



Ashoka University Economics Discussion Paper 114

Globalization Shocks and Ethnic Politics: Evidence from India's Trade Liberalization and the Emergence of Caste-Based Parties

June 2024

Abhay Aneja, University of California-Berkeley Pavel Chakraborty, Lancaster University S. K. Ritadhi, Ashoka University

https://ashoka.edu.in/economics-discussionpapers



Globalization Shocks and Ethnic Politics: Evidence from India's Trade Liberalization and the Emergence of Caste-Based Parties

Abhay Aneja^{*} Pavel Chakraborty[†] S. K. Ritadhi[‡]

June 4, 2024

Abstract

Do globalization shocks affect ethnic politics? We examine this question in the context of India's extensive but unanticipated trade liberalization epsiode in 1991, and study the rise of caste-based parties. We combine industry-level tariffs with pre-liberalization employment patterns across districts to determine regional exposure to tariffs before and after trade liberalization. Our empirical findings show that regions facing larger declines in trade protection witnessed higher electoral support for caste-based parties. The increase in popular support for caste-based parties was concentrated in areas with low urbanization, low educational attainment, and a larger concentration of historically marginalized "low caste" citizens. Examining mechanisms, we find that conditional on the loss in trade protection, wages were significantly lower for rural workers, non-secondary educated workers, and workers hailing from marginalized caste groups. The empirical findings are consistent with the explanation that the adverse effects of trade liberalization were disproportionately borne by historically marginalized citizens, who in turn voted for parties exclusively championing their interests.

^{*}University of California – Berkeley

[†]Lancaster University

[‡]Ashoka University. Corresponding email: sk.ritadhi@ashoka.edu.in. We thank Rajat Acharya, Anustubh Agnihotri, Pranab Bardhan, Sourav Bhattacharya, Kunal Dasgupta, Priya Ranjan Jha, Pravin Krishna, Pushkar Maitra, Aprajit Mahajan, Dileep Mookherjee, Rohini Pande, Mine Senses, Rahul Verma and Vivek Yadav for several useful comments and suggestions.

1 Introduction

Political parties formed along ethnic identities such as race, religion, language and region are prevalent across both developed and developing countries (Chandra, 2004). Existing research has shown ethnic politics to shape the allocation of public goods (Hodler and Raschky, 2014; Burgess et al., 2015). Inequality along ethnic lines can also affect overall economic development (Alesina et al., 2016). There is however limited evidence on whether economic processes influence the growth of ethnic politics. We empirically examine this by studying the political mobilization of historically marginalized "low-caste" citizens in India's multi-party democracy, leading to the formation of "caste-based" parties, which appealed to the electorate along the identity of caste.¹ This upsurge in political mobilization began in the late 1980s, and continued through the 1990s, coinciding with the initiation of economic reforms in the Indian economy, which included trade liberalization, industrial deregulation, liberalization of financial markets, and openness to foreign capital. Given the overlapping timelines, we examine whether exposure to trade liberalization causally affected electoral support for "caste-based" parties. In the process, our paper documents how globalization shocks affect ethnic politics, and posits plausible mechanisms through which this occurs.

The hierarchical caste system is arguably the most important institution in Indian society and strongly correlated with individuals' physical location, access to schooling, economic opportunities, and choice of life-partners (Munshi, 2019). The graded nature of caste relegated groups at the bottom of the hierarchy – namely the Other Backward Classes (OBCs) and the Scheduled Castes (SCs or *Dalits*) – to the margins of society, severely restricting their access to public resources and opportunities. The upshot has been that SCs and OBCs have significantly lower human, social and financial capital, and fare much worse on both economic and human development indicators (Hnatkovska et al., 2012; Aneja and Ritadhi, 2022). Moreover, despite marginalized communities accounting for 60 percent of India's population, they remained severely under-represented in public institutions in the first four decades

¹ Caste forms a critical marker of identity in Indian society. Drawing from ancient Hindu scriptures, the caste system can be divided into four broad categories – the four varnas, which are further sub-divided into a number of endogamous *jatis*. The four varnas in the order of hierarchy are the Brahmins (priests), the Kshatriyas (warriors), the Vaishyas (traders), and the Shudras (manual workers). Jatis too are hierarchical in nature. Strict rules of inter-marriage and dining govern inter-caste relations. Beyond the four varnas, a fifth group is the Scheduled Castes (SCs or Dalits) – the erstwhile Untouchables – comprised of menial workers, who were relagated to the margins of society, both literally and figuratively. The graded hierarchy of the caste system is often drawn from the occupation associated with each caste (Oh, 2023). Association with manual labour and tasks such as cleaning and handling of animal caracasses have resulted in a lower social status being assigned to the Shudras, and the Scheduled Castes. In official terminology, the first three varnas collectively comprise the Hindu forward castes. The Shudras roughly map to the Other Backward Classes (OBCs).

following independence (Jaffrelot and Kumar, 2009).

Formed between 1985 and 1988, caste-based parties sought to redress these historical inequities by contesting elections in India's multi-party democracy with the goal of expanding the representation of historically discriminated citizens in legislative bodies. These parties also aggressively championed the use of affirmative action quotas in public employment and higher education to broaden the representation of marginalized citizens (Jaffrelot, 2003).² The political mobilization of marginalized caste groups was the strongest in the north Indian states of Bihar and Uttar Pradesh, accounting for a fourth of India's population. Caste-based parties also succeeded in forming short-lived federal coalition governments on three occasions between 1989 and 1998.³ The combined vote share of these parties exceeded a sixth of the votes cast in the 1999 federal elections.⁴

To study whether the forces of globalization affect ethnic politics, we exploit the massive, but unexpected episode of trade liberalization in India, starting in 1991. This resulted in a rapid decline in average import tariffs from 80% to 37% between 1991 and 1996, along with the dismantling of non-tariff barriers to trade, and the harmonization of tariff rates across commodities (Topalova, 2010). The liberalization process was undertaken in response to a sudden balance of payments crisis, and was unanticipated by households and firms.⁵ This makes it akin to an exogenous shock to the economy, which we use in the spirit of a natural experiment for causal identification.

We extend a differences-in-difference framework to causally identify whether exposure to trade liberalization affected the electoral success of caste-based parties. We compare changes in electoral support for caste-based parties across regions facing a large loss in trade protection following trade liberalization, relative to those facing smaller losses. District-specific measures of trade protection are constructed by aggregating industry tariffs, weighted by the share of the district's workforce employed in each industry.⁶ Specifically, we compile data on commodity tariffs from two time-periods – 1988 (pre-liberalization) and 1997 (post-liberalization). Using the value of imports of each commodity as

 $^{^{2}}$ While affirmative action quotas for SC and STs were constitutionally mandated since independence, their implementation had remained poor, leading to affirmative action positions being left vacant in public agencies.

 $^{^{3}}$ The first JD-led federal government was formed following the federal elections in 1989 and lasted a little less than a year. The second and third JD-led federal governments were formed following the federal elections in 1996, and lasted up to 1998.

 $^{^4}$ For reference, the two mainstream parties – the Indian National Congress and the Bharatiya Janata Party – polled 28 and 24 percent of the votes in this election. The combination of Left parties polled less than 10 percent of the votes.

⁵ The balance of payments crisis was triggered by the first Gulf War in 1990, which led to a sharp drop in remittances and reduced the availability of foreign reserves.

⁶ Districts form the third administrative tier in India, after the federal and the state.

weights, we aggregate commodity-specific tariffs to 4-digit industries and obtain industry-specific tariff rates before and after liberalization. Drawing from shift-share designs, regional exposure to tariffs is constructed as the sum of industry tariffs in each of the two years, weighted by the share of workers employed in each industry in the region. In line with the broad objectives of tariff reforms, median industry tariffs fell from 94% to 30% over this 10-year period. Intuitively, a district experienced a larger loss in trade protection ($\Delta Tariff$) if a greater share of the district's labour force was engaged in industries facing a larger reduction in import tariffs following trade liberalization. As the liberalization process could have affected regional employment patterns, district employment shares are calculated using the pre-liberalization 1991 Census.

We study how varying losses in trade protection across districts affected popular support for caste-based parties in elections to state legislative assemblies.⁷ Our sample covers a 16 year period between 1985 and 2000, across 16 of India's largest states.⁸ Elections conducted between 1985 and 1991 are mapped to pre-liberalization tariffs; those conducted since 1991, to post-liberalization tariffs.⁹ In all, our primary sample covers over 13,000 electoral contests, across 363 districts.¹⁰ Information on electoral outcomes such as party vote shares and winner's identity in each contest are sourced from the Election Commission of India. The average district had 9 electoral constituencies and each constituency is assumed to have the same exposure to regional tariffs.

Our baseline results show that moving to a district facing a 1 standard deviation (sd) larger loss in trade protection increased electoral support for caste-based parties by 1.7 percentage points (ppt.).¹¹ This translated to a 4.6 ppt. rise in the likelihood of an electoral victory.¹² The effects are large when considering that the median victory margin over this period was 14 ppt., and caste-based parties won 20 percent of the elections prior to trade liberalization. All our specifications include electoral constituency and state-electoral cycle fixed effects. Consequently, we exploit variations in exposure to import tariffs across districts located in the same state and electoral cycle. The identifying assumption

⁷ These serve as state legislative bodies, with members being directly elected through first-past-the-post contests.

⁸ Collectively, our sample covers 95 percent of India's population.

⁹ A set of state legislative assembly elections were conducted in May, 1991. As the process of economic liberalization started from July 1991, and was unanticipated during the 1991 elections, 1991 is included in the pre-treatment period. ¹⁰ A total of 391 districts were enumerated in the 1991 Census.

¹¹ A 1sd change is equivalent to moving from a district at the 25th percentile of the Δ Tariff distribution (low change in district exposure to import competition), to the 75th percentile (large change in district exposure to import competition), and we use this as a standard metric to assess the magnitudes of our empirical findings.

¹² With multiple contestants in a first-past-the-post system, small shifts in popular support often lead to disproportionate changes in the likelihood of winning.

is that absent tariff reforms, electoral outcomes for caste-based parties would have been comparable across constituencies in districts with a relatively high degree of pre-liberalization trade protection, relative to districts with low trade protection.

Following Goldsmith-Pinkham et al. (2020), we use an event-study design to validate the identifying assumption. Districts are assigned to "high" (above median) and "low" (below median) trade protection based on pre-liberalization exposure to tariffs, and the binary indicator for high tariffs is interacted with each electoral period. Event-study plots depict a sharp and significant increase in electoral support for caste-based parties in regions which enjoyed higher protection from import competition. While the increase in electoral support persisted till 2000, it was the largest in the first five years following trade liberalization. Critically, electoral support to caste-based parties was statistically indistinguishable across districts with high and low tariff exposure in the pre-liberalization period, lending support to our identifying assumption. A randomized inference test, where we arbitrarily assign changes in commodity tariffs also fails to replicate the baseline coefficients, lending credence to the assumption that the decline in industry tariffs was quasi-exogenous (Borusyak et al., 2022).

A second concern is whether regional exposure to tariffs proxied for other district characteristics. This can occur if pre-liberalization regional employment patterns were correlated with district characteristics. We address this by interacting a rich set of pre-liberalization district demographic and workforce characteristics with a post-liberalization indicator in all our specifications. The inclusion of these covariates do not change the baseline results. Likewise, the inclusion of district-specific time-trends, and linear time-trends in initial electoral support for caste-based parties also leave the baseline estimates unaltered. This mitigates concerns that regional exposure to tariffs is proxying for other observable or unobservable district characteristics, which too might have been affected by the various liberalization measures undertaken since 1991. Finally, using data from Topalova (2010), we also condition on regional exposure to other concurrent economic reforms such as the deregulation of industrial licensing, dismantling of non-tariff barriers, and openness to foreign capital. The coefficient of interest remains unaffected, confirming that the measure of regional exposure to import tariffs is orthogonal to other major reforms undertaken during this period.

The rise in electoral support for caste-based parties was matched by a loss in support for both the centre-left Congress Party (INC), which ushered in the process of economic reforms, and the right-wing BJP. Lower support for the INC in response to larger losses in trade protection is akin to the findings of Choi et al. (2024), who showed that increased import competition in the U.S. following NAFTA lowered support for both President Clinton and the Democratic Party, which oversaw NAFTA's passage. The results however are in contrast to Dippel et al. (2022), who found that German regions facing greater import competition from low-income countries saw higher popular support for far-right parties.

As caste-based parties drew support from marginalized SC and OBC groups, we would expect their electoral success to be concentrated in regions with a relatively high share of SC and OBC populations. As SC and OBC groups were more likely to be located in rural areas, and had relatively lower attainment of secondary education, we also consider heterogeneity in electoral support for caste-based parties across districts' urbanization, and attainment of secondary education. The reduced form results are consistent with these conjectures: conditional on the loss in trade protection, the electoral success of caste-based parties was significantly higher in districts with a higher share of SC and OBC populations, and districts with lower urbanization. On the contrary, conditional on the loss in trade protection, electoral support for caste-based parties remained significantly lower in districts with a relatively higher share of secondary educated adults.

We explore the labour market impacts of tariff reforms as a potential mechanism to understand the rise in electoral support for caste-based parties in response to the loss in trade protection. We use the nationally representative employment-unemployment surveys conducted by the National Sample Survey Organisation (NSS) to identify how regional exposure to tariff reforms affected worker earnings. We use data from two repeated cross-sections of the NSS surveys: one conducted in 1987-88 (pre-liberalization), and the second in 1999-00 (post-liberalization). Unfortunately, the NSS did not separately distinguish OBCs in the pre-liberalization period, disallowing us from identifying the differential impacts of tariff reforms on OBC workers. We thereby explore heterogeneity across workers' location (urban or rural), and educational attainment, and also examine heterogeneity across SC workers.

Comparing daily wages across workers in districts facing large and small losses in trade protection, we uncover suggestive evidence of a decline in farm earnings, but higher non-farm earnings. Consistent with a number of studies exploring the impact of increased import competition on labour market outcomes, we identify a significant decline in manufacturing wages in regions facing a larger loss in trade protection. Upon moving to a district with a 1sd larger loss in trade protection, the decline in daily manufacturing wages was equivalent to 21 percent of pre-liberalization household consumption.

Conditional on the loss in trade protection, we identify a significant reduction in rural wages,

driven by a fall in farm wages. While urban manufacturing wages were significantly lower in areas facing a larger decline in trade protection, there was an additional decline in rural manufacturing wages. As SC and OBC groups are concentrated in rural areas, it is likely that they were disproportionately affected by the loss in trade protection. Tests of heterogeneity across workers' education point to the skill-biased nature of tariff reforms. Conditional on exposure to import tariffs, labour market returns significantly increased for secondary educated workers, driven by higher non-farm wages in trade and service occupations. In contrast, there is suggestive evidence of a decline in overall wages for non-secondary educated workers in districts witnessing larger declines in trade protection, along with a significant reduction in manufacturing wages. This decline in manufacturing wages however was reversed for secondary educated workers, whose overall earnings were left unaffected by losses in trade protection. As only 14 percent of SC and OBC workers had completed secondary education in 1999-00, this suggests that conditional on the loss in trade protection, a) workers from marginalized caste groups were significantly more likely to have lower earnings; and b) lack of human capital limited these workers' ability to gain from the skill-biased aspects of trade liberalization. The findings resonate with Autor et al. (2014), Dauth et al. (2014), Dauth et al. (2021) and Dippel et al. (2022), who found import competition to adversely affect labour market returns for low-skilled manufacturing workers.

