

# Independent Candidates and Political Representation in India

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## Abstract

We estimate the causal effect of independent candidates on voter turnout and election outcomes in India. To do this, we exploit exogenous changes in the entry deposit candidates pay for their participation in the political process, changes that disproportionately excluded candidates with no affiliation to established political parties. A one standard deviation increase in the number of independent candidates increases voter turnout by 5-6 percentage points, as some voters choose to vote rather than stay home. The vote share of independent candidates increases by 9-10 percentage points, as some existing voters switch who they vote for. Thus, independents allow winning candidates to win with less vote share, decrease the probability of electing a candidate from the governing coalition by about 27-30 percentage points, and ultimately increase the probability of electing an ethnic-party candidate. Altogether the results imply that the price of participation by independents is constituency representation in government.

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# 1 Introduction

Independent candidates are generally thought to be unimportant for political representation. They have no formal affiliation with the established political parties that are the primary vehicles for representation in most democracies (Sartori 1968), and are rarely elected to represent the constituencies they contest (Ehin et al. 2013, Ch.4). The conclusion that they are unimportant for representation is problematic, however. The logic behind it focuses narrowly on the fact that elections are typically won by party rather than by independent candidates, and ignores the process by which electoral outcomes are generated. If independents appeal to some segment of the electorate, they can affect who turns out to vote, for whom voters vote, and who among the other candidates is elected to represent the constituency. In this article, we argue that from the perspective of who gets elected, independent candidates are important for representation.

To make this argument, we estimate the causal effect of independent candidates on voter turnout and election outcomes in India. India is a useful context for several reasons. Like many other major democracies, India requires a money deposit for participation as a candidate in elections.<sup>1</sup> At the same time India practices affirmative action in the amount candidates pay. The first deposits were set in 1947 at 500 Rupees for General candidates and 250 Rupees for Scheduled Caste or Tribe (SC/ST) candidates,<sup>2</sup> and were left unchanged for 50 years. By 1996, the deposits had eroded to almost nothing in real terms, and from a pecuniary standpoint, candidate entry was effectively free. Substantial increases in the number of candidates eventually led the Election Commission of India to increase the deposits sharply and differentially,<sup>3</sup> to 10,000 rupees for General candidates, and 5000 rupees for

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<sup>1</sup>Money deposits are used in Australia, Canada, Germany, Hong Kong, the Republic of Ireland, Japan, Korea, Malaysia, New Zealand, the United Kingdom, and the United States. More details can be found at the websites of their respective election commissions.

<sup>2</sup>SC “members” were previously referred to as untouchables, and more recently, as Dalits. ST “Members” belong to indigenous tribes and are commonly referred to as Adivasi.

<sup>3</sup>The deposit increases were a cost-cutting response to the massive proliferation of candidates (Bhattacharya and Mitra 2014). Elections with large numbers of candidates (more than 1000 candidates in one

SC/ST candidates. The deposit increases had a disproportionate impact on participation by independents, as the number of independents decreased more in constituencies where the deposit increased to 10,000 rupees, relative to constituencies where the deposit increased to 5,000 rupees. This exogenous variation in participation by independents provides a powerful first stage for an instrumental variables-based identification strategy.

India is a parliamentary democracy with single-member districts. The national government is formed by the party, or coalition of parties, with the most elected representatives. Voters vote for local representatives, and if the representative is a member of the governing coalition, then the constituency is represented directly in government. Coupling our instrumental variables strategy with this feature lets us investigate the effect of independents on constituency representation in government.

We show that a standard deviation increase in the number of independents increases voter turnout by 5-6 percentage points, increases the total vote share for independents by 9-10 percentage points, and reduces the vote share of the winner by about 5 percentage points. Independents thus induce some voters to vote rather than stay home, some to switch whom they vote for, and allow the winning candidate to win with support from a smaller segment of the electorate, ultimately suggesting that independents could affect the outcome of the election.

We show independents in fact decrease the probability of electing a governing-coalition representative by 27-30 percentage points. This finding implies that the price of participation by independents is constituency representation in government.<sup>4</sup>

We identify the parties who benefit from a loss by a governing-coalition candidate. India is an ethno-linguistically diverse democracy, and this diversity is reflected by the politics of

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case) are expensive to administer, as the Commission must print a book with the details of each candidate, and make it available free of charge to all citizens.

<sup>4</sup>The finding is also consistent with a key prediction of equilibria in Osborne and Slivinski (1996)'s canonical model of entry into elections, that candidates with no chance of winning the election enter purely with the intention of tilting the balance between leading candidates and thereby change the policies that are implemented.

the parties that contest elections. As Indian democracy has matured, several ethnic and regional parties have emerged across the country. We show that independents increase the probability of an ethnic party winning the constituency by 12 percentage points. Consistent with winners being able to win with less vote share, ethnic parties, though more likely to win, see no change in their collective share of the vote. Finally, we show the probability of major national parties winning decreases almost one for one with the increase in the probability of ethnic parties winning, which suggests that the prospects for ethnic parties improve at the expense of National parties in particular.

## 2 Related Literature

The study of entry barriers for political candidates has a long theoretical lineage (Tullock 1965).<sup>5</sup> Scholarship has developed around the premise that candidates enter when their chances of winning exceed the costs of entering (Cox 1997). These entry costs ultimately govern the nature and extent of political competition.<sup>6</sup> Empirical research has followed this line of thought, focusing largely on the effects of ballot access restrictions, such as filing fees and petition requirements, on various metrics of political competition (Ansolabehere and Gerber 1996).<sup>7</sup>

Entry costs are also central to the analysis in this article, but for a different reason. Our interest is not in how entry costs influence political competition *per se*, but rather in exploiting the nature of their influence to formulate an instrumental variable for the participation of candidates who are affected by changes in entry costs. In this regard, our

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<sup>5</sup>Research on barriers to entry in electoral competition focuses on barriers that are endogenous outcomes of political competition, in particular, campaign spending (“war chests”), and “brand names” of major parties. See Hersch and McDougall (1994) and Coats and Dalton (1992) respectively, for examples.

<sup>6</sup>The class of models surveyed in (Cox 1997) have limited applicability to the Indian context. These models assume that candidates are identical (symmetric), whereas in India there are a multitude of regional and ethnic parties that run on ethnic issues, and independent candidates who run for highly idiosyncratic reasons. We know of no theoretical model that fits well with the vast heterogeneity of candidates in India.

<sup>7</sup>See (Afzal 2014) for a study on the relationship between political competition and an education requirement for politicians.

contribution lies in showing how the ensuing changes in candidate participation can be used to identify the causal impact of affected candidates on various electoral outcomes.<sup>8</sup>

Scholarship on independent or non-party candidates has gained momentum only recently, arising out of perceived trends in anti-party sentiment (Owen and Dennis 1996), as well as increasing trends in the number of independents within and across countries (Ehin et al. 2013; Bolleyer and Weeks 2009). Empirical research has examined factors that explain the participation and performance of independents, focusing on the nature of the electoral system (Weeks 2016; Ehin et al. 2013; Brancati 2008, e.g.). To the best of our knowledge, our article provides the first estimates of the causal effect of independents on voter turnout and election outcomes, and is consequently the first to show that the representation effects of these seemingly insignificant candidates can be substantial.

Scholars have provided several theoretical justifications for why independents might affect representation when elected,<sup>9</sup> but have not explored theoretical justifications for why independents might affect representation when they are not elected. One theory, which formed the basis of the Law Commission of India (2015) recommendation to ban independents, argues that independents lead to greater vote fragmentation, because they increase the number of candidates substantially and confuse voters.

Our evidence implies that independents increase fragmentation and generate significant “waste” (Anckar 1997; Tavits and Annus 2006). Many voters turn out for or switch to a candidate who has no legitimate chance to win. This suggests that independents either encourage turnout by non-strategic voters or provide existing non-strategic voters (who already turnout) with a preferable option.<sup>10</sup> Our other results reinforce this point, as independents

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<sup>8</sup>For an earlier and more general study of the effect of electoral institutions and laws on election outcomes, see Grofman and Lijpart (1986).

<sup>9</sup>Independents can improve representation in policy decisions because they focus more on constituency-specific issues (Bolleyer and Weeks 2009), often bringing fresh perspectives on policy (Berry 2008). They can worsen representation if, via a fragmented legislature *e.g.*, they impede policy decision-making (Moser 1999; Wright and Schaffner 2002).

<sup>10</sup>A vote can be interpreted as wasted only after taking into account the national and local incentives of voters (Cox 1997). A voter may vote for a party that has no chance of a majority at the national level because the party’s chances are strong locally and because the party might eventually join the governing

decrease the collective vote share of the top two candidates.<sup>11</sup> The wasted votes in turn facilitate the election of a representative who is the ideal choice of a smaller fraction of the electorate.

This may draw the legitimacy of elected representatives into question, especially if legitimacy is determined by voter turnout and the vote share of the winning candidate - the winner’s mandate. To this end, and finally, our article contributes to the developing empirical scholarship on political representation. Empirical scholars have focused on representation from the standpoint of whether politicians “advocate” or “stand in” for their constituents (Lloren and Wüest 2016; Lloren, Rosset and Wüest 2015; Carnes and Lupu 2015; Rigby and Wright 2013, e.g.). Our focus is on representation from the standpoint of which candidates constituents “authorize” to act on their behalf, and on how this important component of representation<sup>12</sup> can vary with the participation of candidates who, at first glance, seem unimportant for representation.

### 3 Context and Data

**3.1. Parliamentary System.** Our focus is on elections to the *Lok Sabha*, the lower house of the national parliament, which controls the federal budget. *Lok Sabha* members are elected from local constituencies via a single-member, simple-plurality system. Members hold their seats for five years, unless parliament is dissolved in the interim period. 543 seats are contested in elections: 412 open seats, which can be held by anyone; 84 seats reserved for SC persons; 47 seats reserved ST persons. Seat reservation provides one of the pillars

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alliance or coalition (Cox 1997). Since independents in India usually have no chance locally, supporters of independents are wasting their votes.

<sup>11</sup>Our results are in line with the results in (Hall and Snyder 2015), that information increases votes for the top two candidates and decreases “wasted” votes for other lesser candidates.

<sup>12</sup>In standard definitions political representation has three components: (1) authorization; (2) advocacy or standing in; and (3) accountability (Chhibber and Ostermann 2013; Urbinati and Warren 2008; Rehfeld 2006). For more discussion on the definition of political representation see (Pitkin 1967; Manin 1997; Mansbridge 2003; Rehfeld 2006).

upon which our identification strategy is based.<sup>13</sup>

Whether a seat is reserved depends on the SC/ST population in each parliamentary constituency. The number of reserved seats in a state is proportional to the state’s SC/ST population.<sup>14</sup> Appendix Table A1 verifies this using the reservation status of the constituencies in 2009, together with data from the 2001 census. The table reports cross-sectional regressions of reservation status on constituency-level census characteristics. The estimates imply the probability of reservation is 23-26 points higher where there is a 10 percent higher SC population. The probability of reservation is 14 percentage points higher where there is a 10 percent higher ST population. The estimates confirm that reservation status is driven by population.<sup>15</sup>

The Election Commission of India classifies candidates as either National, State, Unrecognised, or Independent. National classification requires a sufficiently strong presence in several states. State classification requires a sufficiently strong presence in at least one state. Unrecognised parties are parties that are registered with the Commission but have lost or never met the National or State classification requirements. Independent candidates have no party affiliation.<sup>16</sup> Our operational definition of independent candidates includes candidates who are officially designated as Independents and candidates who belong to unrecognised parties with only one candidate running.<sup>17</sup>

Independents generally do not benefit from the economic and political resources of parties, especially the larger ones, or from brands that parties have developed over several elections.

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<sup>13</sup>For us, seat reservation is a tool. For research that focuses on reservation as the object of study, see (Bhavnani 2017; Jensenius 2015; Iyer et al. 2012; Clots-Figueras 2011; Bhavnani 2009; Duflo and Chattopadhyay 2004; Pande 2003).

<sup>14</sup>SC do not comprise a majority of the population in any of the constituencies that are reserved for them, or in any constituency in the country for that matter. This means SC politicians need broad support from general voters to win a reserved seat. See Jensenius (2015) for a useful discussion.

