to increase political representation for these groups in both federal and state legislatures, in addition to expanding affirmative action quotas for public employment and education. Recent empirical work by Aneja and Ritadhi (2022) and Aneja and Ritadhi (2021) showed that legislators representing these parties increased redistributive transfers to low caste citizens, and causally contributed to the reduction in violent crimes against these groups.

#### 2.3 Trade Liberalization and Politics: Conceptual Framework

In a review of the literature studying globalization and right-wing populism, Rodrik (2021) posits four mechanisms -2 on the demand side, and 2 on the supply side - through which rising trade

 $<sup>^{3}</sup>$  The swelling of popular support for the INC during this period was attributed to the assassination of Prime Minister and party president, Mrs. Indira Gandhi, in 1984.

exposure can affect political outcomes. The demand side mechanisms consider the economic dislocation emanating from an episode of globalization, which in turn can affect political outcomes, either by directly changing voters' political preferences, or indirectly, through changes in socio-cultural attitudes. We focus primarily on the direct demand-side channel and consider two potential effects of economic dislocation induced by higher trade exposure: namely import competition, the effects of which are exacerbated by existing labour market frictions.

Recent work by Autor et al. (2020) and Dippel et al. (2022) showed that higher import competition from emerging markets contributed to a right-ward shift in voter preferences in the U.S. and Germany. Dippel et al. (2022) showed higher import competition to negatively affect local wages for low-skilled manufacturing workers, and Autor et al. (2014) reported similar results in the U.S. context. In emerging markets, Dix-Carneiro and Kovak (2017) and Topalova (2010) studied episodes of tariff reforms in Brazil and India and found labour immobility – both across regions, and sectors – to negatively affect workers' ability to cope with trade liberalization. While Dix-Carneiro and Kovak (2017) reported an increase in informality in areas with greater reductions in tariff protection, Topalova (2010) documented slower reduction of poverty and reduced human capital investments in such areas. In a similar vein as Dix-Carneiro and Kovak (2017), Nataraj (2011) found India's tariff liberalization to have resulted in the exit of small informal manufacturing firms with low productivity, leading to an overall increase in average productivity.

Administratively, trade policy in India falls under the purview of the federal government and the decision to increase trade openness was undertaken in 1991 by the Congress Party led federal governnment. Based on the existing literature studying the economic impacts of trade liberalization and the specific context of India, our paper empirically test two hypotheses. First, if voters can (correctly) attribute the trade liberalization programme to the Congress Party, those negatively affected by increased trade exposure can opt to vote against the Congress for implementation of the policy. This forms our first hypothesis, H1:

# H1: Regions disproportionately affected by tariff reforms would see a decline in popular support for the Congress Party.

Furthermore, existing research has shown that low-skilled workers have a higher propensity to be negatively affected by policies of trade liberalization. We examine this in the current context by exploring whether (any) negative effects of trade liberalization on INC support was higher in areas where workers' coping abilities in response to increased trade exposure was lower. Specifically, we explore heterogeneity across areas with low urbanization, low educational attainment, and a high concentration of historically marginalized populations. While education directly maps to workers' skill, Rodrik (2021) notes how the spatial sorting of citizens made rural areas in the U.S. particularly vulnerable to globalization shocks due to the concentration of workers with low educational qualifications and migration propensities. This is particularly pertinent in a developing economy where rural areas have lower levels of physical, financial and social infrastructure, and weak public services, reducing the availability of shock-coping mechanisms for households and workers. Similarly, historical inequities perperated by India's hierarchical caste-system has resulted in the exclusion of a large share of the population from access to public education and resources, lowering their human and social capital, and pushing them to the fringes of the economy. This is particularly true for the Scheduled Caste (*Dalit*) and Scheduled Tribe (*Adivasi*) communities, who have faced the most egregious forms of social discrimination over centuries.

Importantly, as seen from Appendix Figures A1-A4, electoral support to the Congress Party in the pre-liberalization period was higher in areas expected to have limited ability to adjust to an economic shock induced by trade liberalization. Thus, between 1980 and 1990, the Congress had higher rates of electoral success in areas with lower urbanization, lower levels of education, lower consumption, and higher SC/ST population. If the costs of trade liberalization were also disproportionately borne by these groups, the economic dislocation from trade liberalization could have negatively affected electoral support for the Congress in such areas, bringing us to our second hypothesis (H2):

H2: A decline in electoral support for the Congress Party due to higher exposure to trade liberalization would be exacerbated in areas with a higher share of vulnerable populations with limited shock coping abilities: namely regions with low levels of urbanization, low educational attainment, and a high concentration of marginalized populations.

We detail in Section 4 our empirical strategy to formally test the above two hypotheses, and causally identify the impact of trade liberalization on popular support for the Congress Party.

## 3 Data

This section describes the key datasets used for the empirical analysis undertaken in the paper.

#### 3.1 Elections Data

The data on electoral outcomes is obtained from the Election Commission of India (ECI) – a constitutional non-partisan body tasked with the conduct of federal and state elections in India. Our paper focuses on elections to state legislative assemblies, typically conducted once every five years in each state. States in India are divided into electoral constituencies (or seats), proportional to their population. Candidates are nominated by parties to contest elections in these seats, with the candidate securing the maximum votes being declared the winner.<sup>4</sup> This candidate subsequently represents constituency on behalf of the political party in the state legislative assembly for the stipulated 5 year tenure of the assembly. A simple majority in terms of seats is required by parties to form the government at the state-level. Governments can also be formed by a coalition of parties.

The ECI disseminates information on all constituency-level elections to the state legislative assembly, across all electoral cycles. The data includes the candidate's name, gender, party affiliation and votes received. Additional data on the number of registered voters and voter turnout is also included. The ECI data allows us to construct constituency-level vote shares  $(VS_{cdt})$  for each party, which forms our primary outcome of interest. We also define a binary variable equaling 1  $(\Pr(Win = 1)_{cdt})$  if the party of interest wins the election in constituency c, in election year t. Importantly, all electoral constituencies are contained within districts (d), which is the administrative level at which regional exposure to import tariffs is measured. This permits the mapping of regional exposure to tariff reforms to local constituency-level electoral outcomes.

Our primary sample spreads across a 14 year period between 1987 and 2000, covering 48 stateelectoral cycles across 16 of India's largest states, accounting for over 10,000 individual elections.<sup>5</sup> The median state in the sample has 3 electoral cycles during this period, and we observe at least 2 electoral cycles for every state in our sample. Due to divergent population sizes, there is wide variation across the number of elections contested in any state in an electoral cycle. Thus, while the average state

<sup>&</sup>lt;sup>4</sup> Individuals unaffiliated with any political party can also contest as independent candidates.

<sup>&</sup>lt;sup>5</sup> These are Andhra Pradesh, Assam, Bihar, Gujarat, Haryana, Himachal Pradesh, Karnataka, Kerala, Madhya Pradesh, Maharashtra, Orissa, Punjab, Rajasthan, Tamil Nadu, Uttar Pradesh, and West Bengal, respectively.

witnessed 218 elections in an electoral cycle, the smallest state saw only 68 electoral contests, and the largest state, 407 contests.<sup>6</sup> We construct the post-liberalization period as elections conducted since 1994, providing us with 7 years of data across the pre and post-liberalization periods.

Table 1a displays the summary statistics for the electoral variables. We see that the average electoral constituency had 150,000 voters, and turnout over this period exceeded 60%. While 11 candidates on average contested these elections, the effective number of parties was approximately 3. This attests both to the multi-party structure of Indian democracy, and the number of independent candidates contesting elections. During the period of study, the INC received almost 30% of the popular vote in the average constituency, followed by the BJP (17%), and caste-based parties (13%). The electoral success of political parties mirrored their popular support: thus, the INC won 28% of the elections over this period, followed by the BJP (20%), and caste-based parties (17%). In combination with the Left parties, these four political formations accounted for over three-fourths of electoral victories across India's major states during this period.

#### 3.2 Employment Data

To test mechanisms, we identify the impact of tariff liberalization on employment outcomes using nationally representative household surveys conducted by the National Sample Survey Organisation (NSS). These surveys cover every state and district in India, are typically conducted once every 5 years, and include up to 100,000 households. The employment-unemployment surveys detail for every household member their employment status, occupation type, and sector of employment. Additional information on demographic characteristics and educational attainment is also included. We use the detailed NSS data to identify whether workers were self-employed, or engaged in salaried or casual work, as well as their sector of employment – namely farm, manufacturing, trade and services.

Our paper uses 2 NSS survey rounds, conducted in 1987-88 (round 43) and 1999-00 (round 55), respectively. Our primary sample is restricted to individuals aged between 15 and 55 and covers in excess of 1 million working-aged individuals. Table 1b shows some broad characteristics. Over three-fourths of the individuals sampled resided in rural areas with the average age being 31 years. A little over a fourth hailed from historically marginalized SC (*Dalit*) and ST (*Adivasi*) communities.

 $<sup>^{6}</sup>$  2 states saw less 100 elections, 5 between 100 and 200 elections, 6 between 200 and 300 electoral contests, and 3 in excess of 300 elections.

While over half the workforce was literate, only 16 percent had completed secondary or higher education, pointing to a relatively low skilled workforce. Overall unemployment during this period was low at 2 percent, and the labour force participation rate was 60 percent.

About half of the workforce were either self-employed, or employed as casual workers, while under 10 percent of the workforce had salaried positions. Over a third of the workforce was employed in farm activities, and between 5 and 7 percent were employed in each of manufacturing, trade and services. At the aggregate level, there was little change in the decade following trade liberalization in aggregate sectoral employment patterns, or labour force participation.