Finally, we directly identify heterogeneity in exposure to tariff reforms on SC workers' earnings. The results need to be interpreted with caution as we cannot separately identify heterogeneity across OBC workers, which is likely to bias the heterogeneity estimates upwards. Consistent with our expectations, daily earnings were significantly lower for SC workers. Moving to a district with a 1sd larger loss in trade protection, wages for SC workers declined by 4 percent of pre-liberalization household consumption. This is driven by farm wages, and gains in non-farm wages for non-SC workers are instead reversed for SC workers. Collectively, our empirical analysis suggests that workers from marginalized groups were disproportionately affected by rising exposure to import competition. If this led them to advocate support for parties promising employment protection through job quotas in public employment, and overall redistribution, it would form a plausible explanation for widening support for caste-based parties in regions disproportionately affected by the loss in trade protection.

We rule out two competing explanations for our results. First, conditional on exposure to import competition, secondary educated SC workers reported significantly higher overall, and non-farm wages in trade and service activities. This alleviates concerns that areas witnessing higher import competition saw a concurrent worsening of caste discrimination, which could have negatively impacted the earnings of workers from marginalized caste groups, and led them to vote for caste-based parties to seek protection from caste animus. Instead, the primary constraint appears to be the lack of skills available to workers from these groups, which leaves them particularly vulnerable to policies of globalization. We also rule out that our results are a mechanical manifestation of "anti-incumbency" against the dominant Congress Party, which continually lost support through the decade of trade liberalization. Higher exposure to import competition increased electoral support for caste-based parties even in constituencies where the Congress was not the local incumbent.

Related Literature

Our paper relates to three broad strands of literature. First, we contribute to the large body of research studying the economic consequences of ethnic politics (Alesina and La Ferrara, 2005). Prior studies have found ethnic inequality to affect overall development (Alesina et al., 2016), and ethnic politics to result in favouritism (Hodler and Raschky, 2014; Burgess et al., 2015; De Luca et al., 2018), and also affect labour market outcomes (Amodio et al., 2024). Our paper instead studies how globalization shocks affects electoral support for caste-based ethnic parties in India, who promised employment protection and redistribution for historically marginalized populations adversely affected by policies of liberalization. Moreover, the electoral success of these parties generated a sharp increase in political representation for underprivileged communities, subject to centuries of discrimination through the institution of caste (Jaffrelot and Kumar, 2009).

By studying how globalization shocks affect ethnic politics, our paper adds to the growing literature on the electoral consequences of import competition. Rodrik (2021) posited that economic dislocation generated by the forces of globalization can affect political outcomes by altering voter preferences. Empirically, Autor et al. (2020), Dippel et al. (2022), and Choi et al. (2024) have shown import competition from emerging markets to affect political outcomes in developed economies. We differ from the above studies along two aspects. First, we study how exposure to import competition in an emerging economy affects political outcomes in a multi-party democracy. Second, contrary to the papers mentioned above which find import competition to increase support for conservative politics, our paper shows import competition to raise support for parties advocating greater representation for underprivileged citizens, and supporting policies of positive discrimination and overall redistribution. Situating our study in an emerging market also reduces the role of immigration through which globalization shocks affects politics, and allows us to narrow down on how import competition differentially affects economic outcomes for various ethnic groups, and translates into voting choices in favour of ethnic parties.

By linking globalization shocks to the rise of ethnic parties through the labour market channel, our paper also contributes to the large literature studying the labour market impacts of import competition. Economic theory predicts that the labour market impacts of trade openness depends on the pace at which labour can be reallocated across sectors (Pavcnik, 2017), while Atkin and Khandelwal (2020) note that existing distortions in emerging economies hinder their ability to fully realize the gains from globalization. Empirically, a large array of papers such as Autor et al. (2013), Dauth et al. (2014) Dix-Carneiro and Kovak (2017), Dauth et al. (2021) and Choi et al. (2024) have shown that regions with higher exposure to import competition witness greater unemployment, and lower wages. Autor et al. (2014), Dauth et al. (2014), and Dippel et al. (2022) in particular show that the adverse labour market impacts of trade liberalization were concentrated amongst workers with lower skills. In the context of India, we show that historical inequities perpetrated by the institution of caste severely restricted the access of marginalized caste groups to education. Lack of education, and the concentration of marginalized citizens in rural areas made them particularly vulnerable to changes brought about by the forces of globalization. Our findings are contrary to Kahn et al. (2023) who finds the racial wage gap in the U.S. to have declined in areas with higher import competition, in part due to the ability of Black workers to shift to service occupations. Our findings of a disproportionate decline in both overall and manufacturing wages for rural workers in regions facing a greater loss in trade protection are consistent with the prediction of Rodrik (2021), who notes that the lack of social, physical and financial infrastructure in rural areas can increase their exposure to globalization shocks, and contribute to the widening of rural-urban gaps.

The remainder of the paper is organized as follows: Section 2 describes India's trade liberalization process and the rise of caste-based parties. 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

This section provides an overview of India's trade liberalization and caste-based parties.

2.1 Trade Liberalization in India

Faced with a severe balance of payments crisis, India embarked on an extensive programme of economic liberalization in 1991.¹³ As liberalization was undertaken in response to an external crisis, the process was unanticipated by both households and firms, allowing it to be treated as a natural experiment (Topalova, 2010). The economic reforms included trade liberalization, industrial deregulation, opening to foreign capital, and financial liberalization. We focus on the trade liberalization component, comprising primarily of a sharp reduction in import tariffs, and the harmonization of tariff rates across commodities.¹⁴ Topalova (2010) reported a decline in average tariffs from 80% to 37% between 1990 and 1996. The dispersion in tariff rates too shrunk by 50%. While capital and intermediate goods were liberalized first, Topalova (2010) noted that future tariffs remained uncorrelated with sectoral productivity till 1997. This allays concerns that select industries were strategically protected from import competition during this period of liberalization.

2.2 Politics in India and Caste-Based Parties

Indian politics since independence was dominated by the Indian National Congresss (INC), which was the federal ruling party for all but three years between 1947 and 1989. The Congress during this period was a "catch-all" party, eliciting support across a broad social coalition comprising of upper-caste elites, SCs, STs and Muslims (Manor, 1998). While there was a leftward slant in the party's economic policies between 1969 and 1977, a more market-oriented approach was adopted since 1980. Subsequently, the federal government formed by the INC spearheaded the liberalization process between 1991 and 1996.

Since 1987, India witnessed assertive political mobilization of marginalized "low caste" citizen groups, led primarily by the OBC and SC communities. These communities, along with indigenous groups – the Scheduled Tribes (STs) – were subject to widespread social discrimination through the

 $^{^{13}}$ While efforts were made to open up the economy through the 1980s, the scale of liberalization since 1991 was unprecedented.

¹⁴ A third aspect was trimming the list of products which could be freely imported. Prior to liberalization, selected commodities could only be imported after obtaining a "license". Topalova (2010) reports that prior to 1991, only 12% of products could be imported without a license.

centuries-old caste system. This resulted in their exclusion from public institutions, and severely restricted their access to public resources such as education, land and drinking water. Consequently, these communities fared much worse on human development indices, and experienced significantly higher rates of poverty.

The process of political mobilization led to the emergence of two key political parties – the Janata Dal (JD) and the Bahujan Samaj Party (BSP) – who sought to contest elections and reddress historical inequities handed down through the caste system. Their stated objectives were to increase the political representation of marginalized citizen groups in legislative bodies, and expand affirmative action quotas in public institutions for employment and higher education. Both parties also advocated for the expansion of redistributive welfare schemes (Jaffrelot, 2003; Aneja and Ritadhi, 2022).

Appendix Figure A1 shows the geographical spread of caste-based parties before and after the episode of trade liberalization, with darker shades reflecting higher vote shares. The left-hand figure shows that in 1987, caste-based parties enjoyed a relatively high degree of electoral support only in the southern state of Karnataka, and the northern state of Haryana. The right hand figure for 1997 depicts a sizeable amount of electoral support for these parties in the populous north Indian states of Bihar and Uttar Pradesh, in addition to the eastern state of Orissa, and the southern state of Karnataka. This agrees with qualitative work by Jaffrelot (2003), who documented the political mobilization of marginalized citizen groups to be the strongest in Uttar Pradesh and Bihar.

The JD's first electoral success came in 1989, when it formed a short-lived federal coalition government. One of its key administrative decisions was to implement the recommendations of the Mandal Commission, which laid aside 27 percent of public sector positions for the OBC community. Between 1989 and 1991, the JD scored electoral victories in Bihar and Uttar Pradesh. Since 1991, the JD consolidated their electoral support in these states, and also expanded into the eastern state of Orissa. The party however fragmented into multiple regional units, which while restricted to a single state, remained electorally relevant. The fragmented units also retained the core political agenda of the JD – namely, increased representation of marginalized citizen groups in public institutions, and the redistribution of public resources towards these communities. Based on the origins of political parties, we classify a total of 8 parties as "caste-based" parties.¹⁵

¹⁵ These are the a) Janata Dal (JD); b) Janata Party (JP, JNP); c) Samajwadi Party (SP); d) Lok Jan Shakti Party (LJNSP); e) Rashtriya Janata Dal (RJD); f) Janata Dal (Secular) – JD(S); g) Lok Dal (LKD); and h) Bahujan Samaj Party (BSP).

Jaffrelot (2003) provide an excellent narrative history of these parties. Empirically, Aneja and Ritadhi (2021) and Aneja and Ritadhi (2022) showed that the marginal legislator representing these parties significantly reduced targeted violence against SCs, and increased public redistribution towards SCs and OBCs. As, caste-based parties originated prior to trade liberalization, our paper studies how regional variations in the loss of trade protection affected electoral support for parties drawing support from marginalized ethnic groups.

3 Data

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

3.1 Elections Data

Data on electoral outcomes is obtained from the Election Commission of India (ECI) – a constitutional body tasked with conducting elections to federal, state and local legislative bodies. Our paper focuses on elections to state legislative assemblies, conducted once every five years in each state.¹⁶ States are divided into electoral constituencies (or seats), proportionate to their population. Candidates are nominated by parties to contest these seats, with the candidate securing the maximum votes being declared the winner.¹⁷ The winner represents the constituency for the 5 year tenure of the legislative assembly. A simple majority in terms of seats is required to form the state government. Governments can also be formed by a coalition of parties.

The ECI disseminates information on all constituency-level elections, which is used to construct constituency-level vote shares for caste-based and other parties. Our primary sample covers a 16 year period between 1985 and 2000, covering 48 state-electoral cycles across 16 of India's largest states, totaling over 13,000 electoral contests.¹⁸ The median state witnessed 3 electoral cycles during this period. The 9-year post-liberalization period includes elections conducted since 1991, with the first major set of elections being conducted in December 1993 – two years after liberalization.¹⁹ Appendix

¹⁶ Aberrations to this occur due to the resignation of state governments when they no longer control a majority in the legislature.

¹⁷ Individuals unaffiliated with any political party can also contest as independent candidates.

¹⁸ The states are Andhra Pradesh, Assam, Bihar, Gujarat, Haryana, Himachal Pradesh, Karnataka, Kerala, Madhya Pradesh, Maharashtra, Orissa, Punjab, Rajasthan, Tamil Nadu, Uttar Pradesh, and West Bengal. Divergent population sizes implies wide variation in the number of elections contested in these states. 2 states saw less than 100 electoral contests, 5 between 100 and 200 contests, 6 between 200 and 300 electoral contests, and 3 in excess of 300 contests.

¹⁹ The state of Punjab witnessed elections in 1992, and forms the first electoral cycle in the post-liberalization period.

Table A1 shows that the average electoral constituency had 150,000 voters, and turnout over this period exceeded 60%. Effective number of parties in the average electoral contest was 3. 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 parties mirrored their popular support: the INC won 28% of the elections over this period, followed by the BJP (20%), and caste-based parties (17%).

3.2 Employment Data

Our preferred mechanism linking globalization shocks to electoral politics is the impact of import competition on labour market outcomes. We examine this using nationally representative household surveys conducted by the National Sample Survey Organisation (NSS) covering every state and district in India. The surveys are conducted once every 5 years as repeated cross-sections and include up to 100,000 households. They detail for every household member demographic characteristics, educational attainment, employment status, occupation type, and sector of employment.

We use 2 NSS survey rounds – namely round 43 conducted in 1987-88, and round 55, in 1999-00. Our primary sample is restricted to individuals aged between 15 and 60 and covers over 1 million working-aged individuals. Appendix Table C1 shows that about three-fourths of the individuals resided in rural areas with the average age being 33 years. A fourth hailed from historically marginalized SC and ST communities. While over half the workforce was literate, less than 15 percent had completed secondary or higher education, pointing to relatively low skills. The labour force participation rate was 61 percent.

Conditional on participation in the labour force, Appendix Table C2 shows that unemployment was relatively low at 4 percent, and almost half the workers were self-employed. 60 percent of the labour force was engaged in farm activities, and 11 percent in manufacturing work. A fifth of workers were employed in either trade or services. Appendix Figure C1 shows that broad employment trends remained relatively unchanged between 1987-88 and 1999-00.

The NSS also gathers information about workers' earnings in the week prior to the survey. Earnings are disaggregated by broad industry, and there is also information on days worked in each activity during the week. We scale total weekly earnings by days worked to obtain average daily wages for broad sectoral categories. Wages in 1987-88 are inflated to 1999-00 values using the Wholesale Price

The four states of Uttar Pradesh, Himachal Pradesh, Madhya Pradesh and Rajasthan saw elections in 1993.

Index. Appendix Tables C3 and C4 shows that while average daily wages increased by a little over 1 percent per annum (in real terms) over this 12 year period, median real wages were almost stagnant. Non-farm wages grew at an annual rate of 2.6 percent, driven by trade and services, which grew by 3 percent per year. Average manufacturing wages grew by 2.2 percent per year. The growth in non-farm wages however was driven by the top half of the wage distribution: real wages in trade and services at the 75th and 90th percentiles grew by 3.4 and 3.7 percent respectively. The median annual wage growth rate was less than 2 percent for manufacturing, as well as trade and services. Surprisingly, both mean and median farm wages grew at a steady pace during this period, but were substantially lower than non-farm wages in magnitude. In 1999-00, the median farm wage was less than half the median non-farm wage, while the average farm wage was a third of the average non-farm wage.

3.3 Tariff Data

The World Integrated Trade System (WITS) provides commodity-specific measures of import tariffs and trade flows for each country since 1988. We extract data on ad-valorem tariffs for each commodity for the years 1988 and 1997. Industry-specific import tariffs are computed by mapping commodity tariffs to 4-digit industries.²⁰ Specifically,

$$Tariff_{jt} = \sum_{k=1}^{n} \tau_{kt} \times M_{k,1988} \tag{1}$$

 τ denotes the ad-valorem import tariff for commodity k, mapped to industry j, in year t. We calculate the average tariff facing the industry by computing a weighted average across commodities, with the weights being the volume of imports (M) of commodity k prior to trade liberalization (1988). Appendix Figure B1 depicts a sharp leftward shift of the tariff distribution following trade liberalization, consistent with the reduction in ad-valorem tariff rates. In line with the harmonization of tariffs across commodities, the dispersion of tariffs in 1997 had also shrunk considerably from 1988. Appendix Figure B2 shows the evolution of volume weighted average tariffs over time.²¹ Consistent with the observation of Topalova (2010), average annual tariffs declined sharply from over 60 percent prior to trade liberalization, to 40 percent within 1 year, and fell further to about 30 percent post 1996.