<sup>15</sup>Appendix Table A1 uses 536 rather than 543 observations because our shapefiles for the parliamentary constituencies and census contained several invalid geometries.

<sup>16</sup>See [http://eci.nic.in/eci\\_main1/Contesting.aspx](http://eci.nic.in/eci_main1/Contesting.aspx) for more details.

<sup>17</sup>Dropping candidates from one-member unrecognised parties from our definition has little impact on our estimates and no impact on our conclusions. We verify this in Online Appendix Table OA4.

In India, independents are often inexperienced outsiders who run because of their interest in a single issue.<sup>18</sup> Some use their candidacy to promote a business or private interest. Others were former members of a major party, having been forced out due to some internal conflict or disillusionment with the party direction. Former major-party members can be expected to take votes from the party they left.<sup>19</sup>

**3.2. Reform on Entry Deposits.** The Election Commission has several rules to prevent entry by “frivolous” candidates. Citizens are eligible to run if they are over 25 and if they have not been sentenced to prison for two or more years. They must be nominated, via signatures, by members of the constituency where they wish to run. Finally, citizens must pay an entry deposit to participate as a candidate. The deposit is refunded if the candidate wins the election or obtains at least  $1/6^{th}$  of the vote.<sup>20</sup> The deposit amounts to a non-refundable fee for candidates who have little chance at winning. It is especially significant for the liquidity or borrowing constrained.

The deposit schedule is found in Table I. Note that the amount of the deposit for SC/ST candidates has always been half that of the deposit for General candidates.<sup>21</sup> Also note that GDP per capita in 1996 was between 12,000 and 13,000 Indian rupees.<sup>22</sup> Candidates were effectively paying nothing in real terms by 1996. Starting in 1998, however, they were required to pay a significant fraction of the annual income of a typical citizen. The deposit increases, and in particular the increased difference, provides the second pillar (in addition

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<sup>18</sup>Small businessmen with no background in politics running as independents is a prominent recent trend in Indian politics. These candidates often get trounced, but feel compelled to raise specific issues during the election. See <http://www.ozy.com/fast-forward/small-businessmen-the-new-third-party/62780> for an example.

<sup>19</sup>Mainstream politicians seem to understand the implications of independents for election outcomes. Former Prime Minister Manmohan Singh famously warned voters that independent candidates contest elections “only to dent the votes that would be received by the (Indian National) Congress party,” even going so far as to label them spoiler candidates. See <http://www.hindustantimes.com/india/Independents-are-a-spoiler-manmohan-singh/story-015B0fLQ5TV4TLrYqkLcqK.html>.

<sup>20</sup>From 1993 until 2001 the winner almost always had at least  $1/6^{th}$  of the vote. The runner-up had at least  $1/6^{th}$  over 98% of the time.

<sup>21</sup>The Indian government certifies candidates as SC/ST members. A prospective SC/ST candidate must obtain this certification before running for office.

<sup>22</sup><http://statisticstimes.com/economy/gdp-capita-of-india.php>

**Table I: Entry Deposits.** Nominal values of the deposit (Rupees), depending on the whether the candidate is SC/ST, and whether they participated before or after the reform. Deposits are refunded if the candidate obtains at least  $1/6^{th}$  of the vote. Nominal Indian per capita GDP in 1996 was between 12,000 and 13,000 Rupees. 10,000 Indian Rupees in 1996 was roughly 281 US Dollars in 1996.

	1996 Elections and Before	Elections After 1996
SC/ST Candidate	250	5000
General Candidate	500	10000

to seat reservation) of our identification strategy.<sup>23</sup>

The enormity of the deposit increases and differences emphasize the usefulness of our context. The entry deposits before the reform are similar in stature to the entry deposits that are found in many democracies today. In the UK for example, a candidate pays a deposit of 500 pounds, which is returned if the candidate earns 5 percent of the vote. In this way entry is practically feasible for all but the poorest of candidates in the UK. It is difficult to envision a 20-fold increase of the deposit in the UK as we observe in India.

It is worth reiterating that the deposit increases had nothing to do with historical differences in voter and candidate participation across reserved and open constituencies. The Election Commission sought to eliminate “frivolous candidates” for two primary reasons (Bhattacharya 2014). First, parties would occasionally try to confuse voters by floating fake (independent) candidates with names that were similar to the names of rival candidates. As Bhattacharya (2014) notes, the success of the deposit increase in eliminating this practice was limited, because parties are relatively wealthy and able to continue the practice after the reform. Second, there were episodes of misbehavior in a handful of State Assembly constituencies leading up to the reform, with hundreds of candidates contesting a single seat. These elections were expensive for the commission to administer, as the book of candidate information must be printed and made available to any citizen who requests it. While the Com-

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<sup>23</sup>While the deposit increases and differences are large relative to their past values, they pale in comparison with how much a candidate can spend on their campaign. In national elections, the spending limit is about eight times the entry fee for candidacy. This suggests that the deposit increase is rather insignificant for candidates of established parties, and not at all significant for the ones whose vote share will be enough to recoup the deposit.

mission had been considering responses to candidate proliferation across the country for several years (Bhattacharya and Mitra 2014), one specific event precipitated the Commission's decision. In a State Assembly election in Tamil Nadu in 1996, 1033 candidates contested a single seat. Quoting the *Hindu Times* of March 21, 2016 (see <http://www.thehindu.com/news/national/the-high-deposit-bar-for-contests/article8377848.ece>):

What was the commission's response to this one-off Assembly constituency issue and other anomalies, such as the 480 contestants in the Nalgonda Lok Sabha constituency in 1996, among others? It resolved to increase the security deposit amount from what was Rs. 500 (Rs 250 for SC/ST candidates) for Lok Sabha constituencies and Rs. 250 (Rs. 125) for Assembly constituencies to Rs. 25,000 (Rs. 12,500) and Rs. 10,000 (Rs. 5,000), respectively.<sup>24</sup>

The entry-deposit reform was part of a broader package of reforms that took place between 1996 and 1998. The other relevant reforms were: (1) a change to the number of petition signatures required to run as a candidate; (2) introduction of a cap on the number of constituencies from which a citizen could contest; (3) introduction of instructions on ballot orderings; (4) polling day became a paid holiday. Unlike the change in deposit requirements, these other reforms did not involve a differential rule change across open and reserved constituencies. Moreover, our specification allows for differential trends that may have emanated from other reforms that took place at the same time, via, for example, interactions between time trends and turnout in the base period of our sample. Lastly, the first two reforms only affect outcomes indirectly - if they have any effect at all - through the set of entering candidates, and so do not affect our main identification argument. Nonetheless, Section 7.1 will elaborate on the concerns each reform raises and, where applicable, how we dealt with these concerns.

**3.3. Descriptive Statistics.** Our goal is to understand the causal chain linking entry costs, the participation of independents, and electoral outcomes. Our strategy relies on comparisons

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<sup>24</sup>This verbatim quote has a factual mistake. The deposits for Lok Sabha (Assembly) constituencies actually increased to Rs. 10000 (5000) and Rs. 5000 (2500) in 1996.

of participation across open and reserved constituencies, before and after entry deposits were raised significantly. The strategy is built on elections data from the Election Commission of India, covering all elections that took place between 1977 and 2004.<sup>25</sup> The raw elections data includes information on the number of eligible electors (the electorate) in a constituency, the percentage of eligible electors who voted (voter turnout), as well as the identities of the various candidates and the votes they obtained. Our unit of analysis is defined by the constituency and election year. Our primary sample has more than 4800 observations, from 543 constituencies, and nine elections.

Table II reports summary statistics for voter turnout, independent candidates, and the number of candidates overall. Columns 1 and 2 present means in open constituencies. Column 3 compares them. Columns 4-6 do the same but for reserved constituencies. Column (7) compares the mean difference in Column (6) with the mean difference in Column (3). It provides unconditional difference-in-differences estimates of the impacts of higher deposits. Between Rows 2 and 3 is the ratio of the coefficient estimates from Rows 1 and 2, that is the implied IV estimate of the impact of independents on turnout.

The raw data suggests the reform led to a nationwide decline in independent candidates. Open constituencies see 5.60 fewer independent candidates (Column 3). Reserved constituencies see 2.96 fewer (Column 6). The differences-in-differences estimate in Column 7 shows a relative decline in open constituencies of 2.64 candidates. The decline lines up with how the new entry deposits differ across open and reserved constituencies, and implies that we have a powerful instrument for the number of independent candidates. The bottom row does the same exercise, but for candidates in general. It shows that most of the reduction in the total number of candidates stems from the reduction in the number of independent candidates.

The top row shows open constituencies also experience a relative decline in voter turnout. Open constituencies have 0.77 percentage points more turnout after the reform. Reserved constituencies have 3.67 percentage points more. The differences-in-differences estimate

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<sup>25</sup>We do not study periods outside this window because the parliamentary boundaries were redrawn just before and just after the period of our sample.

**Table II: Descriptives for National Elections (1977-2004).** Voter turnout is the fraction of eligible voters who cast a vote. Independent candidates include candidates who are defined as Independents by the Election Commission or who are from Unrecognised parties with one candidate running. Standard deviations for means are in round parentheses. *p*-values for comparisons of means in square parentheses.

	Open Constituencies (Seat can be held by anyone)			Reserved Constituencies (Seat can only be held by Minorities)			
	Minorities pay 250 Rupees, Majorities pay 500 Rupees (1)	Minorities pay 5000 Rupees, Majorities pay 10000 Rupees (2)	Difference (2) - (1)	Minorities pay 250 Rupees, Majorities pay 500 Rupees (4)	Minorities pay 5000 Rupees, Majorities pay 10000 Rupees (5)	Difference (5)-(4)	
Voter Turnout (% Eligible Electors)	59.30 (10.96)	60.07 (10.67)	0.77 [0.02]	55.96 (12.60)	59.52 (10.51)	3.67 [0.00]	-2.90 [0.00]
# Independent Candidates (Independents or 1-Member Unrecognised)	10.11 (17.28)	4.51 (3.92)	-5.60 [0.00]	5.78 (6.87)	2.82 (2.53)	-2.96 [0.00]	-2.64 [0.00]
IV Estimate for Impact of One Additional Candidate							
# Candidates Overall	14.36 (18.31)	9.73 (4.94)	-4.64 [0.00]	9.73 (8.03)	7.79 (3.48)	-1.94 [0.00]	-2.70 [0.00]
Elections	6	3	9	6	3	9	9
Constituencies	369	369	369	174	174	174	543
Observations	2175	1108	3283	1031	464	1557	4840

shows a relative decline of 2.90 percentage points in open constituencies. Coupling this reduced form estimate with the first stage estimate for independent candidates (Row 2) delivers a IV estimate of 1.10. One additional independent candidate implies an additional 1.10 percentage points in turnout.

## 4 Entry Barriers and Independent Candidates

The first stage of our instrumental variables strategy assumes:

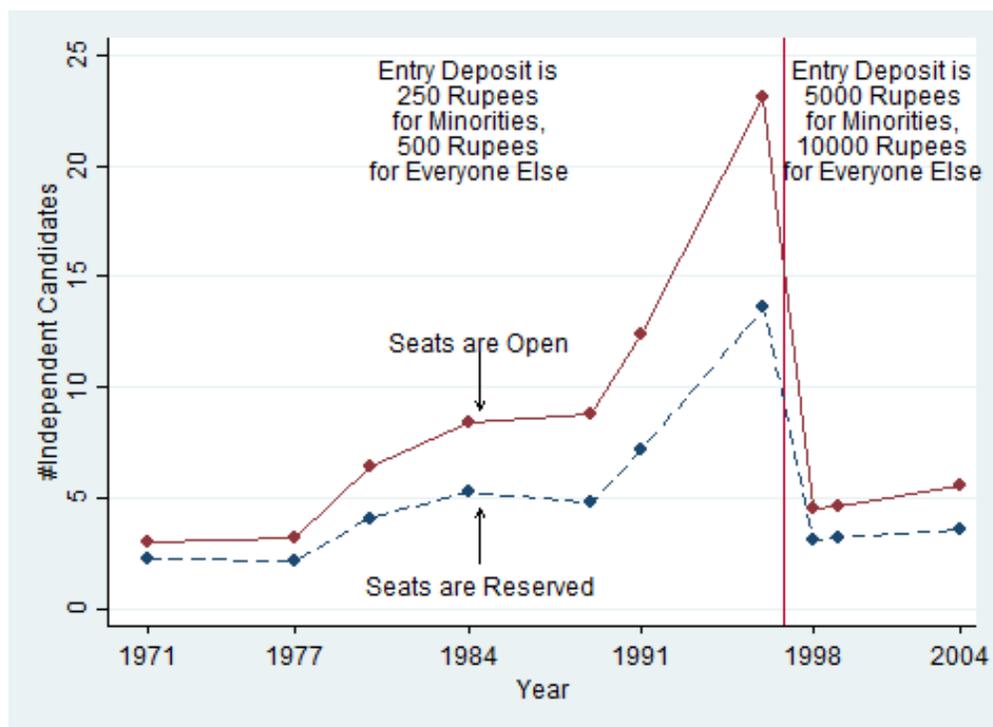
$$(\# \text{ Independent Candidates})_{je} = \pi_j + \pi \text{Open}_j \text{Post}_e + \pi_e + X_{je} \Pi + u_{je}.$$

where  $e \in \{1977, 1980, 1984, 1989, 1991, 1996, 1998, 1999, 2004\}$  denotes the election and  $j$  the constituency.  $\pi_j, \pi_e$  are constituency and election year fixed effects.  $\text{Open}_j$  is a binary indicator that takes the value 1 if constituency  $j$  was open during our sample period, and the indicator  $\text{Post}_e$  takes the value 1 if election  $e$  occurred after the 1996 reforms.