The NSS data also has information on daily activities and wages. The NSS records for each individual activities undertaken during the week preceding the survey. For each activity, we scale the total wages earned during the week by the number of days worked to compute the daily average wage for that activity. As trade liberalization could have affected the returns to labour, we use data from 1987-88 to gauge wages across various activities and sectors. Appendix Table A1 shows a large disparity between urban and rural wages, and wages for educated workers. The average daily urban wage was twice the daily rural wage. This difference diminishes significantly conditional on the completion of secondary or higher education, with urban and rural wages being very comparable till the  $75^{th}$  percentile. There also existed a large premium for salaried work in both urban and rural areas. Expectedly, manufacturing and service occupations provided the largest returns to labour, while farm work offered the lowest return to labour. Average farm wages were lower by a factor of 4 relative to manufacturing and service wages, and the dispersion widens as one moved through the wage distribution.

## 4 Empirical Strategy

This section describes the empirical strategy used to causally identify the electoral consequences of trade liberalization. In essence, we adopt the empirical strategy of Topalova (2010) and compare electoral outcomes across regions with relatively high exposure to tariff reforms, to those with low exposure. Our primary estimating equation takes the form:

$$Y_{cdt} = \alpha_c + \delta_{st} + \beta Tariff_{dt} + \gamma \mathbf{X}_{cdt} + \epsilon_{cdt} \tag{1}$$

The unit of observation in specification (1) is the electoral constituency c, located in district d,

and in election year t. Y denotes two key outcomes of interest: first, the extent of popular support for the Congress party, captured by INC vote share –  $VS_{cdt}^{INC}$ . This equals the number of votes cast in favour of the INC candidate, scaled by the total votes cast in the constituency. Second, an indicator equaling 1 if the INC won the election:  $Pr(Win_{cdt}^{INC} = 1)$ .  $\alpha$  and  $\delta$  are constituency and state-time fixed effects. The former accounts for time-invariant constituency level characteristics determining local support for parties such as historical factors affecting the depth of political networks. State-time fixed effects partial out time-varying state-level characteristics common to all constituencies within the state and affecting electoral support to the INC.  $\delta$  thus controls for aggregate state-electoral cycle specific shifts in political support such as an overall wave in favour (or against) the INC. X is a vector of time-varying constituency and district-level covariates which are likely to affect the relationship between trade liberalization and electoral support. This includes local factors such as constituency voter turnout and the number of contestants in the election, as well as regional demographic characteristics such as district literacy, and measures of financial and physical infrastructure. Standard errors are clustered by district, and we account for the varying population sizes of constituencies by weighting each specifications with the number of registered voters in each electoral constituency.

The independent variable of interest is  $Tarif f_{dt}$ , measuring district d's tariff exposure in year t. This variable is directly sourced from Topalova (2010), under the assumption that all constituencies within a district is equally exposed to the tariffs.<sup>7</sup>  $Tarif f_{dt}$  is a weighted sum of commodity-level tariffs across 5,000 commodities, with the weights derived from the fraction of district workers engaged in the production of the commodity. Thus, as defined in Topalova (2010),  $Tarif f_{dt} = \sum_{j} \frac{Workers_{j,d,1991}}{Workers_{d,1991}} \times Tarif f_{jt}$  where j indexes the commodity. Commodity-level tariffs are computed for the years 1987 and 1997, with the former capturing the pre-liberalization period, and the latter, the post-liberalization period. Consequently,  $Tarif f_{dt}$  represents the degree of trade protection accorded to each district, as a function of the pre-liberalization employment patterns in the district. For a given reduction in the tariff rates for any commodity j, districts with a larger pre-liberalization share of workers engaged in the production of commodity j would be more affected (exposed) by the lowering of tariff rates. For our purposes, we map  $Tarif f_{d,1987}$  to state-level elections conducted between 1987 and 1993, and  $Tarif f_{d,1997}$  to elections conducted between 1994 and 2000.

<sup>&</sup>lt;sup>7</sup> Importantly for our research design, the boundaries of electoral constituencies in state assembly elections do not overlap across districts, reducing concerns of spillovers.

 $\beta$  in equation (4) compares electoral outcomes across constituencies located in regions with a high exposure to import tariffs, relative to those with a low exposure to tariffs. The presence of state-time fixed effects imply that we are comparing electoral outcomes across two constituencies in the same state and electoral cycle, with one constituency located in a district with high  $Tariff_{dt}$ , relative to a constituency in a district with low  $Tariff_{dt}$ . The identifying assumption for a causal interpretation of  $\beta$  is that conditional on the fixed effects and covariates, unobservables predicting local electoral support for the Congress Party should be uncorrelated with  $Tariff_{dt}$ . It is worth noting that our empirical strategy does not provide a causal interpretation of the impact of tariff liberalization on electoral outcomes, but compares the change in electoral outcomes across districts experiencing a relatively high level of tariff reforms, to districts witnessing a low level of tariff reforms.

Topalova (2010) offers two key arguments in support of the empirical strategy: first is the sudden and unanticipated change in the tariff rates due to the liberalization process initiated in 1991. As the reduction in tariffs was part of a broader agreement with international financial institutions, the initial changes in tariffs were undertaken in a rapid and haphazard manner. A key concern is whether the government liberalized tariffs for commodities in industries with higher productivity, who would be better placed to compete with foreign imports. Reassuringly, Topalova (2010) finds no correlation between industry-level productivity and future tariff rates up to 1997.

Second, it is possible that districts' pre-liberalization employment patterns were correlated with factors affecting partisan support to political groups. For instance, the tariff rate assigned to non-traded commodities is 0, implying that districts with a large share of workers employed in non-tradable sectors would see little variation in  $Tariff_{dt}$  over time. If these districts were initially poorer and there was convergence in district characteristics over time, it can affect voting patterns and bias the estimated  $\beta$  coefficient. We use the approach of Topalova (2010) to instrument districts' aggregate exposure to tariffs across all commodities, with districts' exposure to tariffs only for traded commodities. Thus, the instrument,  $TrTariff_{dt}$  is defined as  $TrTariff_{dt} = \sum_{j} \frac{Workers_{T_{i}}^{T}d_{1991}}{Workers_{1,991}^{T}} \times Tariff_{jt}$  where  $Workers^{Tr}$  refers to workers engaged in the production of traded commodities. As discussed in Topalova (2010), TrTariff is independent of the size of the non-tradable sector. Resultantly, two districts with equivalent employment distributions across traded industries would have equal values of TrTariff, irrespective of the number of workers engaged in the production of non-tradables.

To be a valid instrument,  $TrTariff_{dt}$  has to satisfy two conditions: namely, it has to be strongly

correlated with the endogenous variable, and conditional on the set of covariates, affect local electoral outcomes only through its impact on  $Tariff_{dt}$ . Appendix Figure A5 shows the unconditional correlation between the endogneous variable and the instrument. Reassuringly, the relationship is positive, with the unconditional correlation coefficient equaling .099 (s.e. .007).<sup>8</sup> This points a strong first stage. To assess the validity of the exclusion restriction, we empirically test whether pre-liberalization values of the instrument predict pre-liberalization district covariates. The intuition is to test whether the instrument is correlated with observed district characteristics, which can also independently affect our outcomes of interest. If the instrument is uncorrelated with observable district characteristics, we can infer that it is likely to be uncorrelated with district unobservables.

Appendix Tables A2-A3 individually regresses 27 district observables on the instrument. All regressions include state fixed effects, but no other covariates, with the standard errors being clustered by state. The instrument predicts 3 covariates at a significance level of 5% or better, and there is a weak correlation for four other covariate at the 10% level. Importantly, the bottom-right panel of Figure A1 shows little evidence of any direct correlation of the instrument with Congress Party vote shares in the pre-liberalization period. In summary, Appendix Tables A2- A3 indicate that the instrument in the pre-treatment period had a modest correlation with observable pre-treatment district characteristics, offering support in favour of the instrument satisfying the exclusion restriction.

#### 4.1 Descriptive Trends

Prior to a rigourous identification of the impact of import tariffs on electoral outcomes, we present some aggregate descriptive trends. Figure 2 shows kernel density plots of the distribution of district-level tariff exposure -(Tariff) – between 1987 and 1997. We find a sharp leftward shift in the distribution in the aftermath of trade liberalization, consistent with the overall reduction of nominal tariff rates. The figure shows that the average district experienced a reduction in tariff protection through the 1990s. Furthermore, the distribution of tariff exposure is tighter in 1997, and bereft of a long right-tail, signalling the harmonization of tariffs across commodities.

Figure 3 graphically shows the reduced form relationship between the instrument (TrTariff) and the electoral performance of the Congress Party. For each district in the sample, we compute the difference in the value of the instrument between 1997 and 1987. Likewise, we compute the change

 $<sup>^{8}</sup>$  Including district and time fixed effects marginally reduces this correlation to .096 (s.e. .047).

in the average INC vote share in the district between the post and pre-liberalization periods and plot it against the change in average tariff exposure for traded commodities. Figure 3 thus plots the unconditional first difference estimator for the relationship between electoral performance and districts' tariff protection. The figures are shown as binned scatter plots and shows an upward sloping relationship. This points to a larger decline in the Congress Party's electoral performance (vote shares and fraction of elections won) in districts facing a larger reduction in tariff protection. Consistent with hypothesis H1, Figure 3 offers preliminary evidence that the INC lost popular support in areas with higher exposure to tariff reforms. The next sections rigorously estimate this relationship using the instrumental variables strategy and explore possible mechanisms explaining the same.

## 5 Results

We now discuss our key findings. We first document the impact of the tariff reforms on the Congress Party, which was responsible for initiating the policies of tariff liberalization. We next examine regional heterogeneity and the impact of the reforms on non-Congress parties.

