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Do Criminal Politicians Reduce Corruption? Evidence from India

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Abstract:
This paper relates unique data on criminal records of local politicians in India to corruption, crime and poverty. Using a regression discontinuity design, whereby individuals living in districts where a criminal politician barely won are compared to individuals living in districts where a criminal politician barely lost, this paper shows that criminal politicians *reduce* bribe-taking behavior of law and order officials by 34 percent. One possible explanation for this result is that when interests of politicians and those of interest groups converge, criminal politicians' control over bureaucrats acts as a substitute for bribes from these interest groups. This is not to say that criminal politicians should be elected to eradicate corruption, but rather that corruption is underestimated if only measured by bribe-taking without taking into account political control: as less bribes need to be paid, criminal offences, similar to those mostly committed by criminal politicians, increase by 25 percent. Moreover, the urban headcount radio, the welfare of those not connected with politicians, increases by 22 percent.

Keywords: Criminal politicians, political control, corruption crime, poverty

JEL Classification: D72, D73, P48, O17

I Introduction

Corruption is detrimental to investment and growth[1]. Understanding what drives corruption is thus a topic of first-order importance[2]. Criminal politicians have often been cited as primary contributors to corruption in the popular press[3], yet there is little evidence on their effects. Theoretically, it is not clear whether criminal politicians increase or reduce bureaucratic corruption, measured as bribes following the previous literature. On the one hand, they might encourage bribe-taking by lowering the perceived probability of bureaucrats being prosecuted for corruption. On the other hand, if politicians control law and order officials, then criminal politicians could misuse this power to prevent the prosecution of crimes committed by people like themselves, thus lowering the need for bribes. Empirically, evaluating the effects of criminal politicians is plagued with problems of identification. For example, corruption, crime and poverty might breed the emergence of criminal politicians[4]. Conversely, criminal politicians may be the consequence of a highly efficient judiciary, which can simultaneously reduce corruption and crime[5]. In addition, while traditional definitions of bureaucratic corruption pertain primarily to bribery, this paper indicates that other types of corruption should be considered (e.g. political control) as the single-construct definition may be insufficient.

This paper explores, both theoretically and empirically, the effect of criminal politicians on bribery, criminal activity and poverty. India provides an ideal testing ground: 23 percent of the members of the lower house of parliament have a criminal background, including charges such as murder, rape, kidnapping and extortion[6]. A surprise Supreme Court decision in 2003 mandated all political candidates to reveal their criminal records

[1] See Mauro (1995) for the seminal empirical cross-country paper on the effects of corruption and Lambsdorff (2005) for a review of the literature.

[2] In his literature review, Lambsdorff (2005) cites empirical cross country studies on government size and decentralization, institutional quality, competition, recruitement and salaries, press freedom and the judiciary, democracy and the political system, cultural determinants as determinants of corruption. Fisman et al (2008) and Olken (2008) are notable exceptions in this mainly cross-country literature.

[3] As G. P. Joshi relates in "Police Accountability in India: Policing Contaminated by Politics", many politicians "have a criminal background. Surely their presence in positions of power can only encourage criminals. [...] When the assurance of impunity comes from the highest quarters in the government, police officers become emboldened to misuse their powers [...]".

[4] which would lead to a spurious positive correlation between criminal politicians and corruption by a standard reverse causality argument.

[5] This would lead to a spurious negative correlation between criminal politicians and corruption, caused by the underlying factor of an efficient judiciary.

[6] http://www.tribuneindia.com/2007/20070815/independence/main6.htm

(including not only past convictions, but also acquittals, discharges, and cases pending against them[7]), assets, liabilities and educational qualifications for state (Assembly) and federal (Lok Sabha) elections. For all of the 2004 elections, 178 districts were identified in which a criminal candidate faced a non-criminal candidate. This paper aims to relate the criminal records of politicians to microeconomic measures of bribery of law and order officials living in their districts[8], reported criminal activity[9] and poverty levels[10] within each district.

A key question in this analysis is causation, as criminal politicians (and people electing criminal politicians) may differ in observable and unobservable ways from non-criminal politicians (and the people not electing them). To address this concern, I use a regression discontinuity design that compares districts where a criminal politician *barely* won an election to a non-criminal candidate, and hence barely became elected, to districts where the criminal politician *barely* lost the election to a non-criminal politician. The crucial assumption here is that, even if agents can influence the vote, there is nonetheless a non-trivial random chance component to the ultimate score difference between the two candidates (Lee, 2008). A strong empirical test of the internal validity of the regression discontinuity design (that will be performed in this paper) is that, in a neighborhood of the discontinuity (score difference between the criminal and non-criminal candidate equal to 0), treated and control groups should possess the same distribution of baseline characteristics, as in a randomized controlled trial. Intuitively, if there exists a random chance element (that has a continuous density) to the final score difference, then whether the criminal candidate wins in a closely contested election with a non-criminal candidate, is determined as if by a flip of a coin.