$X_{je}$  is a set of variables whose trends may be similar to those of the deposit and our outcome variables:

- **Independents in 1977 (Trends):** Interactions of base-period independent candidates with a 4<sup>th</sup>- polynomial in a time trend. This is particularly important because 1977 was the first election after India’s notorious emergency period. This period may have set constituencies that were affected differently on different trends in political participation.
- **Turnout in 1977 (Trends):** Interactions of base-period turnout with a 4<sup>th</sup>-order polynomial in a time trend.
- **Eligible Electors (in logs):** The natural logarithm of the number of eligible electors. This controls for the possibility that large and small electorates differ systematically in their turnout propensity.

**Figure 1: Entry Deposits and Independent Candidates.** The vertical red line delineates the elections with low and high deposits.



- **Distance Between Winner and Runner-Up in Last Election:** A dummy that indicates whether there was less than a 5 percentage point difference between the vote share of the winner and runner up in the previous election and fourth order polynomial in the difference between the vote share of the winner and runner up. Constituencies with close elections in the recent past are likely to have higher turnout.

Figure 1 depicts the differential evolution of the total number of independent candidates across Open and Reserved constituencies.<sup>26</sup> Open constituencies saw an immediate reduction of about 20 independent candidates per constituency following the reform. Reserved constituencies saw an immediate reduction of about 10 independent candidates. As described in Section 3.2, the reform was not a response to pre-1996 differences in the evolution of independents across open and reserved constituencies.

Note that the lack of a common pre-trend in the number of independent candidates

<sup>26</sup>Figure 1 includes 1971 to illustrate that open and reserved constituencies were initially quite similar in terms of the number of independent candidates.

(across open and reserved constituencies) is not necessary for our identification argument. While a differential pre-trend in the number of independents affects our ability to interpret the first stage causally, a causal first stage is not a requirement for identification using an instrumental variables strategy.<sup>27</sup> That said, if our controls are sufficient to warrant a causal interpretation of the first stage, then the first stage by itself should be of interest to a political science literature that explores drivers of participation by independents (Ishiyama, Batta and Sortor 2013; Brancati 2008; Moser 1999; Drometer and Rincke 2009; Stratmann 2005).

First stage estimates are found in the first five columns of Table III. The estimated effect on independents is qualitatively robust to flexible controls for differential trends in voter and candidate participation, population, and the contestability of seats, and highly statistically significant across specifications. The estimates imply that there were 2.0-2.6 fewer independent candidates in open relative to reserved constituencies.

The last three columns of Table III replicate the first stage for candidates who belong to a political party. The deposit had no economically or statistically significant impact on their candidacy, which is unsurprising because party candidates can use party resources to cover the deposit. The deposit's influence on party candidates cannot explain our estimates of the effect of independents on the different electoral outcomes we consider below.

Our strategy does not require knowledge of the caste status of individual candidates. It relies on the fact that in reserved constituencies only SC/ST individuals may hold office, and that in open constituencies the proportion of SC/ST individuals is small relative to the proportion of General candidates.<sup>28</sup> All candidates in reserved constituencies pay the lower deposit, as all are SC/ST candidates. Because General candidates are not allowed to contest these seats, the probability that a candidate pays the lower deposit in open constituencies is much smaller. To formally verify this, we use data on SC/ST status of individual candidates

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<sup>27</sup>The only requirements are the existence of a first stage and the exclusion of the instrument from the second stage.

<sup>28</sup>SC/ST candidates almost never win seats in open constituencies (Jensenius 2015).

**Table III: Entry Deposits Exclude Independents Disproportionately.** First-stage estimates of the number of candidates (for each candidate type) on the interaction of indicators for whether the constituency was open and whether the election took place after 1996. Controls are defined in Section 4. Standard errors are clustered at the level of constituency.  $p$ -values in parentheses.

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	# Independent Candidates							
						# National Candidates	# State Candidates	# Unrecognised Candidates
Open Seat After the Fee Increase	-2.62 (0.00)	-2.03 (0.00)	-2.04 (0.00)	-2.08 (0.00)	-2.63 (0.00)	0.01 (0.91)	0.04 (0.24)	-0.08 (0.17)
Constituency Fixed Effects	✓	✓	✓	✓	✓	✓	✓	✓
Election Year Fixed Effects	✓	✓	✓	✓	✓	✓	✓	✓
Dep. Variable in 1977 (Trends)		✓	✓	✓	✓	✓	✓	✓
Voter Turnout in 1977 (Trends)			✓	✓	✓	✓	✓	✓
Eligible Electors (in logs)				✓	✓	✓	✓	✓
Distance Between Winner and Runner-up in Last Election					✓	✓	✓	✓
Observations	4840	4840	4840	4840	4297	4297	4297	4297
$R^2$	0.21	0.21	0.21	0.21	0.20	0.25	0.32	0.19

from 2004.<sup>29</sup> For the 120 reserved constituencies in the 2004 data, 99.9 percent (with a standard deviation of 0.01) of all candidates are either SC or ST.<sup>30</sup> In the remaining 423 constituencies, only 17.4 percent are from these historically disadvantaged groups. We also checked the percentages for constituencies that were ever reserved. There are 173 of these in our sample. In this sample the proportion of SC/ST, as a fraction of all candidates in an ever-reserved constituency, is 76.2 percent, with a standard deviation of 38. The proportion in an always open constituency is 16.6 percent, with standard deviation of 16.6. Either way, the probability of treatment (paying the higher deposit) is much larger in the open constituencies.<sup>31</sup>

## 5 Independents and Voter Turnout

We assume voter turnout is generated by:

$$(Voter\ Turnout)_{je} = \alpha_j + \beta(\# Independent\ Candidates)_{je} + \delta_e + X_{je}\Gamma + \varepsilon_{je}$$

$(Voter\ Turnout)_{je}$  is the percentage of eligible electors who vote, measured on a scale of zero to 100.  $\alpha_j$  encapsulates constituency-level permanent and unobserved differences in turnout, such as the historic propensity to participate in the political process.  $\delta_e$  encapsulates election specific shocks to turnout that are common across constituencies.  $\beta > 0$  if an increase in independent candidates causes higher voter turnout. If voter decisions are unaffected by the presence of independent candidates, then we would expect  $\beta = 0$ .<sup>32</sup> The

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<sup>29</sup>This information was not collected with the elections data from previous years.

<sup>30</sup>The number is 99.9 rather 100 percent because the Election Commission has listed one candidate from the SC constituency of Bilaspur (in Madhya Pradesh) as a general candidate.

<sup>31</sup>There is anecdotal evidence that supports this as well. National and State parties tend to run SC and ST as candidates in reserved constituencies. They rarely do so in open constituencies. See the article “Parties Shut Out Scheduled Caste Candidates from General Seats” at <http://www.thehindu.com/elections/loksabha2014>.

<sup>32</sup>One could also imagine a story for  $\beta < 0$  where voters are more likely to vote when they are informed and the more candidates there are the more costly it is to become informed.

instrumental variable estimates of  $\beta$  can be interpreted causally if the exclusion restriction  $Cov(Open_j Post_e, \varepsilon_{je}) = 0$  is satisfied. This says that after controlling for a host of unobserved trends and controls, there should not be unobserved and systematic differences in turnout that track the differential evolution of the entry deposit in open and reserved constituencies.

Estimates are found in Table IV. The table has three panels. The top panel presents OLS estimates. The middle presents instrumental variables estimates, together with the F-statistic for a test of the relevance of the excluded instrument. The bottom panel presents the reduced form. The number of independent candidates is standardized, so that the coefficient estimate represents the impact of a one-standard-deviation (12.50) increase in the number of independent candidates. The standard deviation can be found, together with summary statistics for the full sample, in Appendix Table A2.<sup>33</sup>

Column 1 shows that a standard-deviation increase in independent candidates causes turnout to increase by 11.56 percentage points. The remaining IV estimates show flexible controls for differential trends dampen the estimated effect. Allowing for differential trends across constituencies as a function of turnout in the initial period reduces the magnitude by about 50%. This suggests that constituencies with high turnout historically tend to have positively correlated trends in independent candidates and voter turnout. As we add trends in other constituency-level variables the estimate stabilizes between 5 and 6 percentage points (Columns 4). All the estimates are statistically significant at conventional significance levels.

The OLS estimates are smaller in magnitude and have the opposite sign from the IV estimates, implying a confound that co-varies across constituencies over time positively (negatively) with independent candidates and negatively (positively) with turnout. While it is difficult to pin down a specific story that rationalizes this pattern, one possibility is that

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<sup>33</sup>Appendix Table A2 shows that the standard deviation is larger than the mean for the number of candidates overall (7.11). Note, however, that a standard deviation is reasonable relative to what was taking place in the run up to the reform. 59 percent of constituencies (320 of 543) had more than 12.50 independents in the 1996 elections. 44 percent (478 out of 1077) had more than 12.50 in 1991 and 1996 (inclusive). 34 percent (553 out of 1605) had more than 12.50 from 1989 to 1996. Having said that, estimates of the effects of the unstandardized number of independents on our main outcomes can be found in the Online Appendix.

**Table IV: Independents and Voter Turnout.** The point estimates in the first two rows describe the impact of a one standard deviation increase in *# Independents*. The table reports *Sanderson-Windmeijer F-Test* for excluded instruments, *i.e.* for no differential effect (across open and reserved constituencies) on *# Independents*. The scale for voter turnout is 0 to 100. Standard errors are clustered at the level of constituency. *p*-values in parentheses.

	Voter Turnout (% of Eligible Electors)				
	(1)	(2)	(3)	(4)	(5)
	Naive OLS				
# Independents (Standardized)	-0.44 (0.02)	-0.46 (0.02)	-0.44 (0.02)	-0.38 (0.03)	-0.27 (0.02)
	Instrumental Variables				
# Independents (Standardized)	11.56 (0.00)	12.76 (0.00)	6.17 (0.03)	5.45 (0.04)	5.12 (0.03)
<i>F</i> -Test of Excluded Instruments, $F(1, 542)$	31.67 (0.00)	19.09 (0.00)	18.51 (0.00)	17.87 (0.00)	19.14 (0.00)
	Reduced Form				
Open Seat After the Fee Increase	-2.88 (0.00)	-2.46 (0.00)	-1.19 (0.01)	-1.08 (0.01)	-1.28 (0.01)
Constituency Fixed Effects	✓	✓	✓	✓	✓
Election Year Fixed Effects	✓	✓	✓	✓	✓
Independents in 1977 (Trends)		✓	✓	✓	✓
Turnout in 1977 (Trends)			✓	✓	✓
Eligible Electors (in logs)				✓	✓
Distance Between Winner and Runner-up in Last Election					✓
Observations	4840	4840	4840	4840	4297

constituencies that exhibit dissatisfaction with the major political parties tend to have lower turnout and more independents.<sup>34</sup>

**5.1. Leads & Lags.** We evaluate the assumption that our controls encapsulate unobserved differences in how turnout evolves across open and reserved constituencies, lending a causal interpretation to our estimates. We estimate the leads and lags specification:

$$y_{je} = \pi_j + \sum_{k=-4}^2 \pi_k \text{Open}_j \text{Post}_{e+k} + \pi_e + X_{je} \Pi + u_{je},$$

where  $y_{je}$  is either the number of independent candidates or voter turnout.  $k < 0$  identifies the elections leading up to the reform.  $k = 0$  identifies the first election after the reform.  $k > 0$  denotes the elections thereafter. Estimates are found in Table V. The excluded category for the leads and lags is the 1980 election.<sup>35</sup> The coefficients thus measure the change in the dependent variable relative to its 1980 value.