#### 5.1 Tariff Reforms and INC Electoral Performance

Table 2 identifies the impact of the tariff reforms on the electoral performance of the INC. We use the instrumental variables specification discussed in Section (4), where districts' tariff exposure  $(Tariff_{dt})$  is instrumented by districts' exposure to traded tariffs  $(TrTariff_{dt})$ . The outcome of interest in columns (1)-(4) is constituency-level vote share; in columns (5)-(8), a binary equaling 1 if the INC won the election. All specifications include constituency and state-election year fixed effects. The latter implies that we are comparing electoral outcomes within the same state and electoral cycle, partialing out aggregate state-level voting trends in each electoral cycle. All specifications are weighted using the number of registered voters in each constituency. Standard errors are clustered by district.

Columns (1) and (5) include only constituency and state-year fixed effects. We identify a positive coefficient associated with *Tariff*, significant at the 5% level.<sup>9</sup> As Figure 2 showed that districts faced an average reduction in tariff exposure between 1987 and 1997, the change in  $Tariff_{dt}$  over this period is negative, and the coefficient signifies a reduction in electoral support to the INC in regions

<sup>&</sup>lt;sup>9</sup> The coefficient in column (5) is significant at the 1% level.

facing larger reductions in tariff exposure. We sequentially add covariates in the remaining columns of Table 2. Columns (2) and (6) include constituency-level covariates such as voter turnout, the number of contestants, and whether the constituency is reserved for candidates hailing from historically marginalized groups. Columns (3) and (7) add in a number of district covariates: namely district employment and educational characteristics, as well district physical and financial infrastructure. As trade liberalization can plausibly affect these factors, we use pre-liberalization values, interacted with a post-1993 indicator. The inclusion of these covariates have little impact on the IV coefficient.

Section 2.1 mentioned that the reduction and harmonization of import tariffs was one segment of a set of structural adjustment policies initiated in 1991. Tariff liberalization was accompanied by extensive industrial deregulation and the gradual opening of the economy to foreign capital. It is plausible that regional exposure to tariff reforms is picking up the impact of these contemporaneous policy changes, resulting in a misattribution of the decline in electoral support for the INC to tariff liberalization. We directly test for this by including these measures, developed in Topalova (2010) in our primary specifications. If the positive coefficient on tariff exposure is driven by these other reforms, correlated with the reduction in tariffs, the inclusion of these variables in the covariate vector should attenuate our coefficient of interest towards 0. Reassuringly, columns (4) and (8) of Table 2 shows this not to be the case – while there is a small degree of attenuation, the coefficient estimate remains positive, statistically significant at the 5% level, and indistinguishable in magnitude to those obtained in columns (1) and (4) using only constituency and state-year fixed effects. Subsequently, we use this as our preferred specification and all results discussed hereon include constituency and district covariates, in addition to constituency and state-year fixed effects.

To assess the magnitude of the coefficients identified in columns (4) and (8), we note that tariff exposure declined in the average district by .057.<sup>10</sup> Scaling the coefficients in columns (4) and (8) by .057 implies a 2 percentage point decline in INC vote shares, and a 7 percentage point reduction in the likelihood of winning an election to the state legislative assembly. Moving from a constituency in a district at the bottom decile of tariff reforms to the top decile reduces INC vote shares by 3 percentage points, and the likelihood of winning by 11 percentage points.

Appendix Table A4 presents the OLS and reduced form coefficients corresponding to the IV

 $<sup>^{10}</sup>$  Average tariff exposure across districts in the pre-liberalization period was .085, reducing to .028 in the post-liberalization period.

specification. Expectedly, the reduced form coefficients, are directionally equivalent to the IV coefficients. The OLS coefficients too are statistically significant but an order of magnitude smaller than the IV coefficients (in absolute value). The relative magnitudes of the IV and OLS coefficients points to a positive bias affecting OLS estimation. This is possible if unobservables predicting electoral support to the Congress was positively correlated with regional exposure to tariffs. For instance, if the strength of Congress party networks was positively correlated with  $Tariff_{dt}$ , it could lead to an under-estimation of the true reduction in electoral support to the Congress in the aftermath of trade liberalization, leading to a smaller coefficient corresponding to  $Tariff_{dt}$ .

Table 2 provides causal empirical evidence supporting Hypothesis H1, that electoral support for the party associated with trade liberalization would be lower in areas with higher exposure to the tariff reforms. H1 also posited that this effect would be magnified when the INC would be an incumbent, either at the local constituency, or state-level, as the party would be directly in charge of administrative responsibilities. Columns (1)-(2) and (4)-(5) of Appendix Table ?? provides empirical evidence in favour of this hypothesis: conditional on exposure to tariff reforms, the decline in electoral support to the Congress was driven primarily in a) constituencies where the INC was the local incumbent, or b) constituencies located in states where the INC was the incumbent party in the state. The results are consistent with the explanation that voters with higher exposure to trade liberalization electorally punished the INC when the party held executive power, either locally, or regionally. Importantly, the coefficient associated with the *Local Incumbent* dummy is negative and statistically significant at the 1% level. While a causal interpretation cannot be assigned to this coefficient, it confirms that in areas with higher exposure to tariff reforms, electoral support to the Congress declines further, over and beyond the average incumbency effect. Exposure to trade liberalization thus further accentuates the incumbency effect faced by the Congress party during this period.

#### 5.1.1 Robustness

We subject the baseline results in Table 2 to three robustness checks in Table 3. As before, the outcome of interest in columns (1)-(3) is Congress vote share; in columns (4)-(6), Congress' likelihood of winning an election to the state legislative assembly. Columns (1) and (4) estimates the baseline specification but includes an additional instrument.  $TrTariff_{dt}$  computes regional tariff exposure as the weighted sum of commodity-specific tariffs, with the weights comprising of the regional share of workers employed in the production of each commodity. Topalova (2010) cautions that this tariff measure is likely to be correlated with initial levels of poverty and income. To guard against this, her paper suggests adding a second instrument, where the pre-liberalization values of the instrument,  $TrTariff_{d,1987}$ , is interacted with a post-1991 indicator. Ressuringly, our results do not exhibit any significant variations when this additional instrument is included.

Columns (2) and (5) show that our results are unchanged if the sample is restricted to elections conducted in the year 1996. As noted in Section 2.2, the Congress party was displaced in the national elections in 1996 as the federal ruling party. While our primary sample extends till 2000 as progress on tariff liberalization continued through 1997, providing us with a larger sample to estimate the electoral consequences of trade liberalization, columns (2) and (5) show that the results are comparable even if we use a limited sample, concluding with the period in which the INC was the federal ruling party, and solely responsible for trade policy. Columns (3) and (6) show that our results are robust to excluding the constituency-specific population weights used to account for the varying sizes of electoral constituencies, albeit at the 10% level (p-values ).

Finally, Figure 4 shows that the relationship between exposure to tariff reforms and INC electoral performance is not specific to any state. Here, we re-estimate our baseline specification, but drop one state at a time and present the results in the form of coefficient plots. The vertical lines denote 95% confidence intervals and across both outcomes of interest, the coefficients are stable to the omission of individual states. This allays concerns that the identified negative relationship between tariff reforms and INC popular support is attributable to other confounding regional policy interventions whose timing was correlated with economic liberalization, and targeted towards regions with high exposure to tariff reforms.

#### 5.2 Heterogeneity by Regional Characteristics

The empirical results discussed till now show that popular support to the INC declined in regions with higher exposure to tariff reforms. We now explore heterogeneity by regional characteristics to tease out the dynamics of this decline in popular support. In the absence of data at the level of electoral constituencies, we focus instead on three district characteristics: namely urbanization, education, and concentration of marginalized populations.

Our choices are designed to capture variations in regions' ability to cope with liberalization shocks.

Rodrik (2021) notes that the absence of physical, financial and human capital infrastructure in rural areas can hinder their ability to adapt to changes unleashed by the forces of globalization. This can exacerbate existing urban-rural inequities, leading to narrower support for trade liberalization and altering support for political formations responsible for such policies. Similarly, the absence of skills can limit workers' mobility, both geographically, and sectorally, reducing their ability to cope with disruptions arising due to heightened trade openness. Finally, the historical discrimination of marginalized citizen groups from accessing public resources reduced their ability to adjust to globalization-induced shocks due to inadequate human and social capital. Additionally, such groups have a higher likelihood of being employed in sectors and occupations with lower social protection, increasing their vulnerability to changes brought about by trade liberalization.

Table 4 explores the differential effects of exposure to tariff reforms on Congress electoral support across these three characteristics. For each characteristic of interest, we use the NSS survey round in 1987 to classify districts as "high" (above median) or "low" (below median), and use the following triple difference specification:

$$Y_{cdt} = \alpha_c + \delta_{st} + \beta_1 Tariff_{dt} + \beta_2 Tariff_{dt} \times HighChar_d^k + \gamma \mathbf{X}_{cdt} + \epsilon_{cdt}$$
(2)

 $HighChar^k$  represents the characteristic of interest.  $\beta_1$  identifies the impact of higher tariff protection on political support for the INC in constituencies located in districts with low values for the characteristic of interest;  $\beta_2$  tests for any differential effects of tariff protection on INC political support across constituencies in districts with a relatively high value of characteristic k.

Columns (1) and (4) examine heterogeneity by urbanization. While the coefficients are noisy, it suggests that the decline in political support to the INC in response to tariff reforms was concentrated in consitutencies situated in relatively rural districts. The  $\beta_2$  coefficient is positive, and significant at the 10% level in column (4), while the  $\beta_1$  coefficient is halved in magnitude and no longer statistically significant. The sum of  $\beta_1$  and  $\beta_2$  is statistically significant at the 1% level, confirming that the reduction in tariff protection negatively impacted political support for the Congress in districts with low urbanization. This is akin to the observation of Rodrik (2021) that globalization can widen existing urban-rural cleavages, leading to divergent voting behaviour.