²⁰ Tariffs are mapped to 4-digit industries using the National Industrial Classification of 1998.

 $^{^{21}}$ We compute a weighted average across ad-valorem tariff rates for all manufacturing commodities during the year. The weights correspond to the import volume of that commodity in 1988, prior to trade liberalization.

The left panel of Appendix Figure B3 shows the average tariff rates for 2-digit industries; the right panel shows the change in the average tariff rate between 1988 and 1997. Computers, food, textiles, vehicles and electronics attracted the highest tariffs. The largest reductions in tariffs were observed for computers, food, chemicals, coke and petroleum, electronics and vehicles.

4 Empirical Strategy

Our empirical strategy compares electoral outcomes for caste-based parties before and after trade liberalization, across regions facing a large loss in trade protection, relative to those facing smaller losses. We estimate regional trade protection by aggregating industry-level tariffs to districts, using pre-liberalization district employment shares for each industry as weights. Intuitively, for a given reduction in the average tariff facing industry j, we would expect a district to have higher exposure to import competition if a larger proportion of the district's workforce was employed in industry j. The identification strategy is analogous to a differences-in-difference specification of the form:

$$Y_{cdt} = \alpha_c + \delta_{st} + \beta Tariff_{dt} + \gamma \mathbf{X}_{cdt} + \epsilon_{cdt}$$
⁽²⁾

The unit of observation in equation (2) is electoral constituency c, located in district d, and observed in election year t. Y denotes one of two outcomes: first, popular support for caste-based parties, measured using their vote share. Second, a binary equaling 1 if the caste-based party won the election. α and δ are constituency and state-election year fixed effects. The former accounts for time-invariant constituency characteristics determining local support for caste-based parties such as historical factors influencing the depth of political networks. State-year fixed effects partial out time-varying state-level characteristics common to all constituencies in the state in a given election year. This would include fiscal policies adopted by the state in the election year, or aggregate state-level shifts in political support during the electoral cycle. **X** is a vector of time-varying constituency and district-level covariates such as constituency voter turnout, district demographics and workforce characteristics. District specific covariates are measured in the pre-liberalization period, and interacted with a post-liberalization dummy. Standard errors are clustered by district, and the regressions are weighted by the number of registered voters in each constituency. The independent variable of interest is $Tarif f_{dt}$, measuring the exposure of district d to import tariffs in year t, expressed as:

$$Tariff_{dt} = \sum_{j=1}^{N} \frac{Workers_{j,d,1991}}{Workers_{d,1991}} \times Tariff_{jt}$$
(3)

In equation (3) the share of workers employed in each industry j in the district is used as weights to compute the district's exposure to import tariffs. $Workers_{d,1991}$ in (3) refers to total workers employed in tradable industries in the district in 1991, and we control for the share of workers in non-tradable industries in all specifications.²² $Tariff_{dt}$ thereby is constructed as a shift-share variable and a district has a larger value of $Tariff_{dt}$ if a larger fraction of its labour force is engaged in industries facing high average tariffs. As employment patterns can be affected by policies of trade liberalization, we use pre-liberalization employment shares from the 1991 Census. As trade liberalization lowered ad-valorem tariff rates, the change in $Tariff_{dt}$ over time is negative, signalling a loss in trade protection, or higher import competition. Cross-sectional variation in the loss in trade protection across districts forms the key source of identification for our paper.

The regional loss in trade protection can be expressed as $\Delta Tariff_d = Tariff_{d,1997} - Tariff_{d,1988}$. A one standard deviation (1sd) reduction in $\Delta Tariff_d$ equals .0898, which is comparable to the inter-quartile range of $\Delta Tariff_d$ (.0986). Consequently, we use a 1sd change in $\Delta Tariff_d$ to assess the magnitude of the empirical results. The top row of Figure 1 shows that districts facing the largest decline in trade protection were concentrated in the northern Indian states of Uttar Pradesh and Bihar, along with the eastern state of Assam, and the southern state of Karnataka.

Recent work by Goldsmith-Pinkham et al. (2020) and Borusyak et al. (2022) present two distinct approaches to recover causal estimates using shift-share designs. In our context, the approach of Borusyak et al. (2022) requires changes in tariff rates to be exogenous, while the approach of Goldsmith-Pinkham et al. (2020) warrants that the regional share of workers employed in each industry is uncorrelated with unobservables predicting electoral support for caste-based parties. With regard to the first, Appendix Figure B4 shows that changes in industry tariffs were highly correlated with pre-liberalization tariff rates. This can be attributed to the twin goals of tariff liberalization to both lower tariffs, and harmonize them across commodities. Consequently, industries with higher pre-liberalization tariffs faced larger losses in trade protection. As Gang and Pandey (1996) noted

 $^{^{22}}$ Approximately half of the labour force in the pre-liberalization period was engaged in the production of cereals of oilseeds, whose tariff rates remained unchanged between 1987 and 1997 (Topalova, 2010). Remaining agricultural products with varying tariff rates are classified as tradables and included while estimating regional exposure to tariffs.

pre-liberalization tariffs to be quasi-exogenous, and determined primarily by the Second Five-Year Plan in 1957-58, the change in industrial tariffs can also be argued to be quasi-exogenous.

Formally, Appendix Tables D1a-D1c individually regress pre-liberalization district tariff exposure on pre-liberalization district observables, conditioning on state fixed effects. Reassuringly, only 1 (fraction of SC/STs) out of 20 district observables yields a statistically significant coefficient. This alleviates concerns that the regional variation in pre-liberalization tariff exposure proxies for other local factors, which also could have been affected by the policies of economic liberalization. We also confirm robustness using randomization inference whereby industries are arbitrarily assigned to tariffs.

4.1 Descriptive Trends

Figure 1 uses a within-district unconditional first difference estimator to map the loss in trade protection, against changes in electoral outcomes for caste based parties. Darker shades depict regions facing a greater loss in trade protection (increased support to caste-based parties). The bottom panel shows that the increase in electoral success for caste-based parties was concentrated in the northern Indian states of Uttar Pradesh and Bihar, which coincides closely with the regions facing the largest declines in trade protection. Appendix Figure D1 depicts the relationship shown in Figure 1 as a binned scatter plot. Both in terms of vote shares (left panel) and the fraction of elections won (right panel), we find a sharp downward sloping relationship: regions with relatively larger losses in trade protection (larger magnitudes of $\Delta Tariff_d$) saw increased electoral support for caste-based parties.

5 Results

We now discuss our key findings. We first document the impact of tariff reforms on the electoral success of parties representing historically marginalized citizens. Subsequently, we explore the labour market impacts of tariff reforms as a plausible mechanism for our electoral findings.

5.1 Tariff Reforms and Electoral Performance of Caste-Based Parties

Table 1 uses specification (2) to identify how rising import competition affected electoral support for caste-based parties. The outcome of interest in columns (1)-(3) is constituency-level vote share for caste-based parties; in columns (4)-(6), a binary equaling 1 if a caste-based party won the election. All specifications are weighted using the number of registered voters in the constituency, and standard

errors are clustered by district. In constituencies where multiple caste-based parties contested elections, we opt to be conservative and pick the vote-share of the most successful caste-based party.

Columns (1) and (4) include only constituency and state-year fixed effects and identify a negative coefficient associated with $Tariff_{dt}$, which is statistically significant at the 1% level. Columns (2) and (5) add district and constituency covariates, while columns (3) and (6) control for exposure to three other major liberalization episodes, concurrent to trade liberalization.²³ The inclusion of covariates have little impact on the findings, while controling for other reforms result in a slight increase in the coefficient of interest. Columns (3) and (6) in particular reassures us that our empirical strategy is capturing the impact of tariff reforms, and not other liberalization policies undertaken during this period.

How large are these coefficients? Considering our preferred specification in columns (2) and (5), moving to a district facing a 1sd larger loss in trade protection increased the vote share of caste-based parties by 1.7 ppt. This is non-trivial when considering that the average margin of victory over this period was 14 ppt. The corresponding impact on the likelihood of a caste-based party win equaled 4.6 ppt. – a 23 percent increase relative to the pre-liberalization probability of a caste-based party winning an election.

5.1.1 Alternate Specifications and Robustness

Appendix Table D2 shows that our baseline results are robust to alternate specification choices. Columns (1) and (5) include linear time-trends in pre-liberalization levels of district electoral support for castebased parties; columns (2) and (6) include district-specific linear time-trends. The point estimates corresponding to $Tariff_{dt}$ remain unaffected. This negates concerns that district-level unobservables, correlated with districts' tariff exposure and also predicting electoral support for caste-based parties are driving our findings. Columns (3) and (7) show that the results are not sensitive to weighting by the number of registered voters. As Figure 1 shows electoral outcomes and the loss of trade protection to be correlated within states, columns (4) and (8) cluster our errors at the more conservative level of the state. The point estimate continues to remain statistically significant at the 5% level.

Columns (1)-(2) and (6)-(7) of Appendix Table D3 show that our results are unchanged if we omit

²³ These are namely the liberalization of sectors to foreign direct investment; liberalization of sectors from stringent "licensing" requirements; and expansion of products which could be freely imported without an import license. These controls are directly sourced from Topalova (2010) and constructed in a manner similar to $Tariff_{dt}$.

elections conducted in 1985, or elections conducted after 1996.²⁴ Columns (3) and (8) show robustness to omitting elections conducted in 1991, which just preceded the onset of economic liberalization. Columns (4) and (9) undertake a placebo exercise, where we restrict the sample to elections conducted till 1991, and classify elections conducted between 1989 and 1991 as the ("pseudo") post-liberalization period. Reassuringly, the point estimates exhibit the opposite sign, are an order of magnitude smaller, and imprecisely estimated.²⁵ If district-level unobservables predicting the electoral success of caste-based parties between 1989 and 1991 were also correlated with pre-liberalization levels of trade protection, we would have expected the coefficients in columns (4) and (9) to be similar to the baseline results.

Section 2.2 noted that the process of political mobilization through caste-based parties was led by the JD and the BSP. While the former appealed to a broad coalition of marginalized caste groups, the BSP, especially in its initial years appealed almost exclusively to the SCs (Chandra, 2004). Consequently, we estimate how variations in regional tariff exposure affected electoral support for the BSP. This enables a direct mapping of marginalized caste groups to parties, and allows us to test whether areas facing larger exposure to import competition saw greater support for a party appealing majorly to the SC community. Additionally, unlike the JD, the BSP enjoyed all of its electoral success in the postliberalization period, providing a direct link between globalization shocks and ethnic politics. As seen from column (10) of Appendix Table D3, moving to a district with a 1sd larger loss in trade protection increased the likelihood of the BSP was also significantly higher in constituencies located in districts facing increased import competition following the tariff reforms (p-value .060).

5.1.2 Randomization Inference

A final excercise of robustness is undertaken using randomization inference, whereby the changes in import tariffs are randomly assigned to commodities, and we examine whether the baseline findings can be replicated with this randomized set of tariff changes. We follow Choi et al. (2024) and estimate a two-period first-difference specification of the form:

$$\Delta Y_d = \alpha_s + \beta \Delta Tariff_d + \gamma \mathbf{X}_d + \epsilon_d \tag{4}$$

²⁴ Some initial steps in the direction of trade liberalization were undertaken in 1985, while Topalova (2010) states that the federal government strategically chose industries which were liberalized since 1997.

 $^{^{25}}$ The corresponding p-values are .073 in column (4), and .430 in column (9).

Electoral outcomes in specification (4) are aggregated to the district, with ΔY_d denoting the long-difference between post-liberalization (1992-2000) and pre-liberalization (1985-1991) district electoral outcomes.²⁶ $\Delta Tariff$ denotes the change in district tariff exposure, based on the change in commodity tariffs between 1988 and 1997. State fixed effects (α), and pre-liberalization district covariates are also included (**X**). Specifications are weighted by pre-liberalization district population, and heteroskedasticity-robust standard errors are used for inference.

Columns (1) and (4) of Appendix Table D4 regress the change in district-level electoral outcomes on the change in district tariffs and exclude all covariates. The specification is equivalent to the bottom panels of Figure 1 and the point estimates are negative and statistically significant, confirming that districts facing a greater decline in trade protection saw increased electoral support for caste-based parties. The inclusion of covariates cause some attenuation in coefficient size, and the coefficients corresponding to the change in vote shares in columns (2) and (3) are now significant only at the 10% level (p-values .068 and .060). Changes in the fraction of electoral wins continue to be statistically significant at the 1% level, irrespective of the inclusion of covariates.

Next, we randomly assign changes in commodity tariffs and re-estimate $\Delta Tariff_d$ with this arbitrary set of tariffs. Changes to commodity tariffs are drawn from the uniform distribution [-230,0].²⁷ We repeat this 1,000 times and estimate specification (4). For both outcomes of interest, the cumulative CDFs in Appendix Figure D2 confirm that we are unable to recover the baseline coefficients with the randomized assignment of commodity-level tariffs. This lends support to our claim that changes to commodity tariffs induced by trade liberalization were indeed quasi-exogenous.

5.1.3 Traditional Differences-in-Difference Specification and Event-Study Plots

Table 2 estimates a traditional DiD specification where districts with a relatively high (above median) level of tariff protection in 1988 are classified as "high tariff" ($HighTariff_d = 1$, or treated), while the remaining are "low tariff" (control). Columns (1) and (4) include no other covariates except the fixed effects, while the remaining specifications add in covariates. The inclusion of covariates leave unaffected

²⁶ For vote-shares, we aggregate the total votes cast for caste-based parties over each period, scaled by the total valid votes cast. We continue to be conservative and count the vote share of the largest caste-based party in each constituency for each electoral cycle. Analogously, we add all elections won by caste-based parties, and scale it by total electoral contests undertaken in each period.

 $^{^{27}}$ The endpoints of the interval correspond to the top and bottom 1% of the change in commodity tariffs between 1988 and 1997.

the magnitude and precision of the point estimates, and we focus on the results with covariates. Column (2) shows that the vote share of caste-based parties was 3 ppt. higher in elections contested in districts with higher trade protection prior to 1991. This is a substantial increase when considering that the average pre-liberalization vote-share of caste-based parties in districts with relatively low trade protection was 14 percent. Column (5) shows the corresponding increase in the likelihood of winning an election is 8 ppt., relative to the pre-liberalization mean of 16 percent. Columns (3) and (6) of Table 2 examine non-linearities in the impact of tariff reforms and show that the increase in electoral support for caste-based parties emerged from the most protected districts (top quartile of pre-1991 tariff exposure).