From 1980 to 1984, the number of independent candidates increased by 0.81 in open relative to reserved constituencies. The increase from 1980 to 1989 was 1.42 candidates. From 1980 to 1989 it was 2.41 candidates. By 1996 the increase was 7.07 more than the increase in reserved constituencies. The increase was the same for open and reserved constituencies in the three elections following the reform. The estimates are consistent with Figure 1.

Turnout was statistically the same for open and reserved constituencies before the reform. With the new entry deposits, open constituencies experienced an immediate and significant 1.89 percentage point drop in voter turnout. Figure 2 affirms the turnout results in Table V. It shows voter turnout follows a statistically similar trend in open and reserved constituencies leading up to the reform. It also shows that voter turnout drops substantially in open versus

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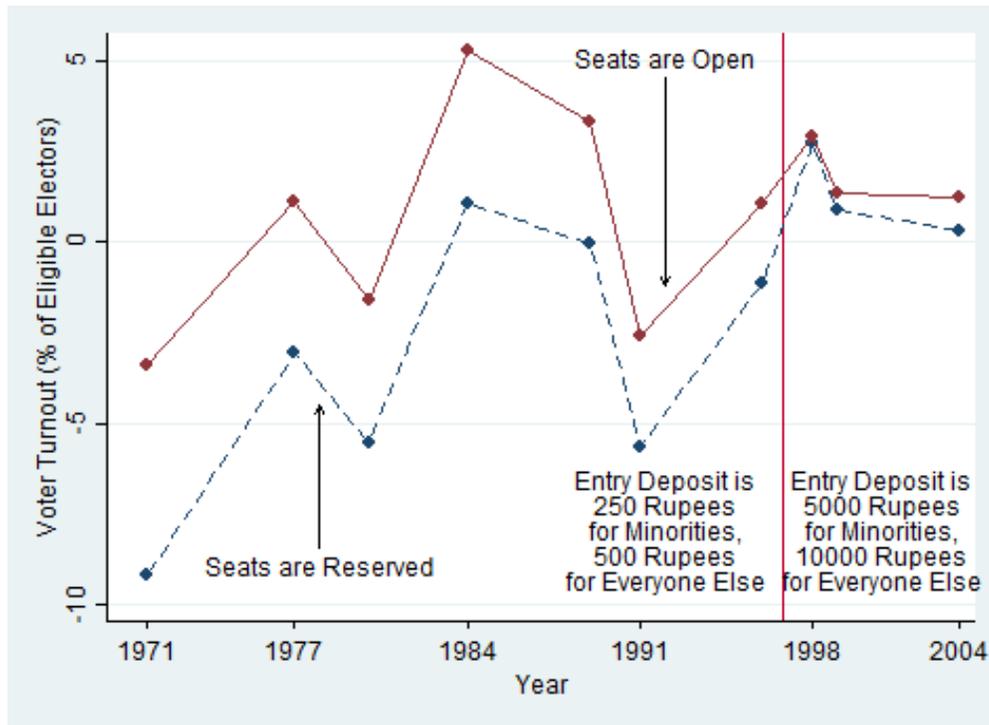
<sup>34</sup>One concern with our identification strategy relates to the influence of the constituencies who had several hundreds of independents contesting a single seat. Online Appendix Table OA6 shows that our main results are robust to the exclusion of constituencies with less 100 candidates.

<sup>35</sup>Our panel is fairly balanced. There are 543 potentially contestable seats in each election. We have 537 on average in our sample.

**Table V: Pre-Trends for Open and Reserved Constituencies.** Estimates of the base specification and three lags of the dummy which identifies open constituencies after entry deposits were increased. The excluded category for the leads and lags is the 1980 election. Clustered (on the constituency)  $p$ -values in parentheses. \*\*\*,\*\*, and \* denote statistical significance at 1, 5, and 10 percent levels.

	# Independents (1)	Turnout (2)
Open Seat ×		
Fours Elections Ahead (1984)	0.81* (0.06)	-0.05 (0.95)
Three Elections Ahead (1989)	1.42*** (0.01)	0.94 (0.38)
Two Elections Ahead (1991)	2.41*** (0.00)	-0.33 (0.76)
One Election Ahead (1996)	7.07*** (0.00)	-0.94 (0.33)
First Election (1998) with Higher Entry Fees	-0.59 (0.20)	-1.89** (0.03)
One Election Later (1999)	0.05 (0.90)	-1.36 (0.11)
Two Elections Later (2004)	0.16 (0.73)	-1.34 (0.15)
Constituency Fixed Effects	✓	✓
Election Year Fixed Effects	✓	✓
Dependent Variable in 1977 (Trends)	✓	✓
Eligible Electors (in logs)	✓	✓
Distance Between Winner and Runner-up in Last Election	✓	✓
Observations	4217	4217

Figure 2: Entry Deposits and Voter Turnout.



reserved constituencies after the reform.<sup>36</sup> The coefficients becomes less negative as we move to the 1999 and 2004 elections. While the negative coefficients for 1999 and 2004 are consistent with the reform deterring entry disproportionately in later elections, they may also reflect other changes that were taking place at the same time, such as differential changes in real income. Because of this, Appendix Table OA7 replicate our main results while excluding data from elections that took place after 1998.<sup>37</sup>

**5.2. Discussion.** A large body of scholarship has estimated the relationship between voter turnout and the number of candidates or the number of a particular type of candidate. The number of candidates is thought to increase turnout because it presents voters with more

<sup>36</sup>Because we use an instrumental variables strategy, to construct the figure we take a “control function” approach and purge from the turnout variable the component of independent candidates not explained by the instrument. Specifically, in a first stage we regress independent candidates on the instrument, and in a second stage purge turnout of the residuals from the first stage.

<sup>37</sup>Table A3 and Online Appendix OA.1 show that our main conclusions hold, qualitatively, if we use the smallest window of data possible, the 1996-1998 period around the reform.

choice, which increases their utility from turning out.<sup>38</sup> It is thought to decrease turnout because it increases the likelihood of a coalition government, weakening the link between the favored policy of citizens and the policy choice of the eventual government. The literature has yielded inconsistent evidence, a relatively even distribution of positive, negative, and statistically insignificant estimates (Cancela and Geys 2016).

This inconsistency likely owes to the fact that estimates in the literature have not been obtained using exogenous variation in candidates, and thus partly reflect the effects of unobserved correlates of both the number of candidates and turnout. For example, if citizens are dissatisfied with the expected state of the economy, then they may participate more or less depending on whether their dissatisfaction leads them to mobilize or withdraw from the political process (Schlozman and Verba 1979; Rosenstone 1982). This biases estimates upward if dissatisfaction affects voter and candidate participation in the same way (*e.g.* decreases both) and biases estimates downward if dissatisfaction affects voter and candidate participation in opposite ways.<sup>39</sup> Our focus on independents and exogenous variation in their participation helps eliminate these sorts of biases.

Our estimates are informative for research that focuses specifically on turnout in India. Existing scholarship has uncovered provocative empirical patterns: India has relatively high turnout despite having relatively low levels of income and education (Kumar and Banerjee 2017); the poor turn out to vote at least as much as the middle and upper classes (Kumar 2009); voters in rural areas now turn out more than voters in urban areas (Banerjee 2015). By contrast, we show that turnout depends heavily on the participation of independent candidates. Our finding complements that of Ujhelyi, Chatterjee and Szabó (2017), who use the introduction of the “None of the Above” (NOTA) option to also show that the presence

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<sup>38</sup>The more choice, the less likely a given voter has to decide between staying home or voting for the “least of all evils”. Elections with more candidates also seem preferable from the perspective of competition. More candidates should imply a better pool of political talent and a more capable winner (Becker 1958).

<sup>39</sup>Another explanation for the inconsistency relates specifically to the widespread use of the effective number of candidates (Laakso and Taagepera 1979), which is based on *ex post* vote shares. If turnout and vote shares are determined together, as can be the case with expressive voting, then estimates of the effect of the effective number of candidates will suffer from simultaneity bias.

of more options on the ballot generates higher turnout.

## 6 Independents and Representation

**6.1. Collective Vote Share of Independents.** The first five columns of Table VI reports estimates of the effect of the number of independent candidates on their collective vote share. Our most flexible specifications show that the vote share of independents increases by 9 percentage points with a standard deviation increase in independent candidates. As turnout only increases by 5 percentage points, it must be the case that some voters switch to vote for independents.<sup>40</sup>

**6.2. Vote Share of Winners.** The remaining columns of Table VI report estimates of the effect of independents on the vote share of the winning candidate. The table shows that the winning candidate needs less vote share when more independents are present, as a standard deviation increase in independent candidates decreases the vote share of the winner by a statistically significant 4-8 percentage points. This finding is in line with what has been shown in several theoretical papers (Cox 1987; Myerson 1993; Lizzeri and Persico 2009), that growth in the number of candidates enables winners to win with less vote share, implying that candidates have an incentive to target narrower segments of the electorate. To the extent that independents help generate this incentive, they improve the chances that a less mainstream candidate gets elected.

**6.3. Governing Coalition.** We estimate:

$$(Member\ of\ Government)_{je} = \alpha_j + \beta(\# Independent\ Candidates)_{je} + \delta_e + X_{je}\Gamma + \varepsilon_{je}$$

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<sup>40</sup>Appendix Table A4 reports estimates of the effect of independents on the vote shares of all candidates from the runner-up to the sixth place candidate. There is no significant effect on the shares of these candidates.

**Table VI: Independents and the Distribution of Vote Shares.** Instrumental variable estimates of the impact of a one standard deviation increase in the number of independent candidates. The scale for vote share is 0 to 100. Standard errors are clustered at the level of constituency.  $p$ -values in parentheses.

	Total Vote Share for Independents				Vote Share for Winner					
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
# Independents (Standardized)	6.21 (0.02)	7.97 (0.03)	9.98 (0.01)	9.94 (0.01)	9.36 (0.00)	-5.73 (0.01)	-7.63 (0.01)	-4.83 (0.05)	-4.84 (0.05)	-3.99 (0.05)
Constituency Fixed Effects	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Election Year Fixed Effects	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Independents in 1977 (Trends)		✓	✓	✓	✓		✓	✓	✓	✓
Dep. Variable in 1977 (Trends)			✓	✓	✓			✓	✓	✓
Eligible Electors (in logs)				✓	✓				✓	✓
Distance Between Winner and Runner-up in Last Election					✓					✓
Observations	4466	4466	4466	4466	4040	4840	4840	4840	4840	4297

where the dependent variable takes the value 1 if the candidate who wins constituency  $j$  in election  $e$  belongs to the party or pre-election alliance that eventually forms the government.<sup>41</sup> The coefficient  $\beta$  measures the impact of independent candidates on the probability that the elected representative is a member of the party or alliance that governs in the post-election period.

Our IV strategy deals with the concern that the incentives for candidate entry are stronger in constituencies where the prospects for the expected governing coalition are poor, or in other words, that the relationship instead runs from  $(Member\ of\ Government)_{je}$  to  $(\#\ Independent\ Candidates)_{je}$ . The differential changes to entry deposits are exogenous to changes in support for the expected governing coalition, ruling out the reverse relationship.

Estimates are reported in Table VII. A standard deviation increase in the number of independents reduces the probability of governing-coalition representation by roughly 30 percentage points. The IV estimates are fairly stable across the different specifications. The naive OLS estimates, by contrast, are substantively and statistically negligible after controlling for unobserved differential trends across constituencies. The IV estimates are, to the best of our knowledge, the first causal estimates of the effect of independent candidates on constituency representation in government.