Columns (2) and (5) examines heterogeneity by regional educational attainment and shows that the reduction in political support to the Congress is driven entirely by areas with low educational attainment in the form of secondary education. Thus, in areas with low secondary education, a mean reduction in tariff exposure by .057 reduced Congress vote shares by almost 3 percentage points and the likelihood of winning an election by 11 percentage points. The coefficient on the triple interaction term is in fact negative, indicating that the reduction in INC political support in response to lower tariff protection is partially offset in areas where a relatively high fraction of adults have completed secondary education.<sup>11</sup> The findings resonate with those of Dippel et al. (2022), who show that exposure to trade liberalization affects voting behaviour in German regions with a high concentration of low-skilled manufacturing workers.

Finally, columns (3) and (6) examine heterogeneity by areas with a high concentration of marginalized citizens – namely SC (*Dalit*) and ST (*Adivasi*) populations. As briefly outlined in Section 2.3, these groups have faced centuries of discrimination in terms of access to education and public resources. This has led to their concentration in rural areas, and constrained their accumulation of human capital. The upshot is that workers hailing from these communities have a higher likelihood of being self-employed, or employed in non-salaried work with significantly lower returns to labour, and limited social insurance. This in turn can negatively affect their ability to cope with disruptive shocks such as those induced by trade liberalization and import competition.

The evidence in columns (3) and (6) broadly supports this argument, especially for regions with a high concentration of SC population. First, we find that the  $\beta_1$  coefficient is positive and significant in both instances. Thus, political support for the INC declined in response to higher tariff reforms even in districts with a relatively low concentration of SC and ST citizens. Second, the coefficient on the interaction term ( $\beta_2$ ) is positive (negative) for districts with a relativel high fraction of SC (ST) population The sum of  $\beta_1$  and  $\beta_2$  are significantly different from 0 in both instances. Thus, on the whole, electoral support to the INC declined in response to a reduction in protection from tariffs across constituencies in areas with a low concentration of both SC and ST populations. However, this decline was accentuated (attenuated) in areas with a relatively high share (low) of SC (ST) citizens.

<sup>&</sup>lt;sup>11</sup> The sum of the coefficients is significant at the 5% level across both columns (2) and (5), suggesting that while political support for the INC declined in response to high exposure to tariff reforms, regardless of educational qualifications of voters, this reduction was lower in constituencies located in districts with a larger share of secondary educated adults.

#### 5.3 Trade Liberalization and Other Parties

The results presented till now have identified a decline in electoral support to the Congress Party in areas experiencing a reduction in tariff protection in the aftermath of trade liberalization. The decline in electoral support is magnified in areas with relatively low urbanization and low educational attainment. We now explore the political formations which possibly gained from the decline in Congress support. Section 2.2 noted that India has been a multi-party democracy, and two major political formations – namely the right-wing BJP, and caste-based parties – witnessed their political ascendancy in the period coinciding with tariff liberalization. We now explore whether these parties gained from the shift away from INC votes in areas with higher exposure to trade liberalization.

Table 5 identifies the impact of tariff reforms on major non-Congress parties. The outcome of interest in columns (1)-(3) is party vote shares; in columns (4)-(6), the likelihood of winning an election to the state legislative assembly. The party of interest in columns (1) and (4) is the BJP; in columns (2) and (5), Left parties; in columns (3) and (6), caste-based parties. We use our preferred specification, including constituency and state-year fixed effects, in addition to district and constituency-level controls. Aggregate district tariff exposure continues to be instrumented by districts' exposure to traded tariffs and standard errors are clustered by district. The results offer little evidence of a causal impact of exposure to tariff reforms on the electoral performance of these parties. While the point estimates in each instance are negative, the confidence intervals are wide enough to not rule out a null effect. The only suggestive evidence we find relates to caste-based parties, which reports the largest coefficient estimate in magnitude.

Table 6 explores heterogeneity in the relationship between tariff reforms and the electoral performance of non-Congress formations across regional characteristics. The findings are quite striking: conditional on exposure to tariff reforms, we identify for caste-based parties a significant increase in popular support in areas with low urbanization (Panel A), low educational attainment (Panel B) and high SC population (Panel C). This coincides with areas where the losses to political support for the INC were concentrated, pointing to a switch in voting preferences from the INC to caste-based parties in areas with higher exposure to tariff reforms, *and* where citizens are likely to have low shock-coping capabilities.

Section 2.2 noted that caste-based parties championed the political advancement of marginalized low caste populations – SCs and OBCs in particular. In addition to political representation, these parties promised (and often implemented after attaining executive power) increased affirmative action in public employment. Aneja and Ritadhi (2022) also shows that these parties increased welfare transfers to low caste citizens in the form of subsidized food grains delivery. If the costs of tariff reforms were disproportionately borne by marginalized citizen groups with limited social protection from large globalization shocks, a plausible explanation to our findings is that these groups switched their allegiance from the Congress to caste-based parties which promised redistributive transfers to affected communities. We examine this further in our exploration of mechanisms.

## 6 Mechanism

This section explores potential mechanisms explaining the impact of trade liberalization on electoral outcomes.

#### 6.1 Tariff Reforms and Employment

A large body of literature have empirically documented the negative impact of higher trade exposure on employment and wage outcomes across both developed and developing economies. In the Indian context, Topalova (2010) showed a reduced pace of poverty reduction in regions with higher exposure to tariff reforms, attributable primarily to workers' inability to shift across sectors when face with increased trade openness. In the U.S., Autor et al. (2014) found slower wage growth for low skilled workers in regions facing increased import competition from China. This leads us to examine whether employment patterns were affected by tariff reforms, and whether this varied by workers' location, skills and social identity. We undertake this exercise by identifying the impact of the tariff reforms on the extensive margin of employment, and consider both occupational categories, and sectoral outcomes. Specifically, we use the NSS data to estimate the following specification:

$$\Pr(Y^{j} = 1)_{idt} = \alpha_{d} + \delta_{st} + \beta Tariff_{dt} + \gamma \mathbf{X}_{idt} + \epsilon_{idt}$$
(3)

Y now is a binary indicator equaling 1 if individual *i*, residing in district *d* is employed in occupation/sector *j*, during NSS survey round *t*. Since the NSS data is of the form of repeated cross-sections, we include district ( $\alpha$ ), and state-year fixed effects ( $\delta$ ). The empirical strategy thus compares employment outcomes for individuals in the same state and survey round, with one individual

residing in a district with high exposure to tariffs, relative to another residing in a district with low exposure to tariffs.

X now contains a number of individual level characteristics, in addition to the district covariates discussed in Section 5.1. Specifically, we control for a quadratic in worker age, location (urban or rural) and gender dummies, dummies for social and religious groups, literacy, and the completion of primary, secondary and higher education. Additional covariates capturing household characteristics such as the number of children are also included.  $Tariff_{dt}$  continues to be instrumented by  $TrTariff_{dt}$ , as described in Section 4. Alike Topalova (2010), we use data from two NSS survey rounds – namely 1987-88 and 1999-00. The sample is restricted to adults aged between 18 and 60 years. All specifications are weighted using household-specific weights provided by the NSS and standard errors are clustered by district.

Table 7 finds no evidence of an average effect of regional exposure to tariff reforms on individual employment outcomes across either occupation categories, or employment sectors. The only weak evidence we find is in columns (6) and (9), showing that the likelihood of farm employment increased in districts with higher exposure to tariff reforms, and the likelihood of being employed in service activities declined. Unlike Autor et al. (2013) in the U.S., there is effect of higher exposure to tariff reforms on overall unemployment, manufacturing employment, or labour force participation.

Table 8 uncovers significant heterogeneity in the impact of trade liberalizations on employment outcomes across location and individual characteristics. Panel A considers heterogeneity across urban and rural working age individuals. The uninteracted  $Tariff_{dt}$  coefficient corresponds to individuals living in urban areas. Columns (3)-(5) shows that the likelihood of being employed in casual work declined sharply for urban individuals in regions with higher exposure to tariff reforms. This was accompanied by an increase in the likelihood of salaried work, and self-employment.<sup>12</sup> The increase in the likelihood of salaried employment is substantial: for a district experiencing the average change in tariff exposure during this period, the likelihood of salaried work for urban individuals increased by 1.6 percentage points, relative to a pre-liberalization mean of 22 percent. Sectorally, columns (7) and (8) point to a reallocation of urban workers across the manufacturing and trade sectors. This is consistent with the findings of Autor et al. (2013), who show import competition to have negatively affected manufacturing activity.

 $<sup>^{12}</sup>$  The latter coefficient is not precisely estimated (p-value .115).

Appendix Table A7 shows that the decline in urban manufacturing activity is driven by individuals lacking secondary education.<sup>13</sup> This is further borne out in Panel B of Table 8 where we examine heterogeneity by the completion of secondary education. Column (6) shows a higher likelihood of secondary educated individuals to find employment in both manfacuturing and trading activities. This is accompanied by an increase in the likelihood of self-employment, and a reduction in the likelihood of casual work and overall unemployment. Thus, while low skilled urban workers exited the manufacturing sector in areas with higher exposure to trade liberalization, workers with secondary education actually gained in areas with higher exposure to tariff reforms by entering the manufacturing sector and exiting casual work.

Finally, Panel C considers heterogeneity across individuals from marginalized SC and ST communities. As mentioned in Section 2.2, centuries of social discrimination have resulted in low levels of human capital for individuals hailing from these communities, and pushed them to the margins of society. Thus, in the pre-liberalization period, more than 85% of working-aged SC/ST individuals resided in rural areas (relative to 72% non-SC/ST individuals), while only 5% had completed secondary education (relative to 16 percent non-SC/ST). If the economic dislocation brought about by trade liberalization was concentrated amongst low-skilled workers, it is likely that SC/ST workers would also have been negatively affected by higher exposure to tariff reforms.

The results in Panel C of Table 8 are consistent with our expectations. While exposure to tariff reforms does not affect employment outcomes for non-SC/ST working age individuals, there are sharp negative effects for SC/ST individuals. In terms of occupation categories, there is evidence suggestive of a shift away for workers from these communities from salaried work, to casual worker. In terms of sectoral work, the coefficients indicate a shift away from non-farm activities to farm work.