Contrary to popular perception, this paper shows that criminal politicians *reduce* bribe-taking of law and order officials, measured as "value of gifts received" and "gap

[7]This distinction is important as one may wonder why there would be any convicted politicians in a corrupt system. However, in a completely corrupt system, it is still possible for a judge to investigate thoroughly, accuse, and acquit in exchange for a higher bribe. Thus, all politicians subject to this procedure are defined as criminal politicians in this analysis.

[8]Microeconomic data from the 1999-2000 (55th round) and 2004-2005 (61st round) of the consumption datasets of the National Sample Survey of India

[9]District-level data from Crime In India 2002, 2003, 2004, 2005, 2006, the annual reports from the National Crime Records Bureau, Ministry of Home Affairs, Government of India

[10]District-level data from the 1999-2000 (55th round) and 2004-2005 (61st round) of the consumption datasets of the National Sample Survey of India

between reported expenditures and earnings" (as in Gorodnichenko et al, 2007). For example, law and order (as well as administrative) officials living in districts where a criminal politician barely won have an income-consumption gap 34 percent lower than similar officials living in districts where a criminal politician barely lost. This may be due to the significant influence local politicians can have on law and order (and administrative) officials, through such actions as punitive transfers. While this influence was originally designed as a check of the executive on law, order, and administrative officials, criminal politicians may employ this influence to control these officials for the benefit of the interest groups they protect. This theory is confirmed by the fact that no such effect is found when criminal politicians have less political control over bureaucrats (such as when criminal politicians are from the Bharatiya Janata Party, a party committed to the independence of the judiciary, thus ideologically less able to misuse punitive transfers; or when other occupations less influenced by politicians by nature are considered).

This is not to say that criminal politicians should be elected to reduce corruption. As less bribes to law and order officials need to be paid, criminal activity increases for the categories of crime committed by the criminal politicians in office and in districts where a criminal politician barely won. For example, crime categories such as offences against human body and public order, offences similar to those primarily committed by criminal politicians, experience an approximate 25 percent increase after a criminal politician is elected. Moreover, criminal politicians have adverse consequences on the welfare of those not connected to them, such as the poorer individuals in their districts. It is found in this paper that the urban headcount ratio increases by 22 percent because of criminal politicians.

This paper relates to the vast literature on corruption, and more precisely on its causes by suggesting a rigorous methodology to evaluate the impact of criminal politicians on corruption. It contributes to the literature on measurement of corruption by using microeconomic measures such as the value of gifts received and the consumption-income gap of law, order, and administrative officials, rather than subjective perception-based indices that do not provide quantitative estimates of bribery. However, this paper also shows that measures of corruption which focus only on bribes and exclude capture

by special interests (such as in this case the threat of punitive transfers exercised by politicians over law, order, and administrative officials) provide a misleading impression of the true welfare effects of criminal politicians. In this case, one cannot interpret the reduction in bribe-taking as a desirable outcome, since a side consequence is the encouragement of criminal activity and its adverse impact on the poor. Thus, research using the traditional definition of corruption (i.e. bribes) may not be sufficient to fully explicate the role of criminal politicians in bureaucratic corruption.

Section II will present the phenomenon of criminal politicians in India and the extensive powers politicians have over law, order, and administrative officials. Section III will use the canonical principal-agent model of corruption (Mookherjee et al, 1995) to show how criminal politicians may reduce bribe-taking by bureaucrats if the criminal politician (principal) can punitively transfer a law and order official (the agent) in order to favor private individuals connected to the politician (the client). Section IV describes the regression discontinuity design used to test the theoretical predictions, while section V describes the results and section VI concludes.

II Background

This section will first describe the phenomenon of criminal politicians in India. It will then describe the powerful tool, in the hands of politicians, of transfer of judges, policemen and administrative officials. While originally designed as a check of the executive on law and order, and administrative officials[11], some politicians may employ this influence to achieve their political objectives.

II.1 Criminal politicians in India

As per Election Commission estimates, 1,500 candidates in the 1996 parliamentary election had criminal records and 40 of them got elected to the 11th Lok Sabha. In the state legislatures, out of the 4,072 sitting members of the legislative assembly in all the states, more than 700 have criminal records[12]. The present (14th) Lok Sabha (the lower house of the parliament of India) has 125 members (23 percent) with criminal background.