Our interpretation of the IV estimates is that independents affect constituency representation directly, by increasing the chances that the elected representative is not a member of the governing party or coalition. An alternative interpretation is that independents affect constituency representation indirectly, by increasing the chances the elected representative is not a member of INC or BJP, the two parties that have dominated Indian politics since Independence. Appendix Table A5 uses two outcomes to investigate this possibility: an indicator that the BJP or INC wins the constituency and an indicator that the BJP or INC wins

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<sup>41</sup>Starting in the late 1990s, groups of parties began contesting elections together in alliances. Up to and including 2004, the last election in our data, there was one major alliance, the National Democratic Alliance (NDA), anchored by the BJP. After the 2004 election, the INC also formed an alliance, the United People's Alliance (UPA), which is now a major player in Indian politics. But this was formed post election because no party won an absolute majority of seats.

**Table VII: Independents and Representation in the Lok Sabha.** Instrumental variable estimates of the impact of independent candidates (with no party affiliation) on the likelihood that the winner of the constituency is a member of the governing coalition. Standard errors are clustered at the level of constituency.  $p$ -values in parentheses.

	Elected Representative is a Member of Governing Coalition				
	(1)	(2)	(3)	(4)	(5)
	Naive OLS				
# Independents (Standardized)	-0.01 (0.01)	-0.01 (0.01)	-0.00 (0.40)	-0.00 (0.34)	-0.00 (0.26)
	Instrumental Variables				
# Independents (Standardized)	-0.30 (0.02)	-0.30 (0.08)	-0.29 (0.07)	-0.29 (0.08)	-0.27 (0.06)
	Reduced Form				
Open Seat After the Fee Increase	0.07 (0.01)	0.06 (0.05)	0.06 (0.05)	0.06 (0.05)	0.07 (0.03)
Constituency Fixed Effects	✓	✓	✓	✓	✓
Election Year Fixed Effects	✓	✓	✓	✓	✓
Independents in 1977 (Trends)		✓	✓	✓	✓
Member of Government in 1977 (Trends)			✓	✓	✓
Eligible Electors (in logs)				✓	✓
Distance Between Winner and Runner-up in Last Election					✓
Observations	4840	4840	4840	4840	4297

*and* is the party that forms government. The table shows a statistically significant effect for the latter but not the former<sup>42</sup> - the effect does not just operate indirectly by lowering the chances that a dominant party wins the constituency.

A wealth of research has documented the advantages of governing-party representatives in a wide range of contexts. [Khemani \(2007\)](#) uses data on state finances to provide evidence of greater transfers from the federal government of India to states whose ruling party is the same as that of the federal government. [Asher and Novosad \(2017\)](#) showed recently that Indian state-level constituencies perform better economically when the seat is held by a member of the state governing party. A wide array of evidence from other contexts supports this finding: [Rogowski \(2016\)](#), among several others, provides a fascinating example from the US; [Brollo and Nannicini \(2012\)](#) provide an example from Brazil; [Burgess et al. \(2015\)](#) provide one from Kenya.

**6.4. Ethnic Parties.** Which parties benefit, at the constituency level, from a loss by the party or parties that ultimately form government? As Indian democracy matured between independence and the early 1990's, a wide range of narrowly focused ethnic parties emerged to give voice to India's vast array of constituent parts. These parties would never win a majority (or even plurality) of seats in a National election, and usually target specific ethno-linguistic interests in one or two states. As noted in Section 3.1, Independents tend to represent interests other than those of a specific ethno-linguistic group. They likely increase competition among non-ethnic candidates, which should improve the chances of ethnic parties. This subsection investigates whether this is case, focusing on whether ethnic parties are the primary beneficiaries of entry by independents.

We rely on ([Thachil and Teitelbaum 2015](#)) and ([Chandra 2004](#)) to identify ethnic parties. [Thachil and Teitelbaum \(2015\)](#) isolates major state parties, who either held office or formed the opposition in state legislature, and among these, define "ethnic parties on the basis of

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<sup>42</sup>Note that because they are conditional on election fixed effects, the estimates are adjusted for election-to-election differences in who actually formed the government.

their appeals to the particular interests of one ethnic category to the exclusion of others.” We cross check their list against (Chandra 2004) because she, like us, focuses on the 1996 and 1998 general elections.<sup>43</sup> We add communist and marxist parties to the Thachil and Teitelbaum (2015) list because while these parties generally target voters via economic issues, they employed an ethnic targeting strategy between 1996 and 1998, attempting to provide the best “head count” option for voters in specific castes (Chandra 2004). A full list of ethnic parties, and the states they are most associated with, is found in the caption to Table VIII.

Table VIII reports estimates of the effect of independents on three candidate types. The first type belongs to the major alliances formed around the BJP and the INC. The second type belongs to parties defined as major ethnic or regional parties. The third type belongs to any other party. This last type includes independents as well as small national and local parties, such as the All India Indira Congress, which was a non-ethnic faction that broke away from the INC. The upper panel of Table VIII reports estimates of the impacts on the collective vote shares of these candidate types. The lower panel reports estimates of the impacts on their probabilities of winning.

Independents shift 4 percent ( $p < 0.05$ ) of the major national alliance vote share to other, non-ethnic, parties. They have no statistical impact on the vote share of major ethnic/regional parties. Independents also decrease the win probability for major national alliances by 14 percentage points ( $p < 0.05$ ). They increase the win probability for ethnic parties by 12 percentage points ( $p < 0.05$ ). They have no statistical impact on the win probability for other parties. The estimates in the first two columns (lower panel) nearly offset each other, suggesting that ethnic parties win when major national alliances lose. Independents thus change the political equilibrium by shifting vote share away from the mainstream National to non-ethnic parties and, ultimately, by making it easier for ethnic parties to win.

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<sup>43</sup>Our analysis is restricted to 1996-1998 for practical reasons. Parties evolve and merge over time. Identifying ethnic parties over the full time horizon of Indian democracy is outside the scope of the present article.

**Table VIII: Independents and Election Prospects of Ethnic Parties.** Instrumental variable estimates of the impact of a one standard deviation increase in the number of independent candidates. Standard errors are clustered at the level of constituency.  $p$ -values in parentheses. Ethnic parties and their States: Asom Gana Parishad (AGP) Assam; Bahujan Samaj Party (BSP) Haryana, Madhya Pradesh, Punjab, Uttar Pradesh; Communist and Marxist Parties (CPI, CPM) Kerala, West Bengal; Dravida Munnetra Kazhagam (DMK) Tamil Nadu; Haryana Vikas Party (HVP) Haryana; Janata Dal (JD) Bihar, Karnataka; Rashtriya Janata Dal (RJD) Bihar; Samajwadi Party (SP) Uttar Pradesh; Shiv Sena (SHS) Maharashtra; Telugu Desam Party (TDP) Andhra Pradesh.

	Vote Share		
	National Parties (1)	Ethnic Parties (2)	Other Parties (3)
# Independents(Standardized)	-0.05 (0.02)	0.01 (0.47)	0.04 (0.03)
	Win Probability		
	(1)	(2)	(3)
# Independents (Standardized)	-0.14 (0.03)	0.12 (0.05)	0.02 (0.49)
Constituency Fixed Effects	✓	✓	✓
Election Year Fixed Effects	✓	✓	✓
Eligible Electors (logs)	✓	✓	✓
Distance Between the Winner and Runner-Up in Last Election	✓	✓	✓
Observations	1086	1086	1086

Chandra (2004) has argued that the success of ethnic parties depends on opportunities for intra-party advancement, as well as on the size of the ethnic group it claims to represent. Parties that are defined by the ethnicity of leaders and members give voters an opportunity to do a simple “head count” within each party and to make a decision about which party can be expected to have elected officials that can advance voters’ material interests. Our article identifies a new channel through which ethnic parties can succeed in democracies where patronage is important.<sup>44</sup>

## 7 Robustness

**7.1. Amendment to the Representation of the People Act (of 1951).** As Section 3.2 notes, the entry-deposit reform was part of a broader package of reforms that took place between 1996 and 1998. Here we elaborate on the other relevant reforms as well as the implications for our identification strategy.

The first reform increased the signature requirement for unrecognized and independent candidates from one to ten, while the number of required signatures for recognized parties dropped from two to one. By the standards of other democracies the signature requirements in India are trivial. To put it in context, according to Brancati (2008), the percentage of signatures required relative to the total number of electors averaged over the 34 democracies (including ones with no signature requirement) is 0.31%. In India, given that the average constituency in our sample has approximately 945,000 electors, this would amount to a signature requirement of just under 3000. Indeed, in even the most rural and remote constituencies, the 10 signature requirement can be met by enlisting the support of friends and family.

The second reform restricted the number of constituencies a candidate could contest.

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<sup>44</sup>Chandra (2004) defines a patronage democracy as one in which the government is the primary provider of jobs and services, and in which elected officials have discretionary power over policies governing the allocation of these jobs and services.

Prior to the reforms, a general candidate could, in principle, contest any number of the open constituencies, while SC (ST) candidates could contest any number of the SC (ST)-reserved or general constituencies. The reforms reduced the maximum number of contestable constituencies to 2. The reform really only has implications for higher profile candidates, usually party leaders or prospective prime ministers who need to guarantee themselves a seat in the legislature.<sup>45</sup> Independents and other candidates from smaller parties, are unaffected because they typically only have resources to contest in one constituency in any case. From this standpoint, the reform should have minimal implications for our identification strategy.<sup>46</sup>

The third reform stipulated that ballots were to be ordered, first, according to party type and, second, alphabetically within each party-type category. The ordering of party types was to be: (1) Candidates from recognised parties; (2) Candidates of registered but unrecognised parties; (3) Independents. Within each category, candidates were required to be listed alphabetically. Prior to the reforms, the presentation of candidate names on the ballot was at the discretion of the presiding officer. We expect that the changes to the ordering of candidates had no effect on voter turnout, as the average voter was likely unaware of this change before voting. Changes to the candidate order could in principle affect electoral outcomes, however. [Shue and Luttmmer \(2009\)](#) have shown that ballot placement can affect the chances of winning, and the effects are strongest in precincts with poorer and less educated voters. By the logic of their results, we would expect the increase in the probability of electing a governing-coalition candidate to be smaller in open constituencies, implying that, if anything, we are underestimating the effect of independents on who wins.

The fourth reform specified that polling days were to be paid holidays for workers, unless it causes danger or results in substantial losses for the employer. In principle, this should increase voter turnout, but may do so differentially. For example, the mandated paid holiday

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<sup>45</sup>See <http://indianexpress.com/article/opinion/columns/the-two-seat-solution/>.

<sup>46</sup>In our sample, 99.61% of candidates run in only one constituency. This number should be taken with caution, however, as the same candidate's name may have been spelled differently in different constituencies, in which case the same candidate appears as different candidates.

may have increased turnout more in poorer districts where workers are less able to forfeit a day’s wages. Alternatively, poorer districts could experience a relative decrease in turnout if the cost to employers of letting workers take time from work is larger in wealthy districts. Absent detailed information about employer practices on the day of elections, it is difficult to know which is the case.<sup>47</sup> To ensure our results are robust to this possibility, Appendix Table A6 considers modifications of our main specification where, in the absence of data on constituency-level income, we include as a control an interaction between the reservation status of the district and state-level income (state domestic product). This allows for the possibility that turnout depends on income differentially across reserved and unreserved constituencies. Our results are unaffected by the inclusion of this variable.<sup>48</sup>

**7.2. Dummy Candidates.** By 1996, 50 years of inflation had effectively made it costless to run a candidate in an election, and there was concern that parties were running dummy candidates to steal votes from opponents. For example, one might observe the names Mohammed Khan, Muhammed Khan, and Mohammad Khan, where only the latter was a legitimate candidate. The idea was to confuse supporters of Mohammad Khan into mistakenly voting for one of the other two candidates.<sup>49</sup>

This is potentially a concern because the presence of dummy candidates will correlate with the deposit and could at the same time shape voter decisions about whether to turnout and whom to vote for. However, as [Bhattacharya and Mitra \(2014\)](#) point out, dummy candidates are only a feasible instrument of the larger parties who are unaffected by the price of the deposit. So we should not expect the number of dummy candidates to respond

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<sup>47</sup>In fact, the paid holiday proved difficult to enforce because there was ambiguity in how it was incorporated into the Representation Act, creating loopholes that employers could use to avoid letting workers vote. The ambiguity was sufficiently problematic that the Election Commission felt the need to issue a clarifying letter in 1999. For a reference see <http://asklabourproblem.info/what-indian-employment-laws-say-about-paid-holiday-on-the-day-of-poll/>.