## 7 Discussion

The empirical results across Sections 5 and 6 offer two key insights. First, conditional on regional exposure to tariff liberalization, the decline in popular support to the Congress party was concentrated in areas with low urbanization, low educational attainment, and higher marginalized populations. Second, in areas with higher exposure to tariff reforms, individuals from marginalized communities

<sup>&</sup>lt;sup>13</sup> The increase in trade activity is driven both by secondary educated and non-secondary educated individuals.

were differentially affected in terms of lower employment opportunities in non-farm activities. While non-SC/ST working age individuals were relatively unaffected by variations in exposure to tariff reforms, we do find an increase in the likelihood of being employed in the manufacturing sector for secondary educated workers.

Table A1 records the differential returns to labour across both workers' education and sectors, with manufacturing and service activities offering the highest wages prior to liberalization, and farm activities the lowest. Tying in the descriptive statistics with the findings discussed in Section 6, the lack of educational qualifications constrain individuals from under-privileged groups to benefit from trade liberalization by gaining employment in manufacturing activities. On the contrary, these individuals are pushed away from these sectors to farm activities yielding the lowest returns from employment. Collectively, the empirical findings point to an asymmetric distribution of the costs of trade liberalization, which are concentrated amongst vulnerable citizen groups with low skills. The disproportionate decline in the Congress' electoral performance in areas with a high concentration of these populations indicate that the losers from trade liberalization voted against the Congress, especially when they were the local or regional incumbent, resulting in an aggregate electoral decline for the party.

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# 8 Figures



Figure 1: Electoral Performance of Congress Party over Time

*Notes:* The above figure shows the vote share and fraction of elections won by the Congress Party in state legislative assembly elections between 1982 and 2012. Elections to 16 of India's largest states are considered. The data are aggregated in 3 year intervals to smooth out annual fluctuations. The x-axis years denotes the final year in each interval. The vertical dashed line shows the onset of the economic liberalization programme.



## Figure 2: District Exposure to Import Tariffs

Notes: The above figure shows the distribution of districts' exposure to import tariffs in 1987 and 1997.

Figure 3: District Exposure to Traded Tariffs and Congress Party Electoral Performance: Unconditional First Differences



Notes: The above figure shows the change in district-level traded tariffs and the electoral performance of the Congress Party in state legislative assembly elections. The data is collapsed to the district level and changes are computed as long differences between the post and pre-liberalization periods. Traded Tariffs corresponds to  $TrTariff_{dt}$  described in Section 4.

Figure 4: Import Tariff Liberalization and Congress Electoral Performance: Robustness to Dropping Individual States



*Notes:* The above figure shows the robustness of the baseline results to dropping individual states. The outcome of interest in the left panel is INC vote shares; in the right panel, a dummy equaling 1 if the INC won the election. All specifications include constituency and state-year fixed effects, along with constituency and district covariates. Districts' exposure to import tariffs (*Tariff*) is instrumented using districts' exposure to traded tariffs. Standard errors are in parentheses, clustered by district. The vertical lines correspond to 95% confidence intervals.

# 9 Tables

	Ν	Mean	SD	Min	Max
Registered Voters	10495	156044.368	52007.373	18134.000	1494090.000
Voter Turnout	10495	64.461	12.003	0.000	100.000
Contestants	10507	11.726	7.809	0.000	50.000
Effective Number of Parties	10492	3.190	1.136	1.191	13.204
Reserved SC/ST	10507	0.229	0.420	0.000	1.000
INC Contestant	10507	0.906	0.292	0.000	1.000
BJP Contestant	10507	0.699	0.459	0.000	1.000
Left Contestant	10507	0.295	0.456	0.000	1.000
Caste-Based Contestant	10507	0.686	0.464	0.000	1.000
INC Vote Share	10506	0.291	0.168	0.000	0.890
BJP Vote Share	10507	0.172	0.186	0.000	0.827
Left Vote Share	10507	0.078	0.167	0.000	0.966
Caste Party Vote Share	10506	0.134	0.174	0.000	0.914
INC Win	10507	0.278	0.448	0.000	1.000
BJP Win	10507	0.208	0.406	0.000	1.000
Left Win	10507	0.105	0.306	0.000	1.000
Caste Party Win	10507	0.170	0.376	0.000	1.000
INC Incumbent	10507	0.340	0.474	0.000	1.000
Male Winner	10507	0.950	0.217	0.000	1.000

 Table 1a:
 Summary Statistics:
 Electoral Outcomes

*Notes*: This table shows the summary statistics for political outcomes. The unit of observation is the electoral constituency. The sample is restricted to elections to the state legislative assembly, conducted between 1987 and 2000, across 16 of India's largest states.

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	Ν	Mean	SD	Min	Max
Female	589382	0.491	0.500	0.000	1.000
Rural	589382	0.750	0.433	0.000	1.000
Dalit (Scheduled Caste)	589382	0.189	0.391	0.000	1.000
Adivasi (Scheduled Tribe)	589382	0.089	0.285	0.000	1.000
Age	589382	31.293	11.368	15.000	55.000
Literate	589382	0.534	0.499	0.000	1.000
Primary Education	589382	0.122	0.328	0.000	1.000
Secondary Education	589382	0.103	0.304	0.000	1.000
Higher Education	589382	0.041	0.198	0.000	1.000
LFP	589382	0.618	0.486	0.000	1.000
Unemployed	589382	0.021	0.143	0.000	1.000
Self-Employed	589382	0.297	0.457	0.000	1.000
Salaried Worker	589382	0.091	0.288	0.000	1.000
Casual Worker	589382	0.208	0.406	0.000	1.000
Farm Work	589382	0.367	0.482	0.000	1.000
Mining	589382	0.004	0.064	0.000	1.000
Manufacturing	589382	0.067	0.249	0.000	1.000
Trade	589382	0.052	0.222	0.000	1.000
Construction	589382	0.027	0.162	0.000	1.000
Services	589382	0.078	0.267	0.000	1.000

Table 1b: Summary Statistics: Employment Outcomexs

*Notes*: This table shows the summary statistics for political outcomes. The unit of observation is the individual. The sample is restricted to individuals aged between 15 and 55 years.

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	
		INC Vo	ote Share		$\Pr(\text{INC Win} = 1)$				
Tariff Exposure	.323**	.425**	.411**	.311**	1.619***	$1.611^{***}$	1.680**	1.169***	
	(.157)	(.173)	(.189)	(.125)	(.614)	(.613)	(.667)	(.429)	
FDI Exposure				009				189	
				(.039)				(.128)	
Licensing Exposure				.019				058	
				(.023)				(.084)	
NTB Exposure				$.371^{***}$				$1.136^{*}$	
				(.135)				(.601)	
Observations	10196	10192	10192	10192	10198	10192	10192	10192	
$\mathbb{R}^2$	01	.07	.08	.08	01	01	.00	.01	
Constituency FE	Υ	Υ	Υ	Υ	Υ	Υ	Υ	Υ	
State-Year FE	Υ	Υ	Υ	Υ	Υ	Υ	Υ	Υ	
Constituency Controls	Ν	Υ	Υ	Υ	Ν	Υ	Υ	Y	
District Controls	Ν	Ν	Υ	Υ	Ν	Ν	Υ	Υ	
Other Reforms	Ν	Ν	Ν	Υ	Ν	Ν	Ν	Υ	
Control Mean	.29	.29	.29	.29	.27	.27	.27	.27	

Table 2: Tariff Liberalization and Electoral Performance of Congress Party

*Notes*: This table identifies the impact of import tariff liberalization on Congress Party's electoral performance. The unit of observation is the electoral constituency. The outcome of interest in columns (1)-(4) is Congress Party vote share; in columns (5)-(8), a dummy equaling 1 if the Congress Party won the election. All specifications include constituency and state-year fixed effects. Columns (2)-(4) and (6)-(8) include constituency-level covariates; columns (3)-(4) and (7)-(8) include district covariates; columns (4) and (8) control for other districts' exposure to other contemporaneous reforms. Districts' exposure to import tariffs (*Tariff*) is instrumented using districts' exposure to traded tariffs. Standard errors are in parentheses, clustered by district. Significant levels: \*10%, \*\*5%, and \*\*\*1%

	(1)	(2)	(3)	(4)	(5)	(6)
	I	NC Vote Shar	e		Pr(INC Win	= 1)
Tariff Exposure	.248**	.258**	.237*	1.025***	.943***	.945*
	(.118)	(.103)	(.133)	(.395)	(.356)	(.487)
Observations	10192	7900	10192	10192	7900	10192
$\mathbb{R}^2$	.08	.05	.09	.01	.01	.01
Control Mean	.29	.29	.30	.27	.27	.30

Table 3: Tariff Liberalization and Electoral Performance of Congress Party: Robustness of Baseline Estimates

*Notes*: This table shows the robustness of the baseline estimates identifying the impact of import tariff liberalization on Congress Party's electoral performance. The unit of observation is the electoral constituency. The outcome of interest in columns (1)-(3) is Congress Party vote share; in columns (4)-(6), a dummy equaling 1 if the Congress Party won the election. All specifications include constituency and state-year fixed effects, along with constituency and district-level covariates. Columns (1) and (4) adds an additional instrument: the interaction of the instrument with a post-liberalization indicator. Columns (2) and (5) restrict the sample to years prior 1997. Columns (3) and (6) present unweighted estimates. Districts' exposure to import tariffs (*Tariff*) is instrumented using districts' exposure to traded tariffs. Standard errors are in parentheses, clustered by district. Significant levels: \*10%, \*\*5%, and \*\*\*1%

 Table 4: Tariff Liberalization and Electoral Performance of Congress Party: Heterogeneity by District Characteristics