The standard identifying assumption for a DiD specification is that treated and control units would have exhibited comparable trends in the absence of the policy intervention. As recommended by Goldsmith-Pinkham et al. (2020), we use an event-study specification to assess the presence of differential trends in electoral support for caste-based parties across districts with high and low trade protection prior to trade liberalization. As electoral cycles are staggered across states, we aggregate elections into 7 two-year windows and estimate:²⁸

$$Y_{cdt} = \alpha_c + \delta_{st} + \sum_{i=-3}^{4} HighTariff_{d,1987} \times \mathbb{1}(Period = i) + \delta \mathbf{X}_{cdt} + \epsilon_{cdt}$$
(5)

In specification (5), elections to 13 states conducted in the years 1990 and 1991 form our reference period (i = -1) and $HighTariff_d$ is defined as before. Figure 2 shows that for both caste-based party vote shares and electoral wins, there is a positive and statistically significant jump in the point estimates following trade liberalization in 1991. While the likelihood of caste-based parties winning an election is the highest immediately after trade liberalization, the increase in vote shares remained stable through the post-liberalization period, pointing to persistence in electoral support for caste-based parties in areas facing larger losses in trade protection. Importantly, there is no evidence of rising support for caste-based parties in the two electoral cycles prior to trade liberalization, lending credence to our empirical strategy.²⁹

 $^{^{28}}$ We use the following set of aggregations: 1985; 1987-1989; 1990-1991; 1992-1993; 1994-1995; 1996-1997; 1998-2000. We opt to keep the year 1985 separate as 12 out of 16 states witnessed elections in this year.

²⁹ Caste-based parties enjoyed electoral success in select states in the years 1990 and 1991. As these two years form our reference period, if the increase in electoral support for caste-based parties was attributed to unobservables correlated with tariff protection, we would have expected a large negative coefficient for the point estimates corresponding to the two time periods of 1985 and 1987-89. This reassuringly is not the case.

5.1.4 Tariff Reforms and Electoral Performance of Other Parties

Appendix Table D5 shows that the increase in electoral support for caste-based parties in areas witnessing relatively larger declines in trade protection came at the expense of the centre-left INC, and the right-wing BJP [columns (1) and (2)].³⁰ Specifically, a 1sd higher loss in trade protection resulted in a 0.7 (0.6) ppt. reduction in the vote shares for the INC (BJP). Columns (4) and (5) show that this decline in popular support translated into a 3 (2) ppt. reduction in the likelihood of an INC (BJP) victory: a non-trivial decline when considering that the INC (BJP) won 36 (14) percent of state electoral contests prior to 1991. Appendix Figure D3 presents event-study plots showing a significant decline in the combined vote-shares of the BJP and the INC following trade liberalization, along with a significantly lower likelihood of electoral wins in districts with relatively higher pre-liberalization trade protection. Unlike the persistence in the electoral success of caste-based parties beyond 1996, the decline in the electoral success of the BJP and the INC in areas facing larger losses in trade protection did not extend beyond 1996. There is also no evidence of differential pre-liberalization trends in electoral support for these parties across regional exposure to tariffs. Taken together with the findings in Table 1, the results indicate that voters in regions facing a greater loss in trade protection shifted their electoral support from both centre-left and right-wing mainstream parties towards caste-based parties. The loss in support for the INC echoes the findings of Choi et al. (2024), who showed declining support for President Clinton and the Democratic Party in areas more exposed to import competition from Mexico in the aftermath of NAFTA. However, the decline in support to the right-wing Hindu nationalist BJP in response to rising import competition is contrary to Dippel et al. (2022), who showed higher import competition from emerging markets to increase popular support for German far-right parties.

5.2 Heterogeneity by Regional Characteristics

Section 2.2 noted that the primary support base for caste-based parties were historically marginalized OBC and SC communities. Consequently, for two districts facing the same loss in trade protection, we would expect caste-based parties to be more successful in the district with a larger share of historically marginalized groups. One challenge in this regard is that the decennial Census does not separately

 $^{^{30}}$ The point estimates corresponding to the electoral success of the BJP are weakly significant, with p-values of .089 and .051 respectively.

enumerate OBCs, and the NSS also did not separately classify OBCs till 1999. We address this by assuming that the ranking of OBC population shares across geographical regions remained invariant between 1987 and 1999. Subsequently, we identify heterogeneity across regions with relatively high and low OBC population shares, conditional on the increase in import competition.³¹ Similar tests of heterogeneity are also undertaken for regions with relatively large shares of SC and ST populations.

Summary statistics from the NSS' employment-unemployment survey in 1999-00 showed that SCs, STs and OBCs collectively accounted for 70 percent of rural population, but 50 percent of the urban population. This leads us to explore heterogeneity across regions with relatively low urbanization. Similarly, while only 15 percent of SC and OBC working-age individuals had completed secondary education, the corresponding share for working-age individuals from non-marginalized groups was 38 percent. Indeed, caste discrimination had historically restricted access to education for these groups. The severe under-representation of SC and OBC communities in higher education formed a key motivation behind the affirmative action policies in higher education undertaken by the Indian state, and championed for by caste-based parties. Consequently, we also examine heterogeneity across regions with a relatively high share of secondary educated working-age individuals. For both the share of rural population, and the share of secondary educated working-age individuals, we use pre-liberalization data from the NSS' 1987-88 employment-unemployment survey. The following empirical specification is used:

$$Y_{cdt} = \alpha_c + \delta_{st} + \beta_1 Tariff_{dt} + \beta_2 Tariff_{dt} \times HighChar_d^k + \gamma \mathbf{X}_{cdt} + \epsilon_{cdt}$$
(6)

 $HighChar^k$ in equation (6) is a dummy equal to 1, if the district's share of marginalized groups (rural population/secondary educated individuals) exceeded the median value in 1987-88. β_1 identifies the relative effect of a loss in trade protection for constituencies located in districts with "low" values of the characteristic of interest ($Char_d^k$); conditional on the loss in trade protection, β_2 tests for differential effects across constituencies in districts with a relatively "high" value of the characteristic of interest.

Columns (1) and (6) of Table 3 combine both SC and OBC groups and identify a negative and statistically significant coefficient for the interaction term (β_2). Conditional on the decline in trade protection, caste-based parties saw significantly higher electoral support in constituencies located in

³¹ The implicit assumption is that there was no substantial migration of OBC groups following the episode of trade liberalization.

districts with a relatively high share of SC or OBC populations. In such districts, a 1sd larger loss in trade protection resulted in a 1.6 ppt. increase in vote shares for caste-based parties, and a 4.5 ppt. increase in the likelihood of winning. While the interaction terms are not always precisely estimated, columns (2)-(3) and (7)-(8) identify differential effects separately for districts with relatively high SC and OBC population shares and report qualitatively similar effects. There is however no evidence of heterogeneity across regions with high ST populations.

Consistent with the higher concentration of SC and OBC communities in rural areas, columns (4) and (9) show that conditional on the loss in trade protection, electoral support for caste-based parties was significantly higher in regions with relatively low urbanization. In contrast, we identify positive interaction coefficients in columns (5) and (10) when identifying heterogeneity across the share of secondary educated individuals.³² Conditional on the loss in trade protection, the electoral support accruing to caste-based parties is significantly lower in constituencies located in such districts. This is similar to Dippel et al. (2022), who showed import competition to affect voting behaviour in regions with a high concentration of low-skilled manufacturing workers.

Broadly, the heterogeneity tests in Table 3 capture variations in regions' ability to cope with liberalization shocks. Rodrik (2021) noted that lower levels of physical, financial and human capital in rural areas can hinder their ability to cope with globalization shocks, exacerbating urban-rural inequities, and lowering support for trade liberalization and political formations advocating such policies. Similarly, the lack of skills can limit workers' mobility, both geographically, and sectorally, reducing their ability to adjust to disruptions arising from trade openness. In the present context, historical barriers imposed on socially marginalized citizens from accessing public resources, and their concentration in rural areas could have reduced their ability to adjust to globalization-induced shocks due to inadequate human and social capital.

6 Mechanism

This section explores potential mechanisms explaining the impact of trade liberalization on electoral outcomes. We focus on the labour market impacts of a loss in trade protection, and whether any adverse effects were disproportionately borne by workers from marginalized communities.

 $^{^{32}}$ The interaction term is imprecisely estimated (p-value .155) in column (9), and statistically significant at the 1% level in column (10).

6.1 Tariff Reforms and Labour Market Outcomes

A large body of research have empirically evaluated how globalization shocks affect labour market outcomes in both developed and developing economies. We draw from this literature to identify how regional variations in import competition affected labour market returns, using weekly earnings from the NSS. As the primary objective is to ascertain whether historically marginalized groups were adversely affected by tariff reforms, we focus on heterogeneity by worker characteristics. A major constraint is that the NSS did not separately classify OBCs till 1999-00, limiting our ability to estimate a specification comparable to columns (1) and (4) of Table 3. Instead, we draw from the findings of Table 3 and examine whether the loss in trade protection differentially affected wages across rural and secondary educated workers. We then examine heterogeneity by SC workers and address limitations in this exercise. The primary empirical specification is:

$$Y_{wdr} = \alpha_d + \delta_{sr} + \beta_1 Tariff_{dr} + \beta_2 Worker_{wdr}^{\theta} \times Tariff_{dr} + \beta_3 Worker_{wdr}^{\theta} + \gamma \mathbf{X}_{wdr} + \epsilon_{wdr}$$
(7)

The unit of observation in equation (7) is worker w, residing in district d, and surveyed in round r. We use two NSS survey rounds – namely round 43 conducted in 1987-88 (pre-liberalization), and round 55, conducted in 1999-00 (post-liberalization). We include district (α), and state-survey round (δ) fixed effects, along with survey-quarter fixed effects to account for seasonality. **X** includes both district covariates, and individual characteristics such as a quadratic in age, and dummies for gender, educational qualifications, religion and community indicators, and rural location. *Tariff* is defined as in equation (3). All estimates are weighted using NSS-assigned individual weights, and standard errors are clustered by district.

Y denotes the average daily wage (INR 1999-00 values), based on wages earned in the week preceding the survey. This mechanically restricts the sample to non-self employed workers reporting positive wages during the week. We restrict workers to individuals aged between 15 and 60 years, and exclude individuals from ST and Muslim communities.³³ From specification (7), $Worker^{\theta}$ is a dummy equal to 1 if the worker is located in a rural area, or has completed secondary education, or hails from

³³ We opt to exclude ST workers as Table 3 showed no differential impact of tariff reforms on electoral support for caste-based parties across regions with higher ST populations. While most caste-based parties also appealed to the Muslim community, we opt to exclude Muslim workers from the sample to focus on the caste aspect of caste-based parties. Appendix Table D7 replicates our main specification including both ST and Muslim workers and finds comparable results. Panel C in particular provides estimates across all three worker categories.

the SC community. When $Worker^{\theta}$ denotes rural workers, β_1 estimates how variations in regional tariff exposure affects daily wages of urban workers. Conditional on the loss in trade protection, β_2 identifies the differential change in rural wages. As equation (7) includes state-survey round fixed effects, we compare earnings for workers in the same state and survey period, exploiting cross-sectional variation in districts' exposure to import competition. As the NSS data is not a panel but a repeated cross-section, any compositional shifts in the labour force in response to regional variations in tariff exposures would likely affect these estimates.

Table 4 exploits cross-sectional variation in the loss in trade protection across districts, and identifies its impact on average labour market returns. Column (1) yields a positive but non-significant coefficient on daily wages. Columns (2) and (3) suggest that losses in trade protection reduced farm wages (p-value .182), but increased non-farm wages (p-value .279). Separating non-farm activities into its three major components, column (4) shows that the loss in trade protection significantly reduced manufacturing wages. Moving to a district with a 1sd larger decline in trade protection resulted in a INR 5 reduction in daily manufacturing wages. This is equivalent to .09sd of pre-liberalization manufacturing wages, or 21 percent of pre-liberalization monthly consumption (assuming a 20 day work month).³⁴ This is consistent with Autor et al. (2014), Dauth et al. (2014), Dix-Carneiro and Kovak (2017), Erten et al. (2019) and Dauth et al. (2021), who found rising exposure to import competition negatively affected labour market returns for manufacturing workers.

Table 5 explores heterogeneity along worker characteristics, using equation (7). The top panel examines heterogeneity across rural workers; the middle panel, across workers with secondary education, and the bottom panel, across SC workers. The bottom row of each panel reports p-values from testing the null of $\beta_1 + \beta_2 = 0$. Column (1) of Panel A shows that the loss in trade protection significantly increased average urban wages, but reduced rural wages. Moving to a district with a 1sd larger loss in trade protection increased urban wages by INR 2 per day. In contrast, average rural wages declined by INR 1.5 per day when faced with a comparable loss in trade protection. Columns (2) and (4) show that the decline in rural wages came primarily through a reduction in farm and manufacturing wages. While urban manufacturing wages also fell, the decline in rural manufacturing wages was significantly larger. We can reject the null of $\beta_1 + \beta_2 = 0$ at the 1% level, pointing to a net decline of INR 7 in rural manufacturing wages in response to a 1sd larger loss in trade protection. This is equivalent to .18sd of

³⁴ Pre-liberalization average per capita monthly consumption equaled INR 471 (INR 1999 values).

pre-liberalization rural manufacturing earnings or 28 percent of rural household expenditures.³⁵

Panel B examines heterogeneity across secondary educated workers and points to the skill-biased nature of trade liberalization. The interaction term is negative and statistically significant in every specification, implying that conditional on the loss in trade protection, secondary educated workers had significantly higher earnings relative to non-secondary educated workers. Column (1) shows that average daily wages for secondary educated workers increased by INR 5.5 when moving to a district with a 1sd larger decline in tariff protection, or 0.1sd of pre-liberalization earnings for secondary educated workers. In contrast, non-secondary educated workers faced a noisy INR 1.3 reduction in daily wages (p-value .130). Combining the evidence in column (1) across Panels A and B, exposure to trade liberalization positively affected labour market returns for secondary educated workers, and those located in urban areas, but negatively affected earnings for non-secondary educated workers, and those residing in rural areas. Appendix Table D6 further examines this by replicating the specification in Panel B, but restricting the sample to urban workers. We find the positive effects of trade liberalization to be restricted only to urban secondary educated workers. This attests to the skill-biased nature of trade liberalization, and implies that workers' human capital, as opposed to location, was the key factor determining the relationship between trade openness and earnings.

Higher earnings for secondary educated workers is driven by a rise in non-farm wages in trade and service occupations. Importantly, column (4) of Panel B shows that the decline in manufacturing wages in response to a loss in trade protection was restricted to non-secondary educated workers: moving to a district with a 1sd decline in trade protection reduced daily manufacturing wages by INR 5.5 for non-secondary educated workers. This negative effect is reversed for secondary educated workers, indicating that labour market returns for skilled manufacturing workers remained unaffected by the loss in trade protection. The findings resonate with Autor et al. (2014), Dauth et al. (2014), Dauth et al. (2021) and Dippel et al. (2022) who, found import competition to adversely affect manufacturing wages of low-skilled workers in advanced economies.

Finally, Panel C examines heterogeneity by SC workers. As discussed previously, the NSS did not separately classify OBC workers prior to 1999-00, precluding us from directly testing for heterogeneity across this group. Column (1) identifies a positive and statistically significant coefficient on the triple

³⁵ Rural per capita monthly household consumption in 1987-88 equaled INR 449 (INR 1999). Assuming a 20 day work-week, the decline in rural wages when moving to a district with a 1sd larger decline in trade protection equals INR 140.

interaction term, pointing to a disproportionate reduction in SC worker wages, conditional on the decline in trade protection. As the null of $\beta_1 + \beta_2 = 0$ can be rejected at the 10% level, column (1) points to a INR 1.6 reduction in daily wages for SC workers in response to a 1sd decline in trade protection. This amounts to 0.04sd of pre-liberalization SC wages, or 8 percent of SC household expenditures.