<sup>48</sup>Appendix Table OAS reports estimates of specifications in which the rural population share of the state (according to the 2001 census) is interacted with a fourth-order polynomial in time. The specifications also allow for the possibility that turnout depends on income differentially across reserved and unreserved constituencies. As with Appendix Table A6, our estimates are largely unaffected by the inclusion of these controls.

<sup>49</sup>It also allowed the parties to easily get around limits on campaign spending.

to the real deposit at all. To confirm this, we constructed a measure of dummy candidates - the distances between the names of candidates running in an election - and checked whether this responds to the deposit. [Online Appendix OA.2](#) presents estimates using four measures of the string distance between candidate names, and find that if anything, the higher deposit caused name similarity to slightly increase. Our results can not be explained by dummy candidates.

**7.3. Voter Preferences and Information.** Our identification strategy assumes outcomes in open and reserved constituencies would have evolved in the same way in the absence of the reform. One of the more obvious threats to the strategy relates to the diffusion of information and communication technologies. [Gentzkow \(2006\)](#) has shown that the spread of television reduced voter turnout in the United States, because voters substituted towards television and away from other types of media such as newspapers and the radio in choosing what type of media to consume. In India television spread rapidly starting in the 1980s and 1990s. This could compromise our strategy if television diffused differentially across open and reserved constituencies. Another potential threat relates to differences in the evolution of voter preferences. Our sample begins with the first election after the “Emergency” period in India,<sup>50</sup> and continues through a period that saw the assassinations of Indira and then Rajiv Gandhi, of massive trade liberalization, and a devolution of powers to states, among other changes.

Our flexible controls should soak up a good deal of the variation in turnout that is generated by the diffusion of television. As before, clustering the standard errors on the constituency helps us adjust for differences in diffusion that could manifest in differences in slope coefficients. Nonetheless, [Online Appendix OA.3](#) draws on data from the 1971 Indian National Election Study to show that our results are robust to adjustments for information and communication technologies, voter preferences, and other factors.

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<sup>50</sup>During this period Prime Minister Indira Ghandi exercised sweeping (non democratic) powers in an effort to “unite” the country. There were no elections during the emergency.

## 8 Conclusion

We have exploited exogenous changes in the entry deposits candidates pay for their participation in the political process to estimate the causal impact of independent candidates on voter turnout and election outcomes in India. We have shown that while they increase turnout, they decrease the chances that a constituency will elect a candidate that belongs to the party, or coalition of parties, that forms the national government. This implies the price of independent participation is constituency representation in government and, consequently, that independents can be important for political representation.

Our article leaves several questions open for future research. Our results regarding turnout and the vote share of independents are consistent with voters turning out to vote for the independent candidates themselves, and in turn with independent candidates providing voters with better opportunities to express their preferences.<sup>51</sup> If this is the case, then Independents generate a trade off between giving voters better opportunities for preference expression and constituency representation in government. Our results are consistent with other mechanisms, however, including one in which independents trade handouts for votes and/or turnout (Nichter 2008). Sorting through the various mechanisms is important because the entry deposit increases were sizeable relative to average income, and likely deterred candidacy by poorer, nonpartisan, (Ansolabehere and Gerber 1996) but representative segments of the population.

While we are able to say much about who citizens authorize to represent their constituency, we say little about how responsive the elected representative is when voters are faced with a broader set of choices. India is a mature democracy and has had a relatively free media in the post-1977 era. Independents can affect what the representative learns about

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<sup>51</sup>The explanation aligns well with Ujhelyi, Chatterjee and Szabó (2017)'s explanation for why the NOTA option increases turnout. The increase stems from choice-specific utility, i.e., the utility voters derive from expressing their specific political views, rather than from a general utility, inclusive of the benefit from performing their civic duty and participating in democracy, or in the case of India's poor, exercising a right and having their voices heard.

the preferences of the electorate during the campaign,<sup>52</sup> and can increase citizen knowledge about alternative policies, as well as what citizens know about each other's preferences.<sup>53</sup> They may thus facilitate the selection of representatives who are more responsive to their constituents. While we are unable to test this directly, it would be of interest to know whether it is the case.

The generalizability of our findings will determine the practical relevance for other election commissions, particularly in parliamentary democracies where representatives are elected by a plurality in single-member districts. The portability of the impact of independents on turnout will depend on the preference distribution of voters in other contexts. Because of the many language and ethnic identities in India, we expect a relatively wide distribution even within constituencies, which presents potential candidates with greater opportunities to draw out voters, and lends itself to large effects of independents on turnout. This should not be the case in democracies with more narrow preference distributions.

Lastly, the impact of independents on constituency representation should have portability to democracies with first-past-the-post systems. The impact should be less pronounced in democracies with multi-member districts. Our finding that ethnic parties benefit most from independents is even less portable. However, one might expect similar patterns in the UK, for example, where parties like the Scottish National Party and Plaid Cymru appeal to ethnic identity and could benefit from vote splitting between parties who do not. It is also possible that the same mechanism has applicability to countries with "special interest" parties, such as the Green Party in Canada, which focuses narrowly on issues that are a priority for a relatively small segment of the electorate.

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<sup>52</sup>That is, independents can affect the *deliberative* process that occurs during the election, as conceptualized by Mansbridge (1992)

<sup>53</sup>Independents can influence the policy platforms of viable candidates by making promises, such as better sanitation quality, to constituents. By doing so, they can effectively force viable candidates to platform on the same issue (<http://www.ozy.com/fast-forward/small-businessmen-the-new-third-party/62780>).

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## Appendix A.1 Additional Tables and Robustness

**Table A1: Population determines the Reservation Status of a Constituency.** Regressions based on the cross section from 2009 and census data of 2001. “Part of a Scheduled Caste” refers to the SC-share of population. “Part of a Scheduled Tribe” refers to the ST-share of population. Standard errors robust to heteroskedasticity. \*\*\* for  $p \leq 0.01$ , \*\* for  $0.01 < p \leq 0.05$ , \* for  $0.05 < p \leq 0.1$ .

	Scheduled Caste or Tribe (0-1)					
Part of a Scheduled Caste	2.36*** (0.25)	2.37*** (0.26)	2.36*** (0.26)	2.65*** (0.28)	2.64*** (0.28)	2.63*** (0.28)
Part of a Scheduled Tribe	1.39*** (0.12)	1.40*** (0.12)	1.41*** (0.12)	1.42*** (0.14)	1.41*** (0.15)	1.41*** (0.14)
Literate		0.07 (0.24)	0.05 (0.24)	-0.00 (0.27)	-0.01 (0.27)	-0.01 (0.27)
Working Age (15-59)		-0.11 (0.63)	-0.23 (0.64)	-0.43 (0.73)	-0.39 (0.74)	-0.43 (0.77)
Post, Telegraph, Phone Facilities			0.05 (0.08)	-0.26* (0.14)	-0.26* (0.14)	-0.26* (0.14)
Primary School				0.15 (0.17)	0.15 (0.17)	0.15 (0.17)
Middle Schools				-0.09 (0.14)	-0.09 (0.14)	-0.10 (0.14)
Secondary Schools				0.02 (0.17)	0.04 (0.17)	0.04 (0.18)
College				1.21 (1.22)	0.93 (1.31)	0.94 (1.31)
Bus Services				0.22 (0.14)	0.19 (0.15)	0.19 (0.15)
Paved Road on Approach				0.03 (0.15)	0.05 (0.15)	0.05 (0.15)
Mud Road on Approach				-0.04 (0.07)	-0.05 (0.07)	-0.05 (0.07)
Ratio of Males to Females					0.21 (0.38)	0.15 (0.49)
Growth (1991-2001)						-0.00 (0.00)
Observations	536	536	536	536	536	536
$R^2$	0.20	0.20	0.21	0.22	0.22	0.22

**Table A2: Summary Statistics for Full Sample.**

	mean	sd	min	max	count
# Independent Candidates	7.11	12.50	0.00	473.00	4840
# Candidates Overall	11.60	13.34	2	480.00	4840
Voter Turnout (% Eligible Electors)	58.79	11.32	5.01	91.67	4840
MP is part of Governing Coalition	0.49	0.50	0.00	1.00	4840
Vote Share of					
Independents	5.85	10.31	0.00	99.04	4840
Winner	50.01	10.01	18.63	97.69	4840
Runner up	34.37	8.04	0.50	49.83	4840
Third place	9.91	7.95	0.17	31.57	4704
Fourth place	3.06	3.63	0.10	22.02	4464
Fifth place	1.35	1.61	0.05	16.09	4099

**Table A3: Descriptives for 1996 and 1998 Elections Alone (With Influential Observations).** Standard deviations for means are in round parentheses.  $p$ -values for comparisons of means in square parentheses. Standard errors for mean comparisons are clustered on the constituency.

	Open Constituencies (Seat can be held by anyone)		Reserved Constituencies (Seat can only be held by Minorities)		Differences-in Differences	
	Minorities pay 250 Rupees, Majorities pay 500 Rupees (1)	Minorities pay 5000 Rupees, Majorities pay 10000 Rupees (2)	Minorities pay 250 Rupees, Majorities pay 500 Rupees (4)	Minorities pay 5000 Rupees, Majorities pay 10000 Rupees, (5)		
# Independent Candidates (Independents or 1-Member Unrecognised)	22.79 (35.52)	4.11 (3.70)	13.16 (10.16)	2.65 (2.41)	-10.51 [0.00]	-8.18 [0.00]
Voter Turnout (% Eligible Electors)	57.87 (12.50)	61.39 (9.32)	56.24 (13.82)	61.22 (9.10)	4.98 [0.00]	-1.46 [0.07]
Elected Representative is a Member of Governing Coalition	0.27 (0.45)	0.49 (0.50)	0.22 [0.00]	0.35 (0.48)	0.07 [0.12]	0.15 [0.01]
Elections Constituencies Observations	1 369 369	1 369 369	2 369 738	1 174 174	2 174 348	2 543 1086

**Table A4: Independents and the Vote Shares of the Runner-up, Third-place candidate, etc.** Instrumental variable estimates of the impact of independent candidates on how vote shares are distributed among the runner-up, third-place candidate, etc. Vote shares are scaled to lie between 0 and 100. Standard errors are clustered at the level of constituency. *p*-values in parentheses.

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	Share of vote for				
	Runner Up	Third Place	Fourth Place	Fifth Place	Sixth Place
# Independents (Standardized)	-1.48 (0.45)	1.11 (0.61)	-0.21 (0.91)	0.46 (0.65)	-0.12 (0.83)
Constituency Fixed Effects	✓	✓	✓	✓	✓
Election Year Fixed Effects	✓	✓	✓	✓	✓
Independents in 1977 (Trends)	✓	✓	✓	✓	✓
Turnout in 1977 (Trends)	✓	✓	✓	✓	✓
Eligible Electors (logs)	✓	✓	✓	✓	✓
Distance Between Winner and Runner-up in Last Election	✓	✓	✓	✓	✓
Observations	4297	3491	2552	1674	1128

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**Table A5: Independents and Established Parties.** The dependent variable in the first column indicates whether the BJP or INC (India's two most dominant parties) wins. The dependent variable in the second column indicates whether one of these parties wins and is the ruling party. The instrumental variable for the number of independent candidates (with no party affiliation) is the interaction of the open constituency and post-1996 dummies. Standard errors are clustered at the level of constituency. *p*-values in parentheses.

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	BJP or INC Wins (1)	BJP or INC Wins and forms Government (2)
# Independents (Standardized)	-0.13 (0.26)	-0.23 (0.07)
Constituency Fixed Effects	✓	✓
Election Year Fixed Effects	✓	✓
Independents in 1977 (Trends)	✓	✓
Ruling Party Won in 1977 (Trends)	✓	✓
Eligible Electors (logs)	✓	✓
Distance Between Winner and Runner-up in Last Election	✓	✓
Observations	4297	4297

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**Table A6: Robustness to Differential Trends in State Income.** Standard errors are clustered at the level of constituency. *p*-values in parentheses.