	(1)	(2)	(3)	(4)	(5)	(6)		
	IN	NC Vote Sha	ire		$\Pr(\text{INC Win} = 1)$			
Tariff Exposure	.189	.526**	.411**	.566	1.921**	1.332**		
	(.158)	(.241)	(.167)	(.522)	(.818)	(.523)		
Tariff Exposure $\times$ High Rural	.247			$1.219^{*}$				
	(.178)			(.647)				
Tariff Exposure $\times$ High Education		265			928			
		(.219)			(.722)			
Tariff Exposure $\times$ High SC		. ,	.204		. ,	.637		
			(.126)			(.477)		
Tariff Exposure $\times$ High ST			257*			584		
			(.146)			(.481)		
Observations	10192	10192	10192	10192	10192	10192		
$\mathbb{R}^2$	.08	.08	.08	.01	.01	.01		
Control Mean	.29	.29	.29	.27	.27	.27		

*Notes*: This table tests for heterogeneity in the impact of import tariff liberalization on Congress Party's electoral performance across district characteristics. The unit of observation is the electoral constituency. The outcome of interest in columns (1)-(3) is Congress Party vote share; in columns (4)-(6), a dummy equaling 1 if the Congress Party won the election. All specifications include constituency and state-year fixed effects, along with constituency and district-level covariates. Districts' exposure to import tariffs (*Tariff*) is instrumented using districts' exposure to traded tariffs. Standard errors are in parentheses, clustered by district. Significant levels: \*10%, \*\*5%, and \*\*\*1%

	(1)	(2)	(3)	(4)	(5)	(6)
		Vote Shar	es		Pr(Win	= 1)
	BJP	Left Parties	Caste-Based Parties	BJP	Left Parties	Caste-Based Parties
Tariff Exposure	008 (.116)	046 (.073)	246 (.176)	144 (.329)	011 (.183)	346 (.332)
Observations	10192	10192	10192	10192	10192	10192
$\mathrm{R}^2$	.03	.01	.06	.01	.01	.01
Control Mean	.17	.08	.17	.22	.12	.22

Table 5: Tariff Liberalization and Electoral Performance of Non-Congress Parties

Notes: This table shows the impact of import tariff liberalization on the electoral performance of non-Congress parties. The unit of observation is the electoral constituency. The outcome of interest in columns (1)-(3) is party vote-shares; in columns (4)-(6), a dummy equaling 1 if party of interest won the election. All specifications include constituency and state-year fixed effects, along with constituency and district-level covariates. The party of interest in columns (1) and (4) is the BJP; in columns (2) and (5), Left parties; in columns (3) and (6), caste-based parties. Districts' exposure to import tariffs (*Tariff*) is instrumented using districts' exposure to traded tariffs. Standard errors are in parentheses, clustered by district. Significant levels: \*10%, \*\*5%, and \*\*\*1%

			Panel A: Urbanization			
	(1)	(2)	(3)	(4)	(5)	(6)
		Vote Sh	ares		Pr(Win	= 1)
	BJP	Left Parties	Caste-Based Parties	BJP	Left Parties	Caste-Base Parties
Tariff Exposure	057	067	.054	.008	.041	.294
*	(.150)	(.090)	(.199)	(.421)	(.200)	(.444)
Tariff Exposure $\times$ High Rural	.101	.043	606***	308	105	-1.294***
	(.165)	(.086)	(.200)	(.504)	(.184)	(.490)
Observations	10192	10192	10192	10192	10192	10192
$\mathbb{R}^2$	.03	.01	.06	.01	.01	.01
Control Mean	.17	.08	.17	.22	.12	.22
			Panel B: Education			
	(1)	(2)	(3)	(4)	(5)	(6)
		Vote Sh	ares		Pr(Win	= 1)
	BJP	Left Parties	Caste-Based Parties	BJP	Left Parties	Caste-Base Parties
Tariff Exposure	117	.048	465	004	067	-1.424*
•	(.215)	(.125)	(.324)	(.656)	(.290)	(.798)
Tariff Exposure $\times$ High Education	.134	116	.269	173	.070	$1.329^{*}$
* U	(.207)	(.120)	(.278)	(.648)	(.249)	(.713)
Observations	10192	10192	10192	10192	10192	10192
$\mathbb{R}^2$	.03	.01	.06	.01	.01	.01
Control Mean	.17	.08	.17	.22	.12	.22
			Panel C: Marginalized Populations			
	(1)	(2)	(3)	(4)	(5)	(6)
		Vote Sh	ares		Pr(Win	= 1)
	BJP	Left Parties	Caste-Based Parties	BJP	Left Parties	Caste-Base Parties
Tariff Exposure	208	029	067	559	057	264
	(.172)	(.086)	(.214)	(.519)	(.239)	(.446)
Tariff Exposure $\times$ High SC	$.227^{*}$	022	385**	.499	.178	637*
-	(.127)	(.062)	(.162)	(.394)	(.154)	(.356)
Tariff Exposure $\times$ High ST	.179	013	063	.356	025	.216
	(.134)	(.061)	(.156)	(.420)	(.189)	(.371)

**Table 6:** Tariff Liberalization and Electoral Performance of Non-Congress Parties: Heterogeneity by District

 Characteristics

Notes: This table tests for heterogeneity in the impact of import tariff liberalization on the electoral performance of non-Congress parties across district characteristics. The unit of observation is the electoral constituency. The outcome of interest in columns (1)-(3) is vote shares; in columns (4)-(6), a dummy equaling 1 if the party of interest won the election. Columns (1) and (4) pertain to the BJP; columns (2) and (5), to Left parties; columns (3) and (6), to caste-based parties. All specifications include constituency and state-year fixed effects, along with constituency and district-level covariates. Districts' exposure to import tariffs (*Tariff*) is instrumented using districts' exposure to traded tariffs. Standard errors are in parentheses, clustered by district. Significant levels: \*10%, \*\*5%, and \*\*\*1%

 Table 7: Tariff Liberalization and Employment Outcomes

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
			Self-	Casual	Salaried				
	LFP	Unemployed	Employed	Work	Work	Farm	Manufacturing	Trade	Services
Tariff Exposure	010	.005	.068	090	.006	243	.053	.029	.142*
	(.163)	(.057)	(.176)	(.158)	(.116)	(.173)	(.074)	(.045)	(.073)
Observations	545734	545734	545734	545734	545734	545734	545734	545734	545734
$R^2$	.41	.05	.17	.19	.16	.30	.06	.07	.12
Control Mean	.63	.02	.31	.20	.09	.38	.07	.04	.08

Notes: This table shows the impact of import tariff liberalization on employment outcomes. The unit of observation is the individuals. The sample is restricted to individuals aged between 15 and 55. All outcome variables are binary and the specifications used are linear probability models. The outcome of interest in column (1) is labour force participation; in column (2), unemployment; column (3), self-employment; column (4), casual worker; column (5), salaried work; column (6), farm work; column (7), manufacturing activities; column (8), trade; column (9), service activities. All specifications include district and state-time fixed effects, along with individual and district-level covariates. Districts' exposure to import tariffs (*Tariff*) is instrumented using districts' exposure to traded tariffs. Standard errors are in parentheses, clustered by district. Significant levels: \*10%, \*\*5%, and \*\*\*1%

					Panel A:				
					Rural				
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
			Self-	Casual	Salaried				
	LFP	Unemployed	Employed	Work	Work	Farm	Manufacturing	Trade	Services
Tariff	000	.037	326	.564***	276**	.278	.263***	392***	.116
	(.183)	(.062)	(.207)	(.203)	(.125)	(.191)	(.094)	(.071)	(.087)
Tariff $\times$ Rural	008	045*	.490***	744***	.291***	547***	272***	.551***	.035
	(.096)	(.027)	(.109)	(.114)	(.069)	(.127)	(.069)	(.058)	(.055)
Observations	545734	545734	545734	545734	545734	545734	545734	545734	545734
$R^2$	.41	.05	.17	.19	.16	.30	.06	.07	.12
Control Mean	.63	.02	.31	.20	.09	.38	.07	.04	.08
					Panel B:				
					Education				
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
	LDD	TT 1 1	Self-	Casual	Salaried	Б		т I	a .
		Unemployed	Employed	Work	Work	Farm	Manufacturing	Trade	Services
Tariff	001	057	.197	148	.007	243	.099	.070	.116
	(.164)	(.056)	(.174)	(.157)	(.119)	(.174)	(.075)	(.046)	(.074)
Tariff $\times$ Educated	061	.412***	855	.389****	008	005	306****	277****	.172**
	(.100)	(.050)	(.105)	(.096)	(.075)	(.108)	(.057)	(.051)	(.069)
Observations D <sup>2</sup>	545734	545734	545734	545734	545734	545734	545734	545734	545734
R <sup>2</sup>	.41	.05	.17	.19	.16	.30	.06	.07	.12
Control Mean	.63	.02	.31	.20	.09	.38	.07	.04	.08
					Panel C:				
					Marginalized				
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
	LED	TT 1 1	Self-	Casual	Salaried	Ð		m l	а ·
<u>ت</u> : ر	LFP	Unemployed	Employed	WORK	Work	Farm	Manufacturing	1rade	Services
Tariff	.000	.015	.116	016	114	094	.017	.013	.065
m ia aa	(.164)	(.056)	(.185)	(.158)	(.131)	(.188)	(.079)	(.048)	(.080)
Tariff $\times$ SC	.197	.020	.085	373	.465	289	.143	.128	.175
m : a cm	(.096)	(.044)	(.123)	(.136)	(.089)	(.131)	(.070)	(.044)	(.056)
Tariff $\times$ ST	275	063	114	442	.346	823	082	.312	.157
	(.170)	(.036)	(.258)	(.220)	(.102)	(.259)	(.089)	(.062)	(.076)
Observations	545734	545734	545734	545734	545734	545734	545734	545734	545734
R <sup>-</sup>	.41	.05	.17	.19	.16	.30	.06	.07	.12
Control Mean	.63	.02	.31	.20	.09	.38	.07	.04	.08