[11] One rationale for transferring officials is to prevent corruption, by breaking up networks of corrupt individuals and creating "social distance" between officials and members of the public.

[12] http://www.indiaelectionwatch.net/whatisew.htm

Serious charges of murder, rape, kidnapping, extortion and the like are pending against many of them[13].

Anecdotal evidence of the "criminal-politician nexus" abounds in India. For example, Subhash C. Kashyap[14] writes in "Criminal-politician nexus getting stronger"[15]:

> "The role of criminals in politics began in a big way with the criminals needing the politicians' protection against the processes of law and paying them for it in advance by helping them in elections and otherwise. Politicians needed huge sums of unaccounted money for political activities, their parties, elections and for themselves. [...] Gradually, the politicians became subservient to the dons of the crime world. The latter soon realised that the elections were being won with their money and their muscle power. It was not any surprise when they themselves decided to enter politics".

To counter this problem, one of the solutions envisaged by the Vohra Committee report (1993)[16] that studied the problem of the criminalisation of politics and of the nexus among criminals, politicians and bureaucrats in India, was the publicization of the criminal records of politicians. After much political opposition[17], disclosure of criminal antecedents and financial records was made mandatory on March 13th 2003 by a judgment of the Supreme Court[18]. Since then, the Election Commission of India requires a candidate to file an affidavit disclosing criminal records (including not only past convictions; but also acquittals, discharges, and cases pending [19]), as well as information on his or her assets, liabilities, and educational qualifications. Scanned affidavits of all candidates are publicly available on the India Election Commission website[20]. Severe

[13] http://www.tribuneindia.com/2007/20070815/independence/main6.htm

[14] former Secretary-General, Lok Sabha, and author of the six-volume "History of Parliament of India"

[15] *The Tribune*, India, 15 August 2007, http://www.tribuneindia.com/2007/20070815/independence/main6.htm

[16] Report submitted by the former Indian Union Home Secretary, N.N. Vohra, in october 1993.

[17] For a fascinating account, see: http://www.adrindia.org/electionwatch/electionwatch.asp

[18] http://www.indiaelectionwatch.net/judgement.htm

[19] The exact text is: "Whether the candidate is convicted, acquitted, discharged of any criminal offence in the past (if any, whether he is punished with imprisonment or fine). Prior to six months of filing of nomination, whether the candidate is accused in any pending case, of any offence punishable with imprisonment for two years or more, and in which charge is framed or cognizance is taken by the court of law."
http://www.adrindia.org/electionwatch/electionwatch.asp

[20] For an example of a criminal politician, see:
http://archive.eci.gov.in/AE2004_Affidavits/orissa/72/NNARAYANREDDY/NNARAYANREDDY.html

penalties are imposed in case of false information[21]. Another concern with this measure of criminal politicians is the possibility of wrongful accusations by rival candidates. According to this view, criminal politicians might have not committed any crimes. I will address this concern in this paper by showing that there are no systematic differences between the accused and the convicted politicians.

We collected this data for all 2004 state (assembly) or federal (Lok Sabha) elections[22]. We matched this data to the scores of politicians at these elections from the India Election Commission website[23]. Out of 1071 elections contested in 2004, we found 286 candidates with a criminal records on their affidavits. For clarity, we restrict the sample to the 178 districts where a criminal candidate faced a non-criminal candidate[24]. Table 1 shows descriptive statistics about these 178 criminal candidates. Table Appendix 1 compares these characteristics to the ones of non-criminal politicians in a regression framework (the dependent variable is a variable taking the value 1 if the candidate is criminal, 0 otherwise). Criminal politicians do not seem to be less educated or to have more assets. However, they hold more liabilities and seem to be elected from smaller districts. Pseudo R-squared are low, suggesting that criminal politicians differ in other unobservable ways from non-criminal politicians. Addressing this concern is an important contribution of this paper.

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where the accusations are: Rioting, Rioting armed with deadly weapon, unlawful assembly, Murder, attempt to murder, Assault or use of criminal force to deter public servant from his duty, Hurting for extortion, causing hurt by an act which endangers human life, mischief , wrongfully confining any person ,causing grievous hurt , theft, Dacoity, criminal trespass, criminal intimidation.