	Voter Turnout				
	(1)	(2)	(3)	(4)	(5)
# Independents (Standardized)	4.61 (0.00)	5.41 (0.01)	3.85 (0.03)	3.48 (0.04)	3.28 (0.04)
State Domestic Product (SDP)	0.34 (0.37)	0.27 (0.49)	0.02 (0.95)	0.18 (0.61)	0.14 (0.69)
State Domestic Product×Open	-0.56 (0.05)	-0.49 (0.10)	-0.18 (0.52)	-0.20 (0.44)	-0.18 (0.48)
Constituency Fixed Effects	✓	✓	✓	✓	✓
Election Year Fixed Effects	✓	✓	✓	✓	✓
Independents in 1977 (Trends)		✓	✓	✓	✓
Turnout in 1977 (Trends)			✓	✓	✓
Eligible Electors (in logs)				✓	✓
Distance Between Winner and Runner-up in Last Election					✓
Observations	3738	3738	3738	3738	3738

Independent Candidates and  
Political Representation in India

**Online Appendix**  
(Not for Publication)

March 12, 2018

## Online Appendix OA.1 Window Around the Reform

We estimate the effects of independents on voter turnout and representation in the 1996-1998 period around the reform. The estimates let us investigate whether our conclusions hold true in the smallest window of data possible.

Table A3 summarizes our main variables and estimates for the 1996 and 1998 elections. Like Table II, it shows there were fewer independents across all constituencies, relatively fewer in open constituencies, and that independents are responsible for most of the reduction in the number of candidates overall. The number of independents decreases by 18.69 in open constituencies (Column 3) and by 10.51 in reserved constituencies (Column 6). The difference-in-differences estimate in Column 7 shows a relative decrease in open constituencies of 8.18 independents. The relative decrease is more pronounced than the one in the 1977-2004 sample (Table II).

Like Table II, Table A3 establishes a relative decline in voter turnout for open constituencies. Open constituencies have 3.52 percentage points more turnout after the reform. Reserved constituencies have 4.98 percentage points more. The differences-in-differences estimate shows a relative decrease of 1.46 percentage points in open constituencies, less pronounced than the estimated effect we obtain using the full 1977-2004 sample.

Statistics and estimates for our measure of representation in government are found in the third to last row of Table A3. This row shows that the probability of electing a governing-coalition candidate increased by more in open constituencies. The increases in open and reserved constituencies were 22 and 7 percentage points, respectively. The relative increase of 15 percentage points is more pronounced than the relative increase for the 1997-2004 sample.

The corresponding IV estimates are found in the third and fifth rows of Table A3. The IV estimate for turnout is the ratio of its reduced-form estimate (second row) to the first-stage

estimate, multiplied by the standard deviation for the number of independents, which equals 22.91 candidates in the present sample. The IV estimate for the probability of electing a governing-coalition candidate is defined similarly.

The third row shows that a one standard deviation increase in the number of independents increases voter turnout by 4.10 percentage points. The estimate is approximately 1 percentage point smaller than our most flexible estimate for the 1977-2004 sample (Column 5 of Table IV). The estimate is less precise, however, as it has a  $p$ -value of 0.11. The fifth row shows that a one standard deviation increase in the number of independents decreases the probability of electing a governing-coalition candidate by 42 percentage points. The estimate is 12-15 percentage points larger than our most flexible estimate for the 1977-2004 sample (Column 5 of Table VII). Although they differ in precision and magnitude, the estimates support the qualitative conclusions drawn from the 1977-2004 sample.

It is important to note that a shorter panel of elections is not without disadvantages. Figure 1(a) illustrates why. The figure plots  $\Delta Turnout_j = Turnout_{j98} - Turnout_{j96}$  and  $\Delta(\#Independents)_j = \#Independents_{j98} - \#Independents_{j96}$  for all 543 constituencies. It shows extreme changes in turnout and independents in several constituencies between 1996 and 1998, and emphasizes the dominance of these changes over changes in other constituencies. The figure suggests that to obtain credible difference-in-differences estimates with a shorter panel we should either drop the extreme observations or consider an alternative to a least squares estimator.

Figure 1(b) plots  $\Delta Turnout_j$  and  $\Delta(\#Independents)_j$  for the 532 constituencies where changes in turnout and the number of independents were relatively moderate. These are constituencies where the number of independents declined by less than 60, or where turnout changed by 30 percentage points or less.<sup>1</sup> The figure excludes constituencies which, arguably, are not part of the population of interest. For example, it excludes constituencies where there were large-scale boycotts of the 1998 election (and consequently large declines in turnout),

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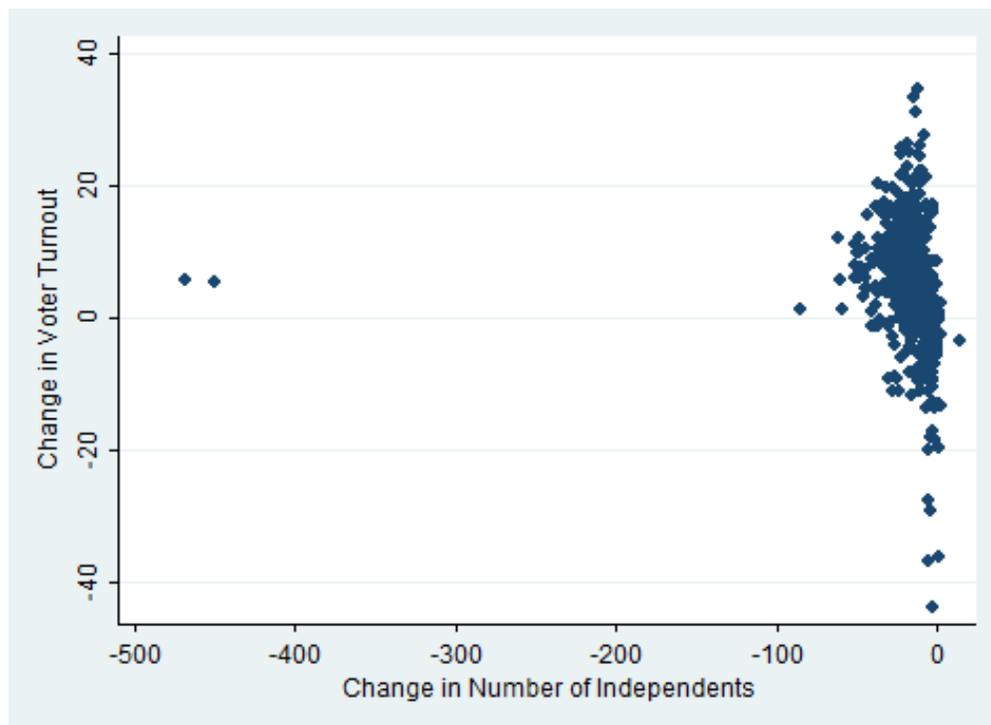
<sup>1</sup>The excluded constituencies all had abnormally large values for cook's distance measure (of influence) in either the first stage and the reduced form of our statistical model.

constituencies like Nagaland, Outer Manipur, and several in the state of Assam (Ahuja 2000).<sup>2</sup>

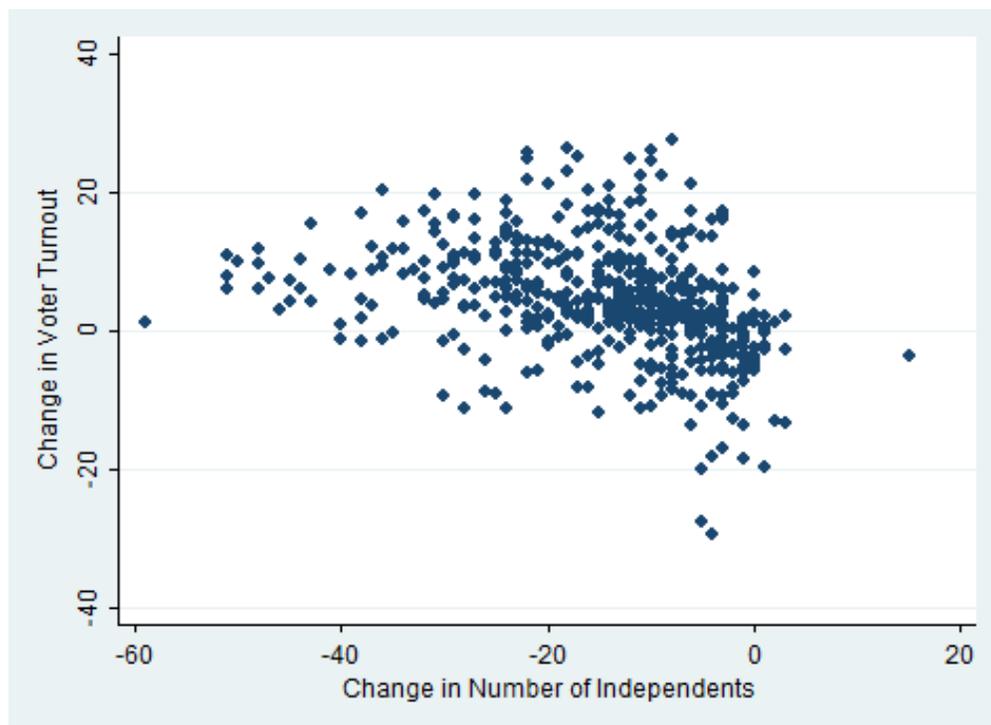
Table OA1 replicates Table A3 using the 532 constituencies described in Figure 1(b). It shows that a one standard deviation increase in the number of independents (11.83 here) increases voter turnout by 3.25 percentage points and decreases the probability of electing a governing-coalition candidate by 33 percentage points. Here both coefficients are precisely estimated at conventional significance levels ( $p$  is 0.08 and 0.00, respectively). The estimates from this no-outlier sample further support our qualitative conclusions from the 1977-2004 sample.

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<sup>2</sup>Figure 1(b) shows one constituency (Baramulla) where the number of independents increased substantially following the reform. The increase is emblematic of the volatility of elections in Jammu and Kashmir.



(a) With Influential Observations ( $N=543$ )



(b) Without Influential Observations ( $N=532$ )

**Figure Online Appendix OA.1.1:** Changes in Voter Turnout and the Number of Independents with and without Influential Observations.

**Table OAI: Descriptives for 1996 and 1998 Elections Alone.** Standard deviations for means are in round parentheses. *p*-values for comparisons of means in square parentheses. Standard errors for mean comparisons are clustered on the constituency.

	Open Constituencies (Seat can be held by anyone)		Reserved Constituencies (Seat can only be held by Minorities)		Differences-in Differences		
	Minorities pay 5000 Rupees, Majorities pay 10000 Rupees (1)	Minorities pay 5000 Rupees, Majorities pay 10000 Rupees (2)	Difference (2) - (1)	Minorities pay 250 Rupees, Majorities pay 500 Rupees (4)		Minorities pay 5000 Rupees, Majorities pay 10000 Rupees, (5)	
# Independent Candidates (Independents or 1-Member Unrecognised)	20.09 (13.52)	4.13 (3.71)	-15.96 [0.00]	13.19 (10.20)	2.67 (2.42)	-10.52 [0.00]	-5.44 [0.00]
Voter Turnout (% Eligible Electors)	57.96 (12.37)	61.53 (9.24)	3.56 [0.00]	56.23 (13.63)	61.29 (9.08)	5.06 [0.00]	-1.50 [0.04]
Elected Representative is a Member of Governing Coalition	0.27 (0.44)	0.49 (0.50)	0.22 [0.00]	0.35 (0.48)	0.42 (0.49)	0.07 [0.13]	0.15 [0.01]
Elections Constituencies Observations	1 360 360	1 360 360	2 360 720	1 172 172	1 172 172	2 172 344	2 532 1064

## Online Appendix OA.2 Dummy Candidates

Estimates are found in Table [OA2](#). The first column presents the impact on the average Q-gram string distance between the candidates of an election. This measure takes all the 3-gram vectors of a pair of strings and counts the number of differences. For example, Arvind and Arvint have 3-grams of ‘Arv’, ‘rvi’, ‘vin’, ‘ind’, ‘int’, and a distance of 2. The second column presents the impact on the Jaro-Winkler string distance. The measure lies between 0 and 1, where 0 implies candidate names are not at all similar, and 1 implies the similarity is exact.<sup>3</sup> The third column presents the impact on the the Levenhstein distance. This measure counts the number of deletions, insertions, and substitutions it takes to go from the name of one candidate to the name of another. The fourth column presents the the longest common substring distance. This measure counts the minimum number of characters one must remove (from any of pair of names) before getting the same substring ( $\text{Dist}(\text{SAchA}, \text{SArA}) = 3$ ). Note that we will multiply the Jaro-Winkler measure by -1. Because of this, for all the measures, the larger its value, the more dissimilar are the candidate names.