As OBC workers were not separately classified prior to 1999-00, the estimated β_1 includes the change in wages for OBC workers in response to regional variations in tariff exposure. As three-fourths of OBC workers resided in rural areas in 1999-00, and only 17 percent of OBC working-age adults had completed secondary education, it is likely that their returns on the labour market were adversely affected by the loss in trade protection. Resultantly, the estimated β_1 in column (1) of Panel C is prone to be biased downwards (in magnitude), with the interaction term being biased upwards. Even by this conservative estimate, a loss in trade protection dampens returns on the labour market for SC workers. Similar to rural workers, lower returns on the labour market emanated from a significant decline in SC farm wages. Moving to a district with a 1sd loss in trade protection, daily farm wages for SC workers reduced by INR 0.8 – a 0.8sd reduction relative to pre-liberalization SC farm wages, or 4 percent of SC household expenditures in 1987-88. Column (4) documents a large reduction in manufacturing wages for SC workers.

Collectively, our findings echo Autor et al. (2014), Dauth et al. (2014), Dix-Carneiro and Kovak (2017), Dauth et al. (2021), and Dippel et al. (2022), who report unskilled workers to bear the brunt of the adverse effects of import competition. Similar to Dauth et al. (2021), we find the loss in trade protection to positively affect wages in trade and service activities, but only for skilled workers. While a full analysis of the increase in earnings in trade and service activities is beyond the scope of this paper, the increase in non-farm wages for secondary educated workers in response to a loss in trade protection broadly points to the skill-biased nature of trade liberalization.

6.1.1 Attainment of Secondary Education

The heterogeneity tests in Table 5, as well as Appendix Tables D6 and D10 attests to the skill-biased nature of trade liberalization. However, access to secondary education is not randomly assigned, and can itself be affected by the forces of globalization. Higher demand for low-skilled labour can increase the opportunity cost of schooling, while the reduction in manufacturing wages of parents can increase the costs of attending school. Resultantly, we use the NSS employment-unemployment survey to examine whether the loss in trade protection affected the completion of secondary education.

Appendix Table D8 shows that higher exposure to tariff reforms affected the attainment of secondary education, but only for SC individuals. For both individuals aged between 15 and 60, and younger individuals aged between 15 and 30, the $Tariff \times SC$ interaction is positive and statistically significant, pointing to a lower likelihood of completing secondary education. The sum of the coefficients in column (4) suggests that comparing two SC individuals aged between 15 and 30, the likelihood of completing secondary education reduced by 0.7 ppt. upon moving to a district facing a 1sd larger loss in trade protection (p-value .02). Thus, not only were the adverse effects of globalization concentrated amongst workers with lower educational qualifications, exposure to globalization shocks negatively affected the attainment of secondary education for individuals from marginalized backgrounds. The results are consistent with Edmonds et al. (2010), who found that greater exposure to tariff reforms lowered school attendance in India through the income channel. Appendix Table D8 shows that this was concentrated amongst individuals from marginalized caste groups, who also experienced a disproportionate reduction in earnings due to increased trade openness.

6.2 Discussion and Alternate Explanations

In their study of U.S. labour markets, Kahn et al. (2023) posits two channels through which import competition can differentially affect labour market outcomes across racial groups. First, racial minorities can be disproportionately employed in sectors witnessing higher import competition; second, racial minorities might be concentrated in regions most exposed to import competition, and impacted through general equilibrium effects. Appendix Figure C2 shows that the share of SC and OBC workers in manufacturing activities in 1999-00 was comparable to Hindu forward castes, and there had been no major shift in the aggregate share of SC workers in manufacturing following trade liberalization. Appendix Figure C4 shows that workers from marginalized caste groups were also not over-represented in any of the sectors disproportionately affected by the tariff reforms. This is reflected in Table 5, where we find rising import competition to reduce overall manufacturing wages, but no differential reduction for SC workers.

This leads us to consider the second explanation of marginalized workers being concentrated in areas most exposed to trade liberalization. Appendix Figure C5 shows substantial overlap in northern India between the geographical distribution of SC and OBC populations, and regions facing the largest losses in trade protection. These regions in the states of Uttar Pradesh and Bihar also saw the most vigorous mobilization of marginalized caste groups (Jaffrelot, 2003). Additionally, SC and OBC groups were significantly more likely to reside in rural areas and were over-represented in farm work but under-represented in trade and service activities (Appendix Figures C2 and C3. Panel A of Table 5 showed that the adverse labour market effects of tariff reforms was disproportionately borne by rural workers. The overlap of marginalized workers in farm work, in addition to their concentration in northern Indian districts most exposed to tariff reforms makes it likely that these workers were more affected by the wage losses arising due to the loss in trade protection.

Table 4 showed that regions facing a larger decline in tariff protection saw a significant fall in manufacturing wages. Panel B of Table 5 however showed that this decline was restricted to low-skilled workers, lacking secondary education; manufacturing wages for secondary educated workers remained unaffected by the loss in trade protection. Additionally, Panel B showed that the gains from exposure to tariff reforms in the form of higher wages in trade and service occupations were also limited to secondary educated workers. In the Indian context, the hierarchical caste system placed substantial barriers on marginalized caste groups' access to education. This has contributed to a wide divergence in educational attainment between privileged and marginalized caste-groups, seen in Appendix Figure C6. The lower rates of educational attainment for SC and OBC adults suggest that they were unlikely to benefit from the skill-biased labour market effects of trade liberalization documented in Panel B of Table 5. Limited access to human capital left these workers vulnerable to globalization shocks, whose debilitating effects have been found to be concentrated on unskilled workers. Moreover, Appendix Table D8 showed that higher exposure to tariff reforms negatively impacted these groups' likelihood of attaining secondary education.

Collectively, the descriptive statistics, and reduced form empirical evidence suggests that SC and OBC worker earnings were adversely affected by the loss in trade protection owing to their over-representation in rural areas, and farm activities. This was compounded by historical barriers to accessing educational opportunities, which limited the stock of human capital available to these workers and restricted them from accessing employment opportunities in trade and service activities which yielded higher returns. If these workers opted to shift their electoral support to caste-based parties promising increased welfare transfers and public employment through policies of positive discrimination, it would be consistent with the findings in Section 5.1.

6.3 Alternate Explanations

We explore two alternate explanations for the relationship between the loss in trade protection and employment outcomes for workers from marginalized backgrounds.

6.3.1 Worsening of Caste Discrimination

It is possible that societal norms changed in the post-liberalization period in response to the mobilization of marginalized caste groups in northern India. If this resulted in a worsening of caste discrimination, and was correlated with districts' loss in trade protection, it can form a plausible alternate explanation for the differential reduction in wages for SC workers.³⁶ We address this by restricting our sample to SC workers and identifying heterogeneity across secondary education. If rising social discrimination against SC workers was the driving factor behind the decline in labour market returns, we should expect no differential returns across secondary education, conditional on exposure to tariff reforms. Appendix Table D10 however shows this not to be the case. Akin to Panel B of Table 5, the interaction terms for both overall and non-farm daily wages are negative, and statistically significant. Thus, even within the sub-sample of SC workers, there is evidence of a skill-biased aspect of trade liberalization. The main hindrance is that only 11 percent of SC working-age individuals had completed secondary education, and could stand to benefit from the opportunities unleashed by trade liberalization.

6.3.2 Incumbency Effects

A final channel explored is "anti-incumbency" against the Congress Party. Appendix Table D5 reports a decline in electoral support for the INC upon moving to a region with a larger loss in trade protection. Appendix Figure A2 shows that this period was marked by an overall reduction in popular support for the INC. Consequently, a plausible explanation to our findings is that the electoral gains to caste-based parties emerged from a mechanical reallocation of popular support from the INC, and not due to any specific political agenda championed by caste-based parties. We offer two counters to this explanation:

³⁶ As described in Section 2.2, a key political agenda of caste-based parties was to expand affirmative action quotas in public education and employment. This could have created a backlash against citizens from marginalized castes. If the backlash was larger in areas witnessing greater reductions in trade protection, it can explain the differential reduction in wages for SC workers.

first, the multi-party nature of Indian politics implies that caste-based parties were not the sole alternative to the INC. Indeed, as seen from Appendix Figure A3, the Hindu nationalist BJP emerged through the 1990s as a key challenger to the INC. Appendix Table A1 also shows that the effective number of parties engaging in an electoral contest over this period equaled 3, which limits the chances of caste-based parties being the automatic beneficiary from any loss of support to the INC. Formally, we identify heterogeneity in the impact of a loss in trade protection across constituencies where the INC is the local incumbent. As incumbency is not randomly assigned, we also run an alternate specification after restricting the sample to constituencies which witnessed a "close" electoral contest involving the INC in the prior electoral period.³⁷ The uninteracted Tariff coefficient in Appendix Table D9 remains negative and statistically significant across all specifications, implying that a loss in trade protection increased electoral support for caste-based parties in constituencies where the INC was not the local incumbent. The interaction terms in fact are positive and statistically significant, pointing to a dampening in electoral support for caste-based parties when the INC was the local incumbent.³⁸ This alleviates concerns that rising electoral support for caste-based parties in response to rising import competition emanated from a mechanical incumbency effect, and was unrelated to the political platforms espoused by these parties.

³⁷ Close electoral contests are elections where the margin of victory is less than or equal to 5 percent of the votes cast. Conditional upon parties being unable to precisely control their vote shares, the outcome of close electoral contests can be considered as quasi-random (Eggers et al., 2015).

³⁸ The sum of the coefficients are statistically distinguishable from 0, which implies that conditional on exposure to import competition, overall electoral support for caste-based parties increased when the INC was the local incumbent.

References

- Alesina, A. and La Ferrara, E. (2005). Ethnic diversity and economic performance. Journal of Economic Literature, 43(3):762–800.
- Alesina, A., Michalopoulos, S., and Papaioannou, E. (2016). Ethnic inequality. Journal of Political Economy, 124(2):428–488.
- Amodio, F., Chiovelli, G., and Hohmann, S. (2024). The employment effects of ethnic politics. American Economic Journal: Economic Policy, 16(2):456–491.
- Aneja, A. and Ritadhi, S. K. (2021). How representation reduces minority criminal victimization: Evidence from scheduled castes in india. The Journal of Law, Economics, and Organization. ewab028.
- Aneja, A. and Ritadhi, S. K. (2022). Can political parties improve minority well-being? evidence from india's "silent revolution". Journal of Development Economics, 158:102931.
- Atkin, D. and Khandelwal, A. K. (2020). How distortions alter the impacts of international trade in developing countries. Annual Review of Economics, 12:213–238.
- Autor, D. H., Dorn, D., and Hanson, G. H. (2013). The china syndrome: Local labor market effects of import competition in the united states. *American Economic Review*, 103(6):2121–2168.
- Autor, D. H., Dorn, D., Hanson, G. H., and Majlesi, K. (2020). Importing political polarization: Electoral consequences of rising trade exposure. *American Economic Review*, 110(10):3139–3183.
- Autor, D. H., Dorn, D., Hanson, G. H., and Song, J. (2014). Trade adjustment: Worker level evidence. Quartely Journal of Economics, 129(4):1799–1860.
- Borusyak, K., Hull, P., and Jaravel, X. (2022). Quasi-experimental shift-share research designs. *Review of Economic Studies*, 89(1):181–213.
- Burgess, R., Jedwab, R., Miguel, E., Morjaria, A., and Padró i Miquel, G. (2015). The value of democracy: Evidence from road building in kenya. *American Economic Review*, 105(6):1817–1851.
- Chandra, K. (2004). Why Ethnic Parties Succeed: Patronage and Ethnic Head Counts in India. Cambridge University Press.
- Choi, J., Kuziemko, I., Washington, E., and Wright, G. (2024). Local economic and political effects of trade deals: Evidence from nafta. *American Economic Review (forthcoming)*.
- Dauth, W., Findeisen, S., and Suedekum, J. (2014). The rise of the east and the far east: German labour markets and trade integration. *Journal of the European Economic Association*, 12(6):1643–1675.
- Dauth, W., Findeisen, S., and Suedekum, J. (2021). Adjusting to globalization in germany. Journal of Labour Economics, 39(1):263–302.
- De Luca, G., Hodler, R., Raschky, P. A., and Valsecchi, M. (2018). Ethnic favouritism: An axiom of politics. *Journal of Development Economics*, 132:115–129.
- Dippel, C., Gold, R., Heblich, S., and Pinto, R. (2022). The effect of trade on workers and voters. *Economic Journal*, 132(641):199–217.
- Dix-Carneiro, R. and Kovak, B. K. (2017). Trade liberalization and regional dynamics. American Economic Review, 107(10):2908–2946.

- Edmonds, E. V., Pavnick, N., and Topalova, P. (2010). Trade adjustment and human capital investments: Evidence from indian tariff reform. *American Economic Journal: Applied Economics*, 2(4):42–75.
- Eggers, A. C., Fowler, A., Hainmueller, J., Hall, A. B., and Snyder Jr., J. M. (2015). On the validity of the regression discontinuity design for estimating electoral effects: New evidence from over 40,000 close races. *American Journal of Political Science*, 59(1):259–274.
- Erten, B., Leight, J., and Tregenna, F. (2019). Trade liberalization and local labour market adjustment in south africa. *Journal of International Economics*, 118(C):448–467.
- Gang, Ira, N. and Pandey, M. (1996). Trade protection in india: Economics vs politics. Departmental Working Paper 199616, Rutgers University, Department of Economics.
- Goldsmith-Pinkham, P., Sorkin, I., and Swift, H. (2020). Bartik instruments: What, when, why, and how. *American Economic Review*, 110(8):2586–2624.
- Hnatkovska, V., Lahiri, A., and Paul, S. (2012). Castes and labor mobility. American Economic Journal: Applied Economics, 4(2):274–307.
- Hodler, R. and Raschky, P. (2014). Regional favouritism. Quarterly Journal of Economics, 129(2):995– 1033.
- Jaffrelot, C. (2003). India's Silent Revolution. Columbia University Press.
- Jaffrelot, C. and Kumar, S. (2009). Rise of the Plebeians? The Changing Face of the Indian Legislative Assemblies. Routledge India.
- Kahn, Lisa, B., Oldenski, L., and Park, G. (2023). Racial and ethnic inequality and the china shock. NBER Working Paper No. 30646.
- Manor, J. (1998). Parties and the party system. In Chatterjee, P., editor, State and Politics in India. Oxford University Press, New Delhi.
- Munshi, K. (2019). Caste and the indian economy. Journal of Economic Literature, 57(4):781–834.
- Oh, S. (2023). Does identity affect labour supply? American Economic Review, 113(8):2055–2083.
- Pavcnik, N. (2017). The impact of trade on inequality in developing countries. *NBER Working Paper* 23878.
- Rodrik, D. (2021). Why does globalization fuel populism? economics, culture, and the rise of right-wing populism. *Annual Review of Economics*, 13:133–170.
- Topalova, P. (2010). Factor immobility and regional impacts of trade liberalization: Evidence on poverty from india. *American Economic Journal: Applied Economics*, 2(4):1–41.