facing the non-criminal politician:

http://archive.eci.gov.in/AE2004_Affidavits/orissa/72/RAMACHANDRAPANDA/RAMACHANDRAPANDA.html

with the following results (p.86):

http://www.eci.gov.in/StatisticalReports/SE_2004/StatisticalReports_OR_2004.pdf

[21]The facility of putting counter affidavit by a rival candidate on the notice board is a safeguard against false information or suppression of information. Further, the Election Commission of India has directed that if any complaint is made before Returning Officer about false information or suppression of information in the affidavit filed by any candidate, supported by some documentary evidence, then the Returning Officer should file complaints before the competent authority for prosecution of the candidate under Section 177 of Indian Penal Code read with Section 195 of the Criminal Procedure Code. *Election India*, Vol. 1, No.3:

http://www.eci.gov.in/Library&Publications/ECI_NL_JULSEP_2004.pdf

[22]Directly from the affidavits available on the Election Commission of India website:

http://archive.eci.gov.in/Affidavits/Affidavits_fs.htm

or from the India election watch website:

http://indiaelectionwatch.net/disclosures.htm

[23]http://www.eci.gov.in/electionanalysis/election_analysis.asp

[24]In 18 cases, we decided to attribute the criminality status to the candidate that had more cases pending against him, than his criminal opponent.

This paper then attempts to relate the criminal status of politicians (now publicly known) to the behavior of law and order, and administrative officials, criminal activity and welfare. Indeed, as the Vohra Committee report states, criminal elements "elected to local bodies, State assemblies and national Parliament [...] have acquired considerable political clout, seriously jeopardizing the smooth functioning of the administration and the safety of the life and property of the common man causing a sense of despair and alienation among people". In India, one powerful way for politicians to control law and order, and administrative officials is the threat of transfer.

II.2 Transfer of judges

Dua (1983) relates well the history of independence of the judiciary and punitive transfers in India. In 1975, Mrs. Gandhi declared a State of Emergency and launched a massive crackdown on civil liberties and political opposition. Judges then began to interpret the Constitution in light of the new political climate. The Janata Interregnum (1977-79) attempted to restore to judges some degree of self-confidence. The government cancelled Mrs. Gandhi's mass transfer of High Court judges in order to emphasize that the Constitution was not in the business of punitive transfers (i.e. transfers without consultation of India's Chief Justice) of judges. However, the return to power of the Congress (I) Party in 1980 saw Mrs. Gandhi bluntly call into question the judicial integrity of the Janata-appointed judges[25]. Chief Justice Chandrachud complained that:

> "Since the Executive is controlled by political leaders...it may, it is feared, transfer a judge to a far-off place like Sikkim, the Andaman Islands or Assam, or refuse to grant him further extension if he does not toe the line"[26].

Due to internal dissension, the Supreme Court undermined in the same year its independence in the Judges' Transfer Case, in which the majority of a seven-judge Constitutional Bench offered the government carte blanche to hire Supreme Court judges, fire temporary judges and transfer (except on a mass scale) High Court judges without the consent of India's Chief Justice. In other words, Mrs. Gandhi was given a free hand

[25] *India Today*, January 31, 1982, p.62
[26] *Statesman weekly*, May 2, 1981.

to manage the judiciary as she liked. Despite the Second Judges' case in 1993 that slowed down the rate of transfers[27] and the rapid rise to power of the Bharatiya Janata Party, a market-oriented centre-right party committed to the independence of the judiciary[28], Indian newspapers relate abundant anecdotal evidence of transfers of judges[29].

II.3 Transfer of policemen

Under the Constitution of India, the police are the responsibility of state governments with the organization and operations of police forces governed by rules and regulations framed by state governments. As G. P. Joshi relates in "Police Accountability in India: Policing Contaminated by Politics"[30], the police, as an organized institution in the country, came into existence with the Police Act of 1861. This legislation was passed in the wake of the Indian Sepoy Mutiny of 1857 when Indian soldiers in the colonial army revolted against their British commanders. This prompted the British to set up a police force that was totally subservient to the executive and not accountable to the community. The Police Act of 1861 was kept in place after independence and the powers granted to local politicians to exercise control and superintendence over the police remained the same. As G. P. Joshi notes:

> "For several decades after independence, these deficiencies did not matter much as the standards of leadership, in both politics as well as the police, were quite high. Gradually, however, the standards began declining with politics becoming increasingly contentious and criminalised, leading to a perceptible

[27] *Frontline*, A flawed mechanism, ZV.Venkatesan, 06/06/2003.