If anything the estimates imply higher deposits led to candidate names that were more similar. The higher deposits decreased the average Q-gram distance by 0.08. It decreased the average least common substring distance by 0.07. It decreased the average Levenhstein distance by -0.04, though the estimate is statistically insignificant at conventional levels. The average for Jaro-Winkler distance measure was unaffected by the higher entry deposits. Ultimately all four estimates imply the impact on the presence of fake candidates was small to negligible.<sup>4</sup>

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<sup>3</sup>The details of the Jaro-Winkler measure are quite involved. They can be found in ([Winkler 1990](#)).

<sup>4</sup>While cleaning the data we looked for the use of fake candidates. We found some instances where it was apparent that this was going on. But these instances were few and far between.

**Table OA2: Dummy Candidates.** This table examines whether low entry deposits encouraged the use of fake candidates. Fake candidates will have names that are similar to the names of the more serious candidates. Fake candidates can confuse voters and decrease the vote shares of these serious candidates. The dependent variables are different measures of the average (string) distance over all the pairwise names of the candidates who participated in an election. The dependent variables are all increasing in the dissimilarity of candidate names. Fake candidates are more likely where candidate names are most similar. LCS is the acronym for least common substring. Standard errors are clustered at the level of constituency.  $p$ -values in parentheses.

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	Measure of Dissimilarity of Candidate Names			
	Q-gram (1)	Jaro- Winkler (2)	Levenh- stein (3)	LCS (4)
Open Seat After the Fee Increase	-0.08 (0.47)	-0.00 (0.13)	-0.04 (0.54)	-0.07 (0.35)
Mean of Dependent Variable	24.50	0.47	14.04	19.48
Constituency Fixed Effects	✓	✓	✓	✓
Election Year Fixed Effects	✓	✓	✓	✓
Independents in 1977 (Trends)	✓	✓	✓	✓
Dependent Variable in 1977 (Trends)	✓	✓	✓	✓
Eligible Electors (in logs)	✓	✓	✓	✓
Distance Between Winner and and Runner-up in Last Election	✓	✓	✓	✓
Observations	4282	4297	4297	4297

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## Online Appendix OA.3 Preferences and Information

We investigate the robustness of our main results to differences in the evolution of voter preferences across open and reserved constituencies. Our investigation draws on data from the 1971 Indian National Election Study. The data has information on voter perceptions, including their perceptions about the effectiveness of their local government, about whether they feel pressure to vote a certain way. It has information on whether they actively pursued knowledge about the election (via newspapers or radio), whether they have a specific interest in national or state politics, whether they have a general interest and discuss politics, and the perceived complexity of politics and government. It has a measure of their preference for redistributive government policies. In all the data is based on interviews with 640 voters, from 78 constituencies, of which 19 have seats that reserved for disadvantaged persons.<sup>5</sup>

We include interactions of these measures with a fourth-order polynomial in time in our reduced form and first stage specifications. Estimates are found in Table OA3. Moving left to right shows how the coefficients of interest change as the interactions are included. We exclude the IV estimates because, with this small sample, the first stage is not strong enough.

Our main (reduced form) results are similar even though the data only includes a small cross-section of constituencies from our sample. In these constituencies, the reduction in independent candidates ranges from between 1.48 and 2.96 candidates. The reduction in voter turnout ranges from 0.64 to 2.38 percentage points. The increase in the probability that the elected representative is a member of government increases by between 0.07 and 0.09 percentage points. At least for this small sample of constituencies, the estimates of interest are not explained away by systematic evolutionary differences across open and reserved constituencies. We find this unsurprising in large part because of the difficulty with finding a differential trend that explains the sizeable and sudden drop in the number of independents.

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<sup>5</sup>For more details about the questions and methodology see <http://www.icpsr.umich.edu/icpsrweb/ICPSR/studies/25402>.

Table OA3: Voter Preference and Information.

	Dependent Variable = # Independents					
	(1)	(2)	(3)	(4)	(5)	(6)
Open Seat After the Fee Increase	-1.81 (0.10)	-2.14 (0.06)	-3.17 (0.00)	-2.77 (0.01)	-2.70 (0.02)	-3.17 (0.01)
	Dependent Variable = Voter Turnout					
Open Seat After the Fee Increase	-3.02 (0.01)	-2.87 (0.01)	-2.16 (0.03)	-1.40 (0.21)	-1.62 (0.15)	-1.49 (0.20)
	Dependent Variable = Elected Representative is a Member of the Governing Coalition					
Open Seat After the Fee Increase	0.11 (0.15)	0.12 (0.11)	0.10 (0.22)	0.08 (0.30)	0.08 (0.32)	0.08 (0.31)
(National) Constituencies Observations	78 569	78 569	78 569	78 569	78 569	78 569
Local Government is Attentive	✓	✓	✓	✓	✓	✓
Villagers Influence Votes of Others	✓	✓	✓	✓	✓	✓
Get Election News from Newspapers or Radios		✓	✓	✓	✓	✓
Interested in National Politics, State Politics or Both			✓	✓	✓	✓
General Interest in Politics or Discusses Politics				✓	✓	✓
Politics and Government are too Complicated					✓	✓
Believe in Redistributive Government Policy					✓	✓

# Online Appendix OA.4 Miscellaneous Tables and Robustness Checks

**Table OA4: Robustness to Alternative Definitions of Independent Candidates.** Standard deviations for means are in round parentheses.  $p$ -values for comparisons of means in square parentheses. Standard errors for mean comparisons are clustered on the constituency.

	First Stage Estimates					Instrumental Variables Estimates			
	(1)	(2)	(3)	(4)	(5)	Voter Turnout (6)	Member of Government (7)	Vote Shares Independents (8)	Winner (9)
Open Seat After the Fee Increase	-2.64 (0.00)	-2.03 (0.00)	-2.04 (0.00)	-2.07 (0.00)	-2.61 (0.00)				
# Independents (Standardized)			5.13 (0.03)	-0.27 (0.06)	9.10 (0.00)				-3.98 (0.05)
Election of Commission's Official Definition of Independents									
Open Seat After the Fee Increase	-2.62 (0.00)	-2.03 (0.00)	-2.04 (0.00)	-2.08 (0.00)	-2.63 (0.00)				
# Independents (Standardized)			5.12 (0.03)	-0.27 (0.06)	9.36 (0.00)				-3.99 (0.05)
Our Definition: Official Definition + Unrecognised Parties with One Candidate Running									
Open Seat After the Fee Increase	-2.59 (0.00)	-2.07 (0.00)	-2.05 (0.00)	-2.11 (0.00)	-2.66 (0.00)				
# Independents (Standardized)			5.43 (0.03)	-0.28 (0.06)	6.27 (0.16)				-3.93 (0.06)
Observations	4840	4840	4840	4840	4297	4297	4026	4297	4297
Constituency Fixed Effects	✓	✓	✓	✓	✓	✓	✓	✓	✓
Election Year Fixed Effects	✓	✓	✓	✓	✓	✓	✓	✓	✓
Independents in 1977 (Trends)		✓	✓	✓	✓	✓	✓	✓	✓
Dependent Variable in 1977 (Trends)			✓	✓	✓	✓	✓	✓	✓
Eligible Electors (in logs)				✓	✓	✓	✓	✓	✓
Distance Between Winner and Runner-up in Last Election					✓	✓	✓	✓	✓

**Table OA5: Main Results for the Unstandardized Number of Independents.** Standard errors are clustered at the level of constituency.  $p$ -values in parentheses.

	Voter Turnout (1)	Member of Government (2)	Vote Shares Independents (3)	Winner (4)
# Independents (Unstandardized)	0.49 (0.03)	-0.03 (0.06)	0.89 (0.00)	-0.38 (0.05)
Observations	4297	4297	4040	4297
Constituency Fixed Effects	✓	✓	✓	✓
Election Year Fixed Effects	✓	✓	✓	✓
Independents in 1977 (Trends)	✓	✓	✓	✓
Dependent Variable in 1977 (Trends)	✓	✓	✓	✓
Eligible Electors (in logs)	✓	✓	✓	✓
Distance Between Winner and Runner-up in Last Election	✓	✓	✓	✓

**Table OA6: Robustness to Exclusion of Constituencies with more than 100 Candidates.** Standard errors are clustered at the level of constituency.  $p$ -values in parentheses.

	First Stage Estimates				Instrumental Variables Estimates				
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Open Seat After the Fee Increase	-2.18 (0.00)	-1.54 (0.00)	-1.56 (0.00)	-1.59 (0.00)	-1.99 (0.00)				
# Independents (Standardized)						6.79 (0.03)	-0.35 (0.06)	12.68 (0.00)	-5.11 (0.05)
Observations	4837	4837	4837	4837	4294	4294	4294	4037	4294
Constituency Fixed Effects	✓	✓	✓	✓	✓	✓	✓	✓	✓
Election Year Fixed Effects	✓	✓	✓	✓	✓	✓	✓	✓	✓
Independents in 1977 (Trends)		✓	✓	✓	✓	✓	✓	✓	✓
Dependent Variable in 1977 (Trends)			✓	✓	✓	✓	✓	✓	✓
Eligible Electors (in logs)				✓	✓	✓	✓	✓	✓
Distance Between Winner and Runner-up in Last Election					✓	✓	✓	✓	✓

**Table OA7: Robustness to Exclusion of Post-1998 Elections.** Standard errors are clustered at the level of constituency.  $p$ -values in parentheses.

	First Stage Estimates				Instrumental Variables Estimates				
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Open Seat After the Fee Increase	-2.80 (0.00)	-1.94 (0.00)	-1.94 (0.00)	-2.03 (0.00)	-2.58 (0.00)				
# Independents (Standardized)						8.13 (0.03)	-0.39 (0.08)	9.31 (0.03)	-5.41 (0.05)
Observations	3754	3754	3754	3754	3211	3211	3211	3067	3211
Constituency Fixed Effects	✓	✓	✓	✓	✓	✓	✓	✓	✓
Election Year Fixed Effects	✓	✓	✓	✓	✓	✓	✓	✓	✓
Independents in 1977 (Trends)		✓	✓	✓	✓	✓	✓	✓	✓
Dependent Variable in 1977 (Trends)			✓	✓	✓	✓	✓	✓	✓
Eligible Electors (in logs)				✓	✓	✓	✓	✓	✓
Distance Between Winner and Runner-up in Last Election					✓	✓	✓	✓	✓

**Table OA8: Robustness to Differential Trends in Rural Population.** Standard errors are clustered at the level of constituency. *p*-values in parentheses.

	Voter Turnout (% of Eligible Electors)				
	(1)	(2)	(3)	(4)	(5)
	Instrumental Variables				
# Independents (Standardized)	10.47 (0.00)	11.46 (0.00)	5.83 (0.03)	5.26 (0.05)	4.95 (0.03)
<i>F</i> -Test of Excluded Instruments, $F(1, 542)$	30.49 (0.00)	18.47 (0.00)	18.80 (0.00)	18.15 (0.00)	19.28 (0.00)
Rural Population Share in 2001 (Trends)	✓	✓	✓	✓	✓
Constituency Fixed Effects	✓	✓	✓	✓	✓
Election Year Fixed Effects	✓	✓	✓	✓	✓
Independents in 1977 (Trends)		✓	✓	✓	✓
Turnout in 1977 (Trends)			✓	✓	✓
Eligible Electors (in logs)				✓	✓
Distance Between Winner and Runner-up in Last Election					✓
Observations	4807	4807	4807	4807	4268