7 Figures



Figure 1: Loss in Trade Protection and Electoral Support to Caste-Based Parties: Geographical Distribution

The above figures show the loss in tariff protection across district, and electoral support for caste-based parties. The top figure shows the geographical distribution of the change in tariff exposure before and after the liberalization episode $(\Delta Tariff_d)$. Darker shades reflect larger losses in trade protection. The bottom figures show the change in electoral support to caste-based parties before and after the liberalization episode. The bottom-left panel compares the change in total votes received by caste-based parties (as a fraction of total votes cast) between the post and pre-liberalization periods. The bottom-right panel compares the change in total elections won by caste-based parties (as a fraction of total elections won by caste-based parties (as a fraction of total elections in the district) between the post and pre-liberalization periods. Darker shades reflect higher vote shares (electoral victories) for caste-based parties. The breaks refer to the 10th, 25th, 50th, 75th and 90th percentiles of the distribution of each variable of interest.



Figure 2: Loss in Trade Protection and Electoral Success of Caste-Based Parties: Event-Study Plots

The above figure how the loss in trade protection affects the electoral success of caste-based parties as event study plots, estimated using equation (5). The unit of observation is the electoral constituency. The outcome of interest in the left-panel is the vote share of caste-based parties; in the right-panel, a dummy equaling 1 if the caste-based party won an election. The circles show point estimates; the vertical lines, 95% confidence intervals. Loss in trade protection is based on districts' protection from import tariffs in 1987 ($Tarif f_{d,1987}$). Districts with a relatively high (above median) measure of $Tarif f_{d,1987}$ form the "treated" group. Elections are aggregated into 2 year electoral cycles, with the first being elections conducted in 1985. Elections conducted in the years 1990 and 1991 form the reference (omitted) category. The final time period includes elections conducted in the years 1998, 1999 and 2000. All specifications include constituency and state-electoral cycle fixed effects, along with constituency and district covariates. Regressions are weighted using the number of registered voters in the constituency. Standard errors are in parentheses, clustered by district.

8 Tables

	(1)	(2)	(3)	(4)	(5)	(6)
	Cas	te Parties Vote S	hare	F	Pr(Caste Party Wi	n = 1)
Tariff	151***	194***	211***	447***	509***	530***
	(.045)	(.048)	(.051)	(.115)	(.125)	(.134)
FDI	. ,	. ,	026		. ,	047
			(.045)			(.090)
Licensing			$.057^{*}$.091
			(.034)			(.079)
NTB			.046			055
			(.100)			(.236)
Observations	13390	13390	13390	13390	13390	13390
\mathbb{R}^2	.75	.76	.76	.54	.55	.55
Control Mean	.16	.16	.16	.20	.20	.20
Covariates	Ν	Υ	Υ	Ν	Υ	Y

Table 1: Loss in Trade Protection and Electoral Performance of Caste-Based Pa	rties
---	-------

Notes: This table shows the impact of a loss in trade protection on electoral support for caste-based parties. The unit of observation is the electoral constituency. The outcome of interest in columns (1)-(3) is the vote share received by caste-based parties; in columns (4)-(6), a dummy equal to 1 if a caste-based party won the election. All specifications include constituency and state-electoral year fixed effects. Columns (2)-(3), and (5)-(6) also include district and constituency-specific time-varying covariates. Columns (3) and (6) control for the impact of other major liberalization policies. All specifications are weighted by the registered number of voters in the constituency. Standard errors are in parentheses, clustered by district. Significant levels: *10%, **5%, and ***1%

 Table 2: Loss in Trade Protection and Electoral Support for Caste-Based Parties: Differences-in-Difference

 Estimates

	(1)	(2)	(3)	(4)	(5)	(6)
	Cast	e Parties Vote	Share	I	Pr(Caste Party V	Vin = 1)
High Tariff, 1987 \times Post	.021** (.009)	$.029^{***}$ (.010)		.065*** (.022)	$.081^{***}$ (.024)	
Tariff Q^2 , 1987 × Post		. ,	.004 $(.015)$. ,		007 $(.031)$
Tariff Q^3 , 1987 × Post			.021 (.014)			.052 (.032)
Tariff Q^4 , 1987 × Post			$.045^{***}$ (.016)			.111**** (.038)
Observations	13390	13390	13390	13390	13390	13390
\mathbb{R}^2	.75	.76	.76	.54	.55	.55
Control Mean	.14	.14	.17	.16	.16	.19
Covariates	Ν	Υ	Υ	Ν	Υ	Y

Notes: This table shows the impact of a loss in trade protection on the electoral performance of caste-based parties using a reduced form differences-in-difference specification. The unit of observation is the electoral constituency. The outcome of interest in columns (1)-(2) is the vote share received by caste-based parties; in columns (3)-(4), a dummy equal to 1 if a caste-based party won the election. All specifications include constituency and state-electoral year fixed effects, and constituency and district-specific covariates. *High Tariff* is a dummy equaling 1 if the district's tariff exposure in 1987 (*Tariff*_{d,1987}) falls in the top two quartiles of the tariff distribution. *Tariff*Q², *Tariff*Q³, *Tariff*Q² are dummies corresponding to the 2nd, 3rd and top quartiles of the distribution of district tariff exposure in 1987. Standard errors are in parentheses, clustered by district. Significant levels: *10%, **5%, and ***1%

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
		Caste F	Parties Vot	te Share			Pr(Cast	e Party V	Vin = 1)	
Tariff	134***	180***	145***	155***	193***	421***	500***	453***	396***	502**
	(.050)	(.049)	(.051)	(.050)	(.048)	(.134)	(.123)	(.136)	(.125)	(.121)
Tariff \times High OBC/SC	046***					074***	. ,			. ,
/	(.014)					(.028)				
Tariff \times High SC		016				. ,	022			
		(.016)					(.036)			
Tariff \times High ST		.003					.048			
C		(.013)					(.029)			
Tariff \times High OBC		· · ·	037***				· · ·	044		
_			(.014)					(.033)		
Tariff \times High Rural				039***				. ,	114***	
C				(.015)					(.038)	
Tariff \times High Educ.				· · /	.022				× ,	.105***
_					(.015)					(.038)
Observations	13172	13390	13172	13390	13390	13172	13390	13172	13390	13390
\mathbb{R}^2	.76	.76	.76	.76	.76	.55	.55	.55	.55	.55
Control Mean	.16	.16	.16	.16	.16	.20	.20	.20	.20	.20
$\beta_1 + \beta_2 = 0 \ (p\text{-}val)$.00	.00	.00	.00	.00	.00	.00	.00	.00	.00

Table 3: Loss in Trade Protection and Electoral Performance of Caste-Based Parties: Heterogeneity by District

 Characteristics

Notes: This table shows differential effects of the loss in trade protection on electoral support for caste-based parties across district characteristics. The unit of observation is the electoral constituency. The outcome of interest in columns (1)-(5) is the vote share received by caste-based parties; in columns (6)-(10), a dummy equal to 1 if a caste-based party won the election. All specifications include constituency and state-electoral year fixed effects, along with district and constituency-specific time-varying covariates. *High OBC/SC* is a dummy equaling 1 if the district had a relatively high share of individuals from SC or OBC communities; *High ST* is a dummy equaling 1 if the district had a relatively high share of individuals from ST communities; *High OBC* is a dummy equaling 1 if the district had a relatively high share of individuals from the OBC communities; *High Rural* is a dummy equaling 1 if the district had a relatively high share of rural population; *High Educ*. is a dummy equaling 1 if the district had a relatively high share of rural population. Except for the share of OBC individuals, district characteristics are based on pre-1991 district characteristics. All specifications are weighted by the registered number of voters in the constituency. Standard errors are in parentheses, clustered by district. Significant levels: *10%, **5%, and ***1%

	(1)	(2)	(3)	(4)	(5)	(6)
				Daily Wages (INR))	
	All	Farm	Non-Farm	Manufacturing	Trade Services	Construction
Tariff	5.203	7.414	-18.626	58.079**	-9.110	8.143
	(10.554)	(5.547)	(17.183)	(24.249)	(20.658)	(16.224)
Observations	90068	30292	60852	14653	37673	7010
\mathbb{R}^2	.49	.52	.43	.45	.42	.55
Control Mean	64.17	21.30	85.33	74.34	96.25	45.08

Table 4: Loss in Trade Protection and Worker Earnings

Notes: This table identifies the impact of a loss in trade protection on daily wages. The unit of observation is the individual. The sample is restricted to individuals aged between 15 and 60 years, and reporting positive labour wages in the week preceding the survey. Daily wages are computed by dividing total weekly wages by the total number of days worked during the week. Daily wages are expressed in INR 1999 values. Self-employed workers are excluded. All specifications include district, state-survey round and survey-quarter fixed effects. Worker-specific covariates and time-varying district covariates are also included. All specifications are weighted using household weights. Standard errors in parentheses, clustered by district. Significant levels: *10%, **5%, and ***1%

			Panel A:			
			Rural			
	(1)	(2)	(3)	(4)	(5)	(6)
			Daily	Wages (INR)		
	A 11	D	New Eeron	M f	Trade	Competence et in
— : (f	All	Farm	Non-Farm	Manufacturing	Services	Constructio
Tariff	-16.192	187	-21.797	54.201	-12.254	7.674
	(9.664)	(5.640)	(16.836)	(25.042)	(20.273)	(16.175)
$1 \operatorname{arim} \times \operatorname{Rural}$	31.883	8.054	23.55(24.990	19.129	3.910
	(2.436)	(1.591)	(3.430)	(5.966)	(4.582)	(3.865)
Observations	90068	30292	60852	14653	37673	7010
R ²	.49	.52	.43	.45	.42	.55
Control Mean	64.17	21.30	85.33	74.34	96.25	45.08
$H_0:\beta_1+\beta_2=0 \ (p\text{-}val)$.02	.15	.92	.00	.74	.48
			Panel B:			
			Education			
	(1)	(2)	(3)	(4)	(5)	(6)
			Daily	Wages (INR)		
				0 ()	Trade	
	All	Farm	Non-Farm	Manufacturing	Services	Constructio
Tariff	14.684	7.138	5.167	60.716^{***}	19.819	12.544
	(9.674)	(5.714)	(16.563)	(23.114)	(20.422)	(16.427)
Tariff \times Educated	-76.401^{***}	-47.490^{***}	-80.270^{***}	-59.818^{***}	-80.399***	-20.670^{***}
	(2.352)	(6.658)	(2.527)	(5.232)	(2.811)	(7.703)
Observations	90068	30292	60852	14653	37673	7010
\mathbb{R}^2	.52	.53	.46	.47	.45	.56
Control Mean	64.17	21.30	85.33	74.34	96.25	45.08
$H_0:\beta_1+\beta_2=0 \ (p-val)$.00	.00	.00	.97	.00	.64
			Panel C:			
			Caste			
	(1)	(2)	(3)	(4)	(5)	(6)
	(-)	(-)	Daily	Wages (INR)	(*)	(*)
					Trade	
	All	Farm	Non-Farm	Manufacturing	Services	Constructio
Tariff	-2.132	6.179	-22.147	55.822**	-12.390	7.639
	(10.425)	(5.566)	(17.173)	(24.463)	(20.744)	(16.215)
$\mathrm{Tariff} \times \mathrm{SC}$	19.685^{***}	2.593^{***}	23.183^{***}	6.878	28.846^{***}	1.818
	(1.971)	(.886)	(3.483)	(6.121)	(4.933)	(2.871)
Observations	90068	30292	60852	14653	37673	7010
\mathbb{R}^2	.49	.52	.43	.45	.42	.55
Control Mean	64.17	21.30	85.33	74.34	96.25	45.08
$H_0: \beta_1 + \beta_2 = 0 \ (p-val)$.09	.11	.95	.01	.43	.57

Table 5: Loss in Trade Protection and Worker 1	Earnings
--	----------

Notes: This table identifies the impact of a loss in trade protection on daily wages. Wages are in INR 1999 values. The unit of observation is the individual. The sample is restricted to individuals aged between 15 and 60 years, and reporting positive wages in the week preceding the survey. Daily wages are computed by dividing total weekly wages by the total number of days worked during the week. Self-employed workers are excluded. *Rural* is a dummy equaling 1 if the worker resides in a rural area. *Educated* is a dummy equaling if the worker has completed secondary or higher education. *SC* is a dummy equaling 1 if the worker hails from the SC community. All specifications include district, state-survey round and survey-quarter fixed effects. Worker-specific covariates and time-varying district covariates are also included. All specifications are weighted using household weights. Standard errors in parentheses, clustered by district. Significant levels: *10%, *5%, and ***1%

A Appendix: Descriptive Statistics on Partisan Support

This section shows descriptive statistics on partian support in India between 1987 and 1997.

A.1 Figures





Notes: The above figures show the geographical distribution in electoral support for caste-based parties in the pre-liberalization, and post-liberalization periods. The former corresponds to the year 1987; the latter corresponds to the year 1997. Electoral support is measured as district-level vote share for caste-based parties. Only the highest vote share received by a caste-based party in an electoral constituency is used for computing district vote shares.





The above figures show the geographical distribution in electoral support for the Indian National Congress (INC) in the pre-liberalization, and post-liberalization periods. The former corresponds to the year 1987; the latter corresponds to the year 1997. Electoral support is measured as district-level vote share for the INC. Darker shades reflect higher vote shares.



Figure A3: Electoral Support for BJP: Geographical Distribution

The above figures show the geographical distribution in the electoral support for the Bharatiya Janata Party (BJP) in the pre-liberalization, and post-liberalization periods. The former corresponds to the year 1987; the latter corresponds to the year 1997. Electoral support is measured as district-level vote share for the BJP. Darker shades reflect higher vote shares.

A.2 Tables

-

	Ν	Mean	SD
Registered Voters	13390	147855.603	51263.367
Voter Turnout	13390	62.138	12.381
Reserved Constituency	13390	0.214	0.410
Effective No. of Parties	13386	3.194	1.127
INC Vote Share	13388	0.296	0.173
INC Win	13390	0.300	0.458
BJP Vote Share	13390	0.165	0.183
BJP Win	13390	0.195	0.397
Left Party Vote Share	13390	0.068	0.153
Left Party Win	13390	0.085	0.280
Caste-Based Party Vote Share	13390	0.148	0.178
Caste-Based Party Win	13390	0.187	0.390
Victory Margin	13386	-0.141	0.123

Table A	1:	Summary	Statistics:	Electoral	Varia	ble
---------	----	---------	-------------	-----------	-------	-----

Notes: This table presents summary statistics from the electoral data. *Reserved Constituency* are constituencies which are reserved for *Dalit/Adivasi* (SC/ST) candidates. *Victory Margin* is the difference in votes between the winners and runners-up, as a share of total votes cast in the constituency.

B Appendix: Descriptive Statistics of Tariff Reforms

This section presents descriptive characteristics of the tariff reforms.

B.1 Figures





Notes: The above figure shows the distribution of industry-level tariffs before and after the episode of tariff liberalization. Pre-liberalization tariffs are computed using tariffs in 1988; post-liberalization tariffs are computed using tariffs in 1997. Industry-level tariffs are computed using a weighted average of commodity-level tariffs, corresponding to 4-digit (NIC) industry codes. The volume of imports for each commodity in 1988 is used for the weighting.





Notes: This above figure shows average annual tariff rates between 1987 and 2001. The red dashed line corresponds to the year 1991, the year of trade liberalization. Average annual tariffs are computed by taking a weighted average of tariffs on manufactured commodities, with the weights corresponding to the volume of imports of that commodity in 1988, three years prior to trade liberalization.