Table 8: Tariff Liberalization and Employment Outcomes: Heterogeneity by Worker Characteristics

Notes: This table tests for heterogeneity in the impact of import tariff liberalization on employment outcomes across individual characteristics. The unit of observation is the individuals. The sample is restricted to individuals aged between 15 and 55. All outcome variables are binary and the specifications used are linear probability models. The outcome of interest in column (1) is labour force participation; in column (2), unemployment; column (3), self-employment; column (4), casual worker; column (5), salaried work; column (6), farm work; column (7), manufacturing activities; column (8), trade; column (9), service activities. *Rural* is a dummy equaling 1 if the individual resides in a rural location. *Educated* is a dummy equaling 1 if the individual has completed secondary education. All specifications include district and state-time fixed effects, along with individual and district-level covariates. Districts' exposure to import tariffs (*Tariff*) is instrumented using districts' exposure to traded tariffs. Standard errors are in parentheses, clustered by district. Significant levels: \*10%, \*\*5%, and \*\*\*1%

# 10 Appendix

### 10.1 Figures



Figure A1: Electoral Performance of Non-Congress Parties over Time

*Notes:* The above figure shows the vote share and fraction of elections won by non-Congress parties in state legislative assembly elections between 1982 and 2012. Elections to 16 of India's largest states are considered. The data are aggregated in 3 year intervals to smooth out annual fluctuations. The x-axis years denotes the final year in each interval. The vertical dashed line shows the onset of the economic liberalization programme.

Figure A1: District Observables and Congress Popular Support: Demographics, Infrastructure and Tariff Exposure



Notes: The above binned scatterplots show the correlation between observable district characteristics and Congress Party vote shares in elections to the state legislative assembly in the pre-liberalization period between 1980 and 1990. Tariff exposure and traded tariff exposure is computed as per Topalova, corresponding to  $Tariff_{dt}$  and  $TrTariff_{dt}$  described in Section 4.

Figure A2: District Observables and Congress Popular Support: Education, Consumption and Sectoral Employment



*Notes:* The above binned scatterplots show the correlation between observable district characteristics and Congress Party vote shares in elections to the state legislative assembly in the pre-liberalization period between 1980 and 1990. Household consumption is per capita monthly household consumption expenditure (MPCE).

Exposure

Figure A3: District Observables and Congress Electoral Wins: Demographics, Infrastructure and Tariff



Notes: The above binned scatterplots show the correlation between observable district characteristics and Congress Party wins in elections to the state legislative assembly in the pre-liberalization period between 1980 and 1990. Tariff exposure and traded tariff exposure is computed as per Topalova, corresponding to  $Tariff_{dt}$  and  $TrTariff_{dt}$  described in Section 4.



Figure A4: District Observables and Congress Electoral Wins: Education and Sectoral Employment

*Notes:* The above binned scatterplots show the correlation between observable district characteristics and Congress Party wins in elections to the state legislative assembly in the pre-liberalization period between 1980 and 1990. Household consumption is per capita monthly household consumption expenditure (MPCE).

Figure A5: District Exposure to Trade Protection: Tariffs and Traded Tariffs



*Notes:* This figures shows the unconditional correlation between tariffs and traded tariffs. The unit of observation is the district. The figure is depicted as a binned scatterplot.

#### 10.2 Tables

	Ν	Mean	SD	P10	P25	P50	P75	P90
Rural	10913	16.395	154.267	4.000	5.000	8.000	12.800	30.000
Urban	30070	33.786	124.948	8.000	12.500	24.615	41.367	63.346
Rural, Secondary Educated	2073	67.483	795.095	13.333	30.000	40.000	53.300	70.000
Urban, Secondary Educated	19503	63.346	542.523	18.000	30.000	46.429	65.333	93.000
Rural, Salaried	2668	29.833	36.274	5.286	10.000	25.000	41.667	58.333
Urban, Salaried	22559	40.850	143.867	10.000	17.857	31.428	50.000	71.380
Farm	7221	11.964	154.854	4.000	5.000	7.000	10.000	14.000
Manufacturing	11646	52.766	868.129	7.000	12.000	21.429	40.000	60.000
Trade	3489	20.979	37.818	7.143	10.000	16.000	25.000	35.714
Service	26019	52.328	487.276	10.000	20.000	35.480	50.000	74.800

Table A1: Summary Statistics: Daily Wages by Location, Activity, Education and Occupation: 1987-88

*Notes*: This table shows the summary statistics for average daily worker wages in 1987-88. The unit of observation is the individual worker. The sample is restricted workers aged between 15 and 55 years. Secondary educated workers are those who have completed secondary or higher education.

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
			Secondary	Marginalized				Bank
	Rural	Literates	Educated	Populations	Muslims	Landless	Irrigated	Density
Traded Tariff	110*	$.130^{*}$	$.063^{*}$	106	000	.098	.178	.283
	(.059)	(.069)	(.035)	(.091)	(.056)	(.083)	(.139)	(.182)
Observations	360	360	360	360	360	360	360	360
$\mathbb{R}^2$	.38	.59	.46	.29	.39	.47	.67	.63
Control Mean	.74	.47	.15	.25	.14	.51	.42	.68

Table A2: District Exposure to Traded Tariffs and District Characteristics

Notes: This table shows the correlation between pre-treatment values of the instrument, and pre-treatment district covariates. The unit of observation is the district. All specifications include state fixed effects and are weighted using the district population in 1987. Traded Tariff is the instrument  $TrTariff_{dt}$ , defined in Section 4. The outcome of interest in column (1) is the fraction of rural population; in column (2), the fraction of literate adults; in column (3), the fraction of secondary educated adults; in column (4), the fraction of historically discriminated SC/ST population; in column (5), the fraction of Muslims; in column (6), the fraction of rural landless households; in column (7), the fraction of rural land which is irrigated; in column (8), per capita bank branch density. Standard errors are in parentheses, clustered by state. Significant levels: \*10%, \*\*5%, and \*\*\*1%

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
							Consumption
	Farm	Manufacturing	Mining	Construction	Trade	Services	(Log)
Traded Tariff	135*	.097**	010	.007	.019*	.022	.579
	(.068)	(.035)	(.010)	(.004)	(.011)	(.026)	(.335)
Observations	360	360	360	360	360	360	360
$\mathbb{R}^2$	.76	.48	.33	.80	.83	.78	.16
Control Mean	.80	.06	.00	.01	.04	.08	410.90

Table A3: District Exposure to Traded Tariffs and District Employment Characteristics and Consumption

Notes: This table shows the correlation between pre-treatment values of the instrument, and pre-treatment district employment characteristics and consumption. The unit of observation is the district. All specifications include state fixed effects and are weighted using the district population in 1987. Traded Tariff is the instrument  $TrTariff_{dt}$ , defined in Section 4. The outcome of interest in column (1) is the fraction of farm workers; in column (2), the fraction of manufacturing workers; in column (3), the fraction of mining workers; in column (4), the fraction of construction workers; in column (5), the fraction of workers in trading activities; in column (6), the fraction of workers in service activities; in column (7), the average per capita household consumption in the district. Standard errors are in parentheses, clustered by state. Significant levels: \*10%, \*\*5%, and \*\*\*1%

Table A4: Tariff Liberalization and Electoral Performance of Congress Party: OLS and Reduced Form Estimates

	(1)	(2)	(3)	(4)	
	INC Vo	te Share	$\Pr(\text{INC Win} = 1)$		
Tariff Exposure	.096**		.503***		
	(.043)		(.158)		
Traded Tariff Exposure		.111**		.418***	
		(.043)		(.152)	
Observations	10192	10192	10192	10192	
$\mathbb{R}^2$	.08	.08	.01	.01	
Control Mean	.29	.29	.27	.27	

Notes: This table shows the OLS and reduced form coefficients estimating the impact of import tariff liberalization on Congress Party's electoral performance. The unit of observation is the electoral constituency. The outcome of interest in columns (1)-(2) is Congress Party vote share; in columns (3)-(4), a dummy equaling 1 if the Congress Party won the election. All specifications include constituency and state-year fixed effects along with constituency and district-level covariates. Standard errors are in parentheses, clustered by district. Significant levels: \*10%, \*\*5%, and \*\*\*1%

	(1)	(2)	(3)	(4)	(5)	(6)	
	IN	C Vote Sh	are	$\Pr(\text{INC Win} = 1)$			
Tariff Exposure	.043	.168	.855***	857	.414	.319	
	(.137)	(.130)	(.297)	(.531)	(.449)	(1.433)	
Tariff Exposure $\times$ Local Incumbent	$.797^{***}$			$5.832^{***}$			
	(.154)			(.653)			
Tariff Exposure $\times$ State Incumbent		$.723^{*}$			$3.718^{***}$		
		(.382)			(1.427)		
Tariff Exposure $\times$ Local Incumbent, Close Win			032			$5.580^{***}$	
-			(.335)			(1.444)	
Local Incumbent, Close Win			009			721***	
,			(.022)			(.094)	
Observations	10192	10192	1256	10192	10192	1256	
$\mathbb{R}^2$	.77	.77	.81	.54	.52	.65	
Control Mean	.29	.29	.29	.27	.27	.27	

**Table A5:** Tariff Liberalization and Electoral Performance of Congress Party: Heterogeneity by IncumbencyStatus

Notes: This table tests for heterogeneity in the impact of import tariff liberalization on Congress Party's electoral performance incumbency status, and regions. The unit of observation is the electoral constituency. The outcome of interest in columns (1)-(3) is Congress Party vote share; in columns (4)-(6), a dummy equaling 1 if the Congress Party won the election. All specifications include constituency and state-year fixed effects, along with constituency and district-level covariates. Districts' exposure to import tariffs (*Tariff*) is instrumented using districts' exposure to traded tariffs. *Local Incumbent* is a dummy equaling 1 if the INC had won the prior election in the electoral constituency; *State Incumbent* is a dummy equaling 1 if the INC was in power in the state prior to the electoral cycle with a victory margin less than 7 percent of the votes cast. Standard errors are in parentheses, clustered by district. Significant levels: \*10%, \*\*5%, and \*\*\*1%