Figure B3: Pre-Liberalization Tariffs and Change in Tariffs by Broad Manufacturing Industries



The above figures shows average industry-level tariffs in the pre-liberalization period for 2-digit broad industry categories, and the change in average tariffs across the pre and post-liberalization periods. The changes are based on differences in ad-valorem tariffs between 1997 and 1988.

Figure B4: Unconditional Correlation Between Change in Tariffs and Initial Tariffs



Notes: This figure presents the correlation between the change in 4-digit average industry tariff rates and pre-liberalization tariffs. The horizontal axis is divided into 20 equally spaced bins along the range of average industry tariffs in 1988. Each point on the figure represents the unconditional average change in tariffs between 1988 and 1997 $(\Delta Tariff)$.

C Appendix: Descriptive Statistics on Labour Force Characteristics

This section presents descriptive statistics on employment patterns in India over the pre and postliberalization periods.

C.1 Figures



Figure C1: Broad Employment Patterns Over Time

Notes: The above figure shows broad employment trends over three NSS survey rounds. The NSS surveys correspond to rounds 43 (1987-88), 50 (1993-94) and 55 (1999-00). LFP denotes the rate of labour force participation, and the sample covers all individuals aged between 15 and 60 years. The remaining categories are computed after restricting the sample to participants in the labour force.



Figure C2: Non-Farm Employment Across Communities

The above figure shows broad trends in non-farm employment over three NSS survey rounds, across communities. The NSS surveys correspond to rounds 43 (1987-88), 50 (1993-94) and 55 (1999-00). Share of workers in non-farm activities are calculated conditional on workers' participation in the labour force.



Figure C3: Labour Force Participation, Unemployment, and Farm Employment Across Communities

The above figure shows broad employment trends over three NSS survey rounds, across communities. The NSS surveys correspond to rounds 43 (1987-88), 50 (1993-94) and 55 (1999-00). The top-left panel shows the evolution of average labour force participation rates across communities over time. The top-right panel shows unemployment rates; the bottom-left panel, the share of workers in farm activities. The share of unemployed workers and farm workers are calculated conditional on workers' participation in the labour force.



Figure C4: Distribution of Workers Across Manufacturing Industries by Community

The above figures show the distribution of workers across broad manufacturing categories. The manufacturing categories correspond to 2-digit industry codes. OBC workers were not separately reported prior to the NSS' employment and unemployment survey in 1999-00.



Figure C5: Geographical Distribution of Historically Marginalized Communities in India

The above figures show the geographical distribution of historically marginalized communities in India. The top-panel shows the combined share of SC and OBC groups in districts; the bottom-left panel, the share of SC groups in districts; the bottom-right panel, the share of ST groups in districts. The fraction of SC and ST groups in districts are obtained from the employment-unemployment survey conducted by the NSS in 1987-88. The share of OBC groups in districts is obtained from the NSS 1999-00 survey. Darker shades reflect higher population shares for the communities of interest.



Figure C6: Educational Attainment Across Communities

Notes: This figure shows the share of working-aged individuals who have completed secondary or higher education, across communities. Working-aged individuals refer to individuals aged between 15 and 60. The data is sourced from the 43rd (1987-88), 50th (1999-00) and 55th (1999-00) rounds of the employment-unemployment surveys conducted by the NSS. The NSS did not separately identify OBC individuals prior to round 55, conducted in 1999-00.

C.2 Tables

Ν	Mean	SD
693104	0.492	0.500
693104	0.747	0.434
693104	0.182	0.386
693104	0.087	0.282
693104	32.693	12.635
693104	0.531	0.499
693104	0.256	0.436
693104	0.132	0.339
693104	0.041	0.198
693104	0.610	0.488
	N 693104 693104 693104 693104 693104 693104 693104 693104 693104 693104 693104	N Mean 693104 0.492 693104 0.747 693104 0.182 693104 0.087 693104 0.256 693104 0.256 693104 0.132 693104 0.041 693104 0.610

Table C1. Summary Statistics. Labour Market Outcome	Table	C1:	Summary	Statistics:	Labour	Market	Outcomes
---	-------	-----	---------	-------------	--------	--------	----------

Notes: This table presents summary statistics from the employment-unemployment surveys conducted by the NSS. The data covers the 43rd (1987-88) and 55th (1999-00) survey rounds of the NSS. The sample is restricted to working-age adults. Working-aged adults are individuals aged between 15 and 60 years.

	Ν	Mean	SD
Unemployed	403375	0.034	0.180
Self-employed	403375	0.488	0.500
Farm	403375	0.592	0.491
Mining	403375	0.007	0.082
Manufacturing	403375	0.107	0.309
Trade	403375	0.085	0.278
Construction	403375	0.043	0.203
Services	403375	0.128	0.334

Table C2: Summary Statistics: Labour Market Outcomes

Notes: This table presents summary statistics from the employment-unemployment surveys conducted by the NSS. The data covers the 43rd (1987-88) and 55th (1999-00) survey rounds of the NSS. The sample is restricted to working-age adults participating in the labour force. Working-aged adults are individuals aged between 15 and 60 years.

	Ν	Mean	SD	P10	P25	P50	P75	P90
Daily Wage	50660	60.88	52.42	13.57	19.38	40.70	90.43	144.71
Daily Wage, Farm	10360	21.14	10.09	10.85	13.57	18.99	27.13	40.70
Daily Wage, Non-Farm	40622	81.02	62.65	18.99	32.56	63.49	109.50	164.74
Daily Wage, Manufacturing	9978	69.86	55.55	16.28	27.13	54.27	94.97	149.23
Daily Wage, Trade/Services	26309	92.71	65.56	21.71	40.70	81.40	129.08	184.50
Daily Wage, Construction	3624	43.38	27.74	16.55	27.13	32.56	54.27	81.40

Table C3: Summary Statistics: Average Daily Wages, 1987-88

Notes: This table presents summary statistics average daily wages from the employment-unemployment surveys conducted by the NSS. The data covers the 43rd (1987-88) survey round of the NSS, and the wages are inflated to INR 1999. The sample is restricted to workers aged between 15 and 60 who report a positive daily wage. Daily wages are computed as total weekly earnings in the broad sector, scaled by the number of days worked during the week.

 Table C4:
 Summary Statistics: Average Daily Wages, 1999-00

	Ν	Mean	SD	P10	P25	P50	P75	P90
Daily Wage	76323	71.16	76.82	20.00	30.00	42.00	71.43	170.00
Daily Wage, Farm	31546	37.65	21.62	20.00	25.00	30.00	45.00	60.00
Daily Wage, Non-Farm	45777	110.10	101.26	28.57	42.86	70.00	145.14	250.00
Daily Wage, Manufacturing	10600	91.13	83.12	28.57	41.67	64.29	106.67	186.71
Daily Wage, Trade/Services	27579	134.38	116.58	28.57	50.00	100.00	192.86	285.71
Daily Wage, Construction	6678	63.06	34.07	30.00	40.00	50.00	75.00	107.14

Notes: This table presents summary statistics average daily wages from the employment-unemployment surveys conducted by the NSS. The data covers the 55th (1999-00) survey round of the NSS. The sample is restricted to workers aged between 15 and 60 who report a positive daily wage. Daily wages are computed as total weekly earnings in the broad sector, scaled by the number of days worked during the week.

D Appendix: Additional Results

Additional results are shown here.

D.1 Figures

Figure D1: Loss in Trade Protection and Electoral Success of Caste-Based Parties: Unconditional First Difference Estimator



The above figures plots the change in exposure to import tariffs ($\Delta Tariff_d$) against the change in electoral support for caste-based parties. The unit of observation is the district. The outcome of interest in the left-panel is vote shares; in the right panel, fraction of electoral wins. The horizontal axis is divided into 18 equally spaced bins along the support of ($\Delta Tariff_d$): the long difference in the district's tariff exposure between 1997 and 1987. Each point on the figure reflects the unconditional average long difference in electoral outcomes, before and after trade liberalization, corresponding to each bin of $\Delta Tariff_d$. Larger values (in magnitude) along the horizontal axis reflect larger losses in trade protection; larger values along the vertical axis reflect increased electoral success of caste-based parties after 1991.

Figure D2: Randomized Inference: Empirical CDFs of Caste-Based Party Vote Shares and Likelihood of Winning



The above figure how the loss in trade protection affects the electoral success of caste-based parties as event study plots, estimated using equation (5). The unit of observation is the electoral constituency. The outcome of interest in the left-panel is the vote share of caste-based parties; in the right-panel, a dummy equaling 1 if the caste-based party won an election. The circles show point estimates; the vertical lines, 95% confidence intervals. Loss in trade protection is based on districts' protection from import tariffs in 1987 ($Tarif f_{d,1987}$). Districts with a relatively high (above median) measure of $Tarif f_{d,1987}$ form the "treated" group. Elections are aggregated into 2 year electoral cycles, with the first being elections conducted in 1985. Elections conducted in the years 1990 and 1991 form the reference (omitted) category. The final time period includes elections conducted in the years 1998, 1999 and 2000. All specifications include constituency and state-electoral cycle fixed effects, along with constituency and district covariates. Regressions are weighted using the number of registered voters in the constituency. Standard errors are in parentheses, clustered by district.



Figure D3: Loss in Trade Protection and Electoral Success of Mainstream Parties: Event-Study Plots

The above figure depicts how the loss in trade protection affected the electoral success of mainstream parties as event study plots, estimated using equation (5). The unit of observation is the electoral constituency. The outcome of interest in the left-panel is the vote share of the two mainstream parties – BJP and INC; in the right-panel, a dummy equaling 1 if either the BJP or the INC won an election. The circles show point estimates; the vertical lines, 95% confidence intervals. Regional exposure to traded tariffs is based on exposure to tariffs in 1987 ($Tariff_{d,1987}$). Districts with a relatively high (above median) measure of $Tariff_{d,1987}$ form the "treated" group. Elections are aggregated into 2 year electoral cycles, with the first being elections conducted in 1985 and 1987. Elections conducted in the years 1990 and 1991 form the reference category (omitted). The final time period includes elections conducted in the years 1998, 1999 and 2000. All specifications include constituency and state-electoral cycle fixed effects, along with constituency and district covariates. Regressions are weighted using the number of registered voters in the constituency. Standard errors are in parentheses, clustered by district.

D.2 Tables

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
		. /	D	istrict Tarif	f Exposure		
Fraction Rural	.030						
	(.059)						
Fraction Female		480					
		(.296)					
Fraction Hindus			017				
			(.071)				
Fraction Muslims				.064			
				(.079)			
Fraction SC/ST					165^{**}		
					(.076)		
Fraction Literate						.019	
						(.088)	
Fraction Secondary Educated							034
							(.178)
Observations	362	362	362	362	362	362	362
\mathbb{R}^2	.31	.31	.31	.31	.34	.31	.31
Predictor Mean	.81	.49	.84	.10	.28	.42	.11

Table D1a: Predicting Pre-Liberalization District Tariff Exposure with District Demographic Characteristics

Notes: This table shows that district exposure to import tariffs is not predicted by district demographic characteristics. The unit of observation is the district. The outcome variable is pre-liberalization district tariff exposure – $Tariff_{d,1987}$. District demographic characteristics are sourced from the employment-unemployment survey conducted by the NSS in 1987-88, prior to the trade liberalization episode. All specifications include state fixed effects, and are weighted by the district's population in 1987. Standard errors are in parentheses, clustered by state. Significant levels: *10%, **5%, and ***1%

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
		~ /	~ /	Dis	trict Tari	ff Exposu	re		
LFP	101								
	(.059)								
Unemployment Rate		306							
		(.276)							
Fraction Self-Employed			.097						
			(.090)						
Fraction Salaried				067					
				(.136)					
Fraction Farm					.066				
					(.086)				
Fraction Manufacturing						.033			
						(.145)			
Fraction Construction							338		
							(.329)		
Fraction Trade								.098	
								(.205)	
Fraction Services									049
									(.130)
Observations	362	362	362	362	362	362	362	362	362
\mathbb{R}^2	.31	.31	.32	.31	.32	.31	.32	.31	.31
Predictor Mean	.67	.03	.54	.14	.63	.09	.04	.06	.12

 Table D1b:
 Predicting Pre-Liberalization District Tariff Exposure with District Labour Force Characteristics

Notes: This table shows that district exposure to import tariffs is not predicted by district labour force characteristics. The unit of observation is the district. The outcome variable is pre-liberalization district tariff exposure – $Tariff_{d,1987}$. Labour force characteristics are obtained from the employment-unemployment survey undertaken by the NSS in 1987-88, prior to trade liberalization. Fractions represent the fraction of workers engaged in the sector concerned. All specifications include state fixed effects, and are weighted by the district's population in 1987. Standard errors are in parentheses, clustered by state. Significant levels: *10%, **5%, and ***1%

Table D1c: Predicting Pre-Liberalization District Tariff Exposure with District Economic Characteristics

	(1)	(2)	(3)	(4)
			District Tariff Exposure	
Household Consumption	000			
	(.000)			
Banks Per Capita		029		
		(.042)		
Free Import Exposure			316	
			(.335)	
Licensing Exposure				103
				(.095)
Observations	362	362	362	362
\mathbb{R}^2	.31	.31	.31	.32
Predictor Mean	366.70	.65	.01	.34

Notes: This table shows that district exposure to import tariffs is not predicted by district economic observables. The unit of observation is the district. The outcome variable is pre-liberalization district tariff exposure – $Tariff_{d,1987}$. Free Import Exposure is the share of commodities which could have been freely imported without a license prior to liberalization; Licensing Exposure is the fraction of industries which were under the pre-liberalization industrial licensing regime. Licensing Exposure and Free Import Exposure are aggregated to the district as a weighted average, based on the share of workers in the district employed in the industry. All specifications include state fixed effects, and are weighted by the district's population in 1987. Standard errors are in parentheses, clustered by state. Significant levels: *10%, **5%, and ***1%

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
		Caste Parties	Vote Share			Pr(Caste I	Party Win =	1)
	Caste Party Time Trends	District Time-Trends	No Weights	State Clusters	Caste Party Time Trends	District Time-Trends	No Weights	State Clusters
Tariff	197***	200***	163***	194***	514***	580***	441***	509**
	(.042)	(.066)	(.045)	(.064)	(.117)	(.203)	(.110)	(.180)
Observations	13385	13390	13390	13390	13385	13390	13390	13390
\mathbb{R}^2	.81	.78	.76	.76	.57	.57	.55	.55
Control Mean	.16	.16	.16	.16	.20	.20	.20	.20

Notes: This table shows robustness of the baseline results to alternate specifications and sample choices. The unit of observation is the electoral constituency. The outcome of interest in columns (1)-(4) is the vote share received by caste-based parties; in columns (5)-(8), a dummy equal to 1 if a caste-based party won the election. All specifications include constituency and state-electoral year fixed effects, and constituency and district-specific covariates. Columns (1) and (5) include linear time-trends in the 1985 level of electoral support for caste-based parties; columns (2) and (6) include district-specific linear time-trends; columns (3) and (7) do not weight the specifications using the number of registered voters in the constituency; columns (4) and (8) cluster the standard errors by state instead of district. All specifications with the exception of columns (3) and (6) are weighted by the registered number of voters in the constituency. Standard errors are in parentheses, clustered by district, with the exception of columns (4) and (8). Significant levels: *10%, **5%, and ***1%

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
		Caste Par	ties Vote S	Share			Pr(Caste	e Party Wi	in = 1)	
	Omit Post-1996	Exclude Pre-1987	Exclude 1991	Placebo	BSP Only	Omit Post-1996	Exclude Pre-1987	Exclude 1991	Placebo	BSP Only
Tariff	165***	203***	197***	.079*	047*	505***	490***	551***	.073	182***
	(.049)	(.052)	(.051)	(.044)	(.025)	(.137)	(.136)	(.126)	(.092)	(.051)
Observations	11136	10671	12083	7129	13390	11136	10671	12083	7129	13390
\mathbb{R}^2	.78	.79	.75	.71	.70	.57	.60	.56	.38	.40
Control Mean	.16	.16	.18	.15	.03	.20	.21	.24	.16	.01

 Table D3:
 Loss in Trade Protection and Electoral Performance of Caste-Based Parties:
 Robustness to Alternate

 Samples and Definition of Caste-Based Parties

Notes: This table shows robustness of the baseline results to alternate specifications and sample choices. The unit of observation is the electoral constituency. The outcome of interest in columns (1)-(5) is the vote share received by caste-based parties; in columns (6)-(10), a dummy equal to 1 if a caste-based party won the election. All specifications include constituency and state-electoral year fixed effects, and constituency and district-specific covariates. Columns (1) and (6) restrict the sample to elections conducted till 1996; columns (2) and (7) restrict the sample to elections conducted since the year 1987; columns (3) and (8) exclude elections conducted in the year 1991 – the year of trade liberalization. Columns (4) and (9) conduct a placebo test where the sample is restricted to elections conducted till the year 1991, with the pre-liberalization period comprising of elections conducted between 1985 and 1988, and the post-liberalization comprising of elections conducted between 1989 and 1991. Columns (5) and (10) consider only the Bahujan Samaj Party (BSP) as a caste-based party. All specifications are weighted by the registered number of voters in the constituency. Standard errors are in parentheses, clustered by district. Significant levels: *10%, **5%, and ***1%

	(1)	(2)	(3)	(4)	(5)	(6)		
	Δ Cast	te Parties Vote	Share	Δ Fraction of Elections Won				
Δ Tariff	022***	014*	016*	654***	412***	422***		
	(.008)	(.008)	(.008)	(.128)	(.109)	(.116)		
Δ FDI		~ /	.003			044		
			(.008)			(.081)		
Δ Licensing			.004			.066		
			(.005)			(.065)		
Δ NTB			.003			216		
			(.022)			(.214)		
Observations	361	358	358	362	359	359		
R^2	.02	.33	.33	.09	.63	.63		
Covariates	Ν	Y	Y	Ν	Y	Y		

Notes: This table shows how a loss in trade protection affects electoral support for caste-based parties as a first-difference specification. The unit of observation is the district. The outcome of interest in columns (1)-(3) is the change in aggregate district vote shares between the post and pre-liberalization periods; in columns (4)-(6), the change in the fraction of elections won by caste-based parties between the post and pre-liberalization periods. The post-liberalization period includes all elections conducted between 1992 and 2000; the pre-liberalization period covers elections conducted between 1985 and 1991. Δ Tariff is the change in district tariffs, estimated using commodity tariffs in 1998 and 1987. Columns (2)-(3), and (5)-(6) include state fixed effects and pre-liberalization. Columns (3) and (6) control for the impact of other major liberalization policies. All specifications are weighted using pre-liberalization district population. Heteroskedasticity robust standard errors are in parentheses. Significant levels: *10%, **5%, and ***1%

	(1)	(2)	(3)	(4)	(5)	(6)
		Vote Share			$\Pr(\text{Win} = 1)$	
	Indian National Congress	Bharatiya Janata Party	Left Parties	Indian National Congress	Bharatiya Janata Party	Left Parties
Tariff	$.079^{**}$	$.063^{*}$.004	.313***	.189*	018
Observations	(.030)	(.037)	(.017)	(.093)	(.096)	(.044)
R^2	.73	.81	.90	.50	.56	.77
Control Mean	.33	.12	.08	.36	.14	.10

Table D5: Loss in Trade Protection and Electoral Performance of Other Major Parties

Notes: This table shows the impact of a loss in trade protection on electoral support for other major Indian parties. The unit of observation is the electoral constituency. The outcome of interest in columns (1)-(3) is the vote share received by the party of interest; in columns (4)-(6), a dummy equal to 1 if the mentioned party won the election. *Left Parties* refer to a collection of 8 parties, most of which emerged from the undivided Communist Party of India. All specifications include constituency and state-electoral year fixed effects, along with district and constituency-specific time-varying covariates. All specifications are weighted by the registered number of voters in the constituency. Standard errors are in parentheses, clustered by district. Significant levels: *10%, **5%, and ***1%

	(1)	(2)	(3)	(4)	(5)	(6)
			Daily	Wages (INR)		
				_ , ,	Trade	
	All	Farm	Non-Farm	Manufacturing	Services	Construction
Tariff	13.225	-29.020	18.687	148.558^{***}	4.410	-7.071
	(20.460)	(27.496)	(23.540)	(42.329)	(28.647)	(20.411)
Tariff \times Educ.	-73.901^{***}	-46.701^{***}	-82.530***	-62.202***	-83.838***	-20.243***
	(2.503)	(8.395)	(2.865)	(5.213)	(3.336)	(6.731)
Observations	47870	2910	45025	11411	29068	3796
\mathbb{R}^2	.50	.69	.47	.49	.47	.52
Control Mean	83.70	26.69	91.46	80.52	99.62	53.19
$H_0: \beta_1 + \beta_2 = 0 \ (p\text{-}val)$.00	.01	.01	.04	.01	.21

Table D6: Loss in Trade Protection and Earnings for Urban Workers: Heterogeneity by Secondary Education

Notes: This table identifies heterogeneity in the loss in trade protection on daily wages for urban workers across workers' secondary education. The unit of observation is the individual. The sample is restricted to individuals aged between 15 and 60 years, residing in urban areas, and reporting positive labour wages in the week preceding the survey. Daily wages are computed by dividing total weekly wages by the total number of days worked during the week. Daily wages are expressed in INR 1999 values. Self-employed workers are excluded. *Educ.* is a dummy equaling if the worker has completed secondary or higher education. All specifications include district, state-survey round and survey-quarter fixed effects. Worker-specific covariates and time-varying district covariates are also included. All specifications are weighted using household weights. Standard errors in parentheses, clustered by district. Significant levels: *10%, **5%, and ***1%

			Panel A:			
	(1)	(2)	(2)	(4)	(5)	(6)
	(1)	(2)	(3) De	(4) ilv Wages (INR)	(0)	(0)
				ing wages (intro	Trade	
	All	Farm	Non-Farm	Manufacturing	Services	Construction
Tariff	-16.859^{**}	-1.578	-15.843	33.793^{*}	-10.269	13.647
	(7.918)	(4.803)	(13.848)	(17.815)	(17.198)	(11.082)
Tariff $\times Rural$	38.218^{***}	8.363^{***}	23.702^{***}	26.495^{***}	18.837^{***}	1.717
	(2.476)	(1.576)	(3.209)	(5.401)	(4.310)	(3.537)
Observations	107403	37698	70943	17224	43089	8761
\mathbb{R}^2	.49	.51	.43	.45	.42	.55
Control Mean	61.63	21.31	81.98	70.89	93.75	43.21
$H_0:\beta_1+\beta_2=0 \ (p-val)$.01	.11	.60	.00	.51	.25
			Panel B:			
			Education			
	(1)	(2)	(3)	(4)	(5)	(6)
			Da	ily Wages (INR)		
					Trade	
	All	Farm	Non-Farm	Manufacturing	Services	Construction
Tariff	14.176^{*}	7.683	8.861	52.086***	23.449	17.690
	(8.444)	(5.443)	(15.297)	(19.768)	(19.338)	(14.340)
Tariff \times Educated	-78.438***	-51.322^{***}	-82.119***	-65.374^{***}	-81.525^{***}	-18.543^{**}
	(2.355)	(7.316)	(2.510)	(5.847)	(2.799)	(8.105)
Observations	-77.139^{***}	-50.204^{***}	-80.839***	-63.058^{***}	-80.634^{***}	-17.759^{**}
	(2.322)	(7.208)	(2.475)	(5.733)	(2.760)	(7.945)
Observations	107403	37698	70943	17224	43089	8761
\mathbb{R}^2	.52	.52	.46	.47	.46	.55
Control Mean	61.63	21.31	81.98	70.89	93.75	43.21
$H_0:\beta_1+\beta_2=0 \ (p-val)$.00	.00	.00	.59	.00	.99
			Panel C:			
			\mathbf{Caste}			
	(1)	(2)	(3)	(4)	(5)	(6)
			Da	ily Wages (INR)		
	A 11	E-	New D	M	Trade	Course di
	All	Farm	Non-Farm	Manufacturing	Services	Construction
Tariff	2.926	7.646	-12.146	51.115^{**}	-3.295	14.824
	(9.368)	(5.337)	(15.993)	(20.830)	(19.637)	(14.160)
Tariff \times SC	9.276***	1.015	8.743***	5.496	9.621	1.244
	(1.286)	(.624)	(2.117)	(4.278)	(3.657)	(1.943)
Observations	107403	37698	70943	17224	43089	8761
R ²	.49	.51	.43	.45	.42	.55
Control Mean	61.63	21.31	81.98	70.89	93.75	43.21
$H_0: \beta_1 + \beta_2 = 0 \ (p\text{-}val)$.19	.11	.83	.01	.75	.27

Table D7: Loss in Trade Protection and Worker Earnings: Full Sample

Notes: This table identifies the impact of a loss in trade protection on daily wages, using the full sample of workers across all communities. The unit of observation is the individual. The sample is restricted to individuals aged between 15 and 60 years, and reporting positive wages in the week preceding the survey. Daily wages are computed by dividing total weekly wages by the total number of days worked during the week. Wages are expressed in INR 1999 values. Self-employed workers are excluded. *Rural* is a dummy equaling 1 if the worker resides in a rural area. *Educated* is a dummy equaling if the worker has completed secondary or higher education. SC is a dummy equaling 1 if the worker hails from the SC community. All specifications include district, state-survey round and survey-quarter fixed effects. Worker-specific covariates and time-varying district covariates are also included. All specifications are weighted using household weights. Standard errors in parentheses, clustered by district. Significant levels: *10%, *5%, and ***1%

	(1)	(2)	(3)	(4)	
		$\Pr(\text{Se})$	condary Educated) $= 1$		
	Worki Indiv	ng Age iduals	Young Working Age Individuals		
Tariff	.015	.002	.045	.032	
	(.026)	(.026)	(.034)	(.034)	
Tariff \times SC		.044***		$.046^{***}$	
		(.005)		(.006)	
Observations	511839	511839	259809	259809	
\mathbb{R}^2	.60	.60	.67	.67	
Control Mean	.149	.149	.181	.181	
$H_0: \beta_1 + \beta_2 = 0 \ (p\text{-}val)$.07		.02	

Table D8: Loss in Trade Protection and Secondary Education

Notes: This table identifies heterogeneity in the loss in trade protection on the likelihood of individuals completing secondary education. The unit of observation is the individual. The sample in columns (1) and (2) is restricted to individuals aged between 15 and 60 years; in columns (3) and (4), individuals aged between 15 and 30 years. All specifications include district, state-survey round and survey-quarter fixed effects. Worker-specific covariates and time-varying district covariates are also included. All specifications are weighted using household weights. Standard errors in parentheses, clustered by district. Significant levels: *10%, **5%, and ***1%

Table D9:	Loss in	Trade Protection	and Electoral	Success of	Caste-Based	Parties:	Ruling out	Incumbency
Effects								

=

	(1)	(2)	(3)	(4)
	Caste Parties Vote Share		$\Pr(\text{Caste Party Win} = 1)$	
	All Elections	Close Elections	All Elections	Close Elections
Tariff	251***	301**	683***	718**
INC Win, Lag 1 \times Tariff	(.077) $.063^{***}$ (.011)	(.143)	(.159) $.137^{***}$ (.028)	(.346)
INC Win, Lag 1	(.011) 032^{***} (.008)		.013 (.017)	
INC Close Win, Lag 1 \times Tariff		$.078^{***}$.085
		(.027)		(.085)
INC Close Win, Lag 1		051^{*}		.026
		(.027)		(.072)
Observations	13390	1111	13390	1111
\mathbb{R}^2	.68	.78	.49	.65
Control Mean	.16	.16	.20	.23

Notes: This table explores whether incumbency effects against the dominant INC party can explain the relationship between the loss in trade protection and electoral support for caste-based parties. The unit of observation is the electoral constituency. The outcome of interest in columns (1)-(2) is the vote share received by caste-based parties; in columns (3)-(4), a dummy equal to 1 if a caste-based party won the election. All specifications include constituency and state-electoral year fixed effects, along with district and constituency-specific time-varying covariates. Columns (2) and (4) also control for the victory margin between the INC and the runners-up (winning party) in the previous electoral cycle. All specifications are weighted by the registered number of voters in the constituency. Columns (1) and (3) include all electoral contests; columns (2) and (4) restrict the sample to constituencies which witness a "close" electoral contest between the INC and the runners-up (winning party) in the previous electoral cycle. "Close" electoral contest refers to elections where the victory margin between the INC and the runners-up (winning) party is less that 6 percent of the total votes cast. *INC Win* is a dummy equal to 1 if the INC won the election in the constituency in the previous electoral cycle; *INC Close Win* is a dummy equal to 1 if the INC won the election in the constituency in the previous electoral cycle by a narrow margin of victory. Standard errors are in parentheses, clustered by district. Significant levels: *10%, **5%, and ***1%

	(1)	(2)	(3)	(4)	(5)	(6)	
		Daily Wages (INR)					
	All	Farm	Non-Farm	Manufacturing	Trade Services	Construction	
Tariff	-13.841	6.312	-29.508	-56.816	-31.982	30.909	
	(11.227)	(6.800)	(20.659)	(50.299)	(35.193)	(20.076)	
Tariff \times Educated	-77.266^{***}	-25.062^{***}	-80.123^{***}	-46.658^{**}	-73.749^{***}	11.573	
	(7.631)	(8.474)	(7.586)	(22.924)	(7.567)	(10.980)	
Observations	23734	12318	11633	2527	6052	2506	
\mathbb{R}^2	.45	.53	.44	.44	.51	.60	
Control Mean	40.82	21.55	59.04	50.49	67.87	41.93	
$H_0:\beta_1+\beta_2=0 \ (p-val)$.00	.08	.00	.06	.00	.07	

 Table D10:
 Loss in Trade Protection and Earnings for SC Workers: Heterogeneity by Secondary Education

Notes: This table identifies heterogeneity in the loss in tariff protection on daily wages for SC workers across workers' secondary education. The unit of observation is the individual. The sample is restricted to SC individuals aged between 15 and 60 years, and reporting positive labour wages in the week preceding the survey. Daily wages are computed by dividing total weekly wages by the total number of days worked during the week. Wages are expressed in INR 1999 values. Self-employed workers are excluded. *Educated* is a dummy equaling if the worker has completed secondary or higher education. All specifications include district, state-survey round and survey-quarter fixed effects. Worker-specific covariates and time-varying district covariates are also included. All specifications are weighted using household weights. Standard errors in parentheses, clustered by district. Significant levels: *10%, **5%, and ***1%