				Panel A:					
				Secondary					
				Educated					
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
			Self-	Casual	Salaried	_			
	LFP	Unemployed	Employed	Work	Work	Farm	Manufacturing	Trade	Services
Tariff	.165	112	051	$.217^{*}$	.111	$.450^{**}$	.206	365***	.114
	(.178)	(.142)	(.199)	(.131)	(.223)	(.198)	(.157)	(.138)	(.197)
$\mathrm{Tariff} \times \mathrm{Rural}$	040	$.178^{**}$	046	$534^{***}$	$.361^{***}$	661***	077	.313***	.202
	(.120)	(.088)	(.150)	(.085)	(.122)	(.135)	(.104)	(.093)	(.127)
Observations	97803	97803	97803	97803	97803	97803	97803	97803	97803
$\mathbb{R}^2$	.49	.09	.20	.08	.26	.24	.09	.07	.20
Control Mean	.62	.08	.23	.03	.29	.13	.08	.07	.24
				Panel B:					
				No Secondary					
				Education					
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
			Self-	Casual	Salaried				
	LFP	Unemployed	Employed	Work	Work	Farm	Manufacturing	Trade	Services
Tariff	.275	010	177	$.483^{**}$	021	.201	$.399^{***}$	$374^{***}$	.297***
	(.208)	(.052)	(.227)	(.207)	(.125)	(.224)	(.100)	(.074)	(.093)
$\mathrm{Tariff} \times \mathrm{Rural}$	314***	.035	$.380^{***}$	695***	034	$512^{***}$	$453^{***}$	$.514^{***}$	$211^{***}$
	(.106)	(.022)	(.120)	(.124)	(.068)	(.147)	(.079)	(.060)	(.069)
Observations	$4\overline{47931}$	447931	447931	447931	447931	447931	447931	447931	447931
$\mathbb{R}^2$	.42	.03	.17	.18	.10	.30	.06	.07	.07
Control Mean	.63	.02	.32	.22	.07	.42	.07	.04	.05

Table A7: Tariff Liberalization and Employment Outcomes: Heterogeneity by Worker Characteristics

Notes: This table tests for heterogeneity in the impact of import tariff liberalization on employment outcomes across individual location, conditional on the completion of secondary education. The unit of observation is the individual. The sample is restricted to individuals aged between 15 and 55. All outcome variables are binary and the specifications used are linear probability models. The outcome of interest in column (1) is labour force participation; in column (2), unemployment; column (3), self-employment; column (4), casual worker; column (5), salaried work; column (6), farm work; column (7), manufacturing activities; column (8), trade; column (9), service activities. *Rural* is a dummy equaling 1 if the individual resides in a rural location. Panel A restricts the sample to individuals having completed secondary or higher education; Panel B restricts the sample to individuals without secondary or higher education. All specifications include district and state-time fixed effects, along with individual and district-level covariates. Districts' exposure to import tariffs (*Tariff*) is instrumented using districts' exposure to traded tariffs. Standard errors are in parentheses, clustered by district. Significant levels: \*10%, \*\*5%, and \*\*\*1%

				Panel A: Secondary Education					
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
	LFP	Unemployed	Self- Employed	Casual Work	Salaried Work	Farm	Manufacturing	Trade	Services
Tariff	.171	.011	086	111	$.356^{*}$	.051	.144	174	.262
	(.159)	(.125)	(.164)	(.103)	(.202)	(.175)	(.136)	(.120)	(.176)
Tariff $\times$ SC	$510^{**}$	.089	253	425**	.079	$647^{***}$	$.249^{*}$	.159	194
	(.219)	(.165)	(.224)	(.200)	(.209)	(.215)	(.135)	(.140)	(.201)
Tariff $\times$ ST	215	139	.292	212	157	420	.035	$.677^{***}$	370
	(.290)	(.201)	(.342)	(.238)	(.299)	(.314)	(.172)	(.220)	(.279)
Observations	97803	97803	97803	97803	97803	97803	97803	97803	97803
$\mathbf{R}^2$	.49	.09	.20	.08	.26	.23	.09	.07	.20
Control Mean	.62	.08	.23	.03	.29	.13	.08	.07	.24
				Panel B:					
				No Secondary					
				Education					
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
	LFP	Unemployed	Self- Employed	Casual Work	Salaried Work	Farm	Manufacturing	Trade	Services
Tariff	.056	004	.222	008	154	083	.014	.074	.048
	(.184)	(.055)	(.219)	(.182)	(.131)	(.211)	(.079)	(.048)	(.083)
Tariff $\times$ SC	.080	.122***	033	383***	.373***	308**	.039	.060	$.139^{**}$
	(.098)	(.045)	(.131)	(.144)	(.087)	(.139)	(.072)	(.043)	(.060)
Tariff $\times$ ST	494***	.027	380	433*	.293***	<b>-</b> .914 <sup>***</sup>	157	$.178^{***}$	$.160^{**}$
	(.180)	(.035)	(.268)	(.228)	(.101)	(.270)	(.097)	(.058)	(.075)
Observations	447931	447931	447931	447931	447931	447931	447931	447931	447931
$\mathbb{R}^2$	.42	.03	.17	.19	.10	.29	.06	.07	.07
Control Mean	.63	.02	.32	.22	.07	.42	.07	.04	.05

**Table A8:** Tariff Liberalization and Employment Outcomes: Heterogeneity by Marginalized Workers, Conditional on Secondary Education

Notes: This table tests for heterogeneity in the impact of import tariff liberalization on employment outcomes across marginalized population groups, conditional on secondary education. The unit of observation is the individual. The sample is restricted to individuals aged between 15 and 55. All outcome variables are binary and the specifications used are linear probability models. The outcome of interest in column (1) is labour force participation; in column (2), unemployment; column (3), self-employment; column (4), casual worker; column (5), salaried work; column (6), farm work; column (7), manufacturing activities; column (8), trade; column (9), service activities. Panel A restricts the sample to individuals having completed secondary or higher education; Panel B restricts the sample to individuals without secondary or higher education include district and state-time fixed effects, along with individual and district-level covariates. Districts' exposure to import tariffs (*Tariff*) is instrumented using districts' exposure to traded tariffs. Standard errors are in parentheses, clustered by district. Significant levels: \*10%, \*\*5%, and \*\*\*1%

					Panel A:				
					Rural				
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
	LFP	Unemployed	Self- Employed	Casual Work	Salaried Work	Farm	Manufacturing	Trade	Services
Tariff	006	.023	.184	032	182	108	.006	.046	.020
	(.182)	(.062)	(.211)	(.195)	(.122)	(.225)	(.072)	(.043)	(.062)
$Tariff \times SC$	$.195^{*}$	.061	.147	$351^{**}$	.339***	$258^{*}$	$.131^{*}$	$.068^{*}$	$.107^{**}$
	(.106)	(.046)	(.147)	(.157)	(.093)	(.148)	(.075)	(.041)	(.051)
Tariff $\times$ ST	$353^{*}$	035	270	270	$.222^{*}$	755***	107	$.160^{***}$	$.124^{*}$
	(.189)	(.040)	(.276)	(.242)	(.116)	(.280)	(.099)	(.054)	(.071)
Observations	361469	361469	361469	361469	361469	361469	361469	361469	361469
$\mathbb{R}^2$	.39	.05	.17	.19	.09	.24	.04	.03	.08
Control Mean	.66	.02	.35	.23	.06	.48	.05	.03	.04
					Panel B:				
					Urban				
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
	LFP	Unemployed	Self- Employed	Casual Work	Salaried Work	Farm	Manufacturing	Trade	Services
Tariff	.060	078	048	100	.286	032	.083	075	.318
	(.178)	(.092)	(.183)	(.145)	(.214)	(.144)	(.182)	(.140)	(.223)
Tariff $\times$ SC	.126	085	065	$282^{*}$	$.558^{***}$	187	.170	035	$.452^{**}$
	(.152)	(.067)	(.169)	(.162)	(.171)	(.162)	(.130)	(.114)	(.176)
Tariff $\times$ ST	.029	164*	.175	435	$.453^{*}$	166	$.436^{*}$	.423**	088
	(.271)	(.097)	(.295)	(.334)	(.267)	(.300)	(.233)	(.193)	(.281)
Observations	184265	184265	184265	184265	184265	184265	184265	184265	184265
$\mathbb{R}^2$	.49	.06	.15	.13	.22	.09	.09	.10	.15
Control Mean	.54	.04	.19	.09	.22	.05	.14	.10	.18

**Table A9:** Tariff Liberalization and Employment Outcomes: Heterogeneity by Marginalized Workers, Conditional on Location

Notes: This table tests for heterogeneity in the impact of import tariff liberalization on employment outcomes across marginalized population groups, conditional on rural or urban location. The unit of observation is the individual. The sample is restricted to individuals aged between 15 and 55. All outcome variables are binary and the specifications used are linear probability models. The outcome of interest in column (1) is labour force participation; in column (2), unemployment; column (3), self-employment; column (4), casual worker; column (5), salaried work; column (6), farm work; column (7), manufacturing activities; column (8), trade; column (9), service activities. Panel A restricts the sample to rural individuals; Panel B restricts the sample to urban individuals. All specifications include district and state-time fixed effects, along with individual and district-level covariates. Districts' exposure to import tariffs (*Tariff*) is instrumented using districts' exposure to traded tariffs. Standard errors are in parentheses, clustered by district. Significant levels: \*10%, \*\*5%, and \*\*\*1%