[28] Party Manifesto of the Bharatiya Janata Party for the Elections to the 14th Lok Sabha (April-May 2004): "The BJP is firmly committed to the independence of the judiciary."
http://www.indian-elections.com/partymanifestoes/bjp.html

[29] "Transfer as a weapon", Kuldip Nayar, the Indian Express, April 14, 1998:
http://www.indianexpress.com/res/web/pIe/ie/daily/19980414/10450134.html
"President refers judges appointment law to SC", the Indian Express, July 28, 1998:
http://www.indianexpress.com/res/web/pIe/ie/daily/19980728/20950754.html
"The transfer of judges", Rajeev Dhavan, *The Hindu*, Friday, Oct 29, 2004:
http://www.hindu.com/2004/10/29/stories/2004102902351000.htm
"Transfer of judges: Need for a transparent policy", Sudhanshu Ranjan, *The Tribune,* September 25, 2005:
http://www.tribuneindia.com/2005/20050925/edit.htm#1

[30] *Human Rights Solidarity*, Vol. 15 No. 05 SEP 2005. G. P. Joshi is the programme coordinator of the Commonwealth Human Rights Initiative [CHRI] in New Delhi for issues relating to the police and prisons.

decline in the quality of control exercised over the police and increasing misuse of the police by people in positions of power for partisan interests."

One of the powers of politicians is transfer. R. K. Raghavan (2003) notes that

"unbending independent-minded officers can be harassed by frequent transfers from one location to another, or between jobs. This device is employed to make officers submit themselves to orders of the executive that are irregular. Such transfers can be devastating to officers with families, because they mean the dislocation of domestic life. As a result, senior officers are unlikely to displease the political masters when the latter ask for irregular favors. Conformity rather than confrontation is therefore the order of the day."[31]

II.4 Transfer of administrative officials

Transfers of Indian Administrative Service (IAS) officials, an elite group whose members occupy most top posts in the civil service, are extremely rapid. Potter (1987) traced movements of officials between 1976 and 1985, and found that under 50 percent of officials lasted a year in their posts, well below the 3-year minimum incumbency rule for IAS Collectors. When surveyed, IAS officers identified short tenure as the greatest perceived problem they faced (Singh and Bhandarkar, 1994).

According to Kingston (2004), the cause of transfers most often identified in the literature on Indian public administration is political interference. Kingston (2004) describes the workings of the political interference:

"Nominally, in India, transfers are decided by senior officials rather than local politicians. However, in practice, Chief Ministers in the states, who appoint the most senior officials, must retain the support of local politicians, as their power is constantly under threat from defections to rival factions.

[31] Raghavan (2003) further notes that: "For instance, when a subordinate officer seeks action for a violation of the law, his supervisory officer may fight shy of acting because the individual concerned belongs to the ruling party, which the supervisor is reluctant to displease. This sends the wrong signal all the way down the line. It is not surprising, therefore, that there are very few instances of individuals belonging to a party in government being arraigned before the courts for unlawful activities."

They therefore routinely delegate influence over transfers to local politicians in exchange for their support. As a result, the transfer system in practice is subject to political interference at all levels."

This section described the extent of the phenomenon of criminal politicians in India. It also described how transfers may be construed, in the words of Wade (1982), as "the politician's basic weapon of control over the bureaucracy". The next section will describe what may be the impact of transfers by criminal politicians on the behavior of law and order, and administrative officials, as well as criminal activity.

III Theory

The traditional literature focuses on the principal-agent model of corruption (the "grabbing hand" model) to study the relationship between the principal, i.e. the top level of government, and the agent, i.e. an official who takes bribes from the private individuals interested in some government-produced good (Banerjee, 1997; Mookherjee et al, 1995; Shleifer et al, 1993). In these models, corruption typically arises whenever there are informational asymmetries between the government and the public official. Implicit in these studies is the benevolence of the principal[32], the objective being to find the state's optimal choice of monitoring intensity, incentives and sanctions to constrain officials' behavior.

This assumption is not true in India. 125 members (23 percent) of the present (14th) Lok Sabha (the lower house of the parliament of India) have a criminal background, ranging from murder to rape, kidnapping and extortion[33]. Disconcerting is the fact that, in India, local politicians exert significant influence on law and order, and administrative officials, through, for example, punitive transfers[34]. Following closely Mookerjee et al

[32]In Banerjee (1997) on p.1289, "we are looking for an explaination of government failures that makes no reference to the rapacity of governments". In Shleifer et al (1993) on p.601, corruption with theft implies that "the official does not turn over anyhting to the government at all, and simply hides the sale" (of a government good). In Mookherjee et al (1995), the social planner wishes to minimize external harm of pollution to society.

[33]http://www.tribuneindia.com/2007/20070815/independence/main6.htm

[34]While originally designed as a check of the executive on law and order, and administrative officials, criminal politicians may employ this influence to control law and order, and administrative officials for the benefit of the interest groups they protect (or, more directly, for their own benefit in their criminal activity).

(1995), this paper explores the consequences of having criminal politicians in office in a principal-agent model where there might be a convergence of interests between top-level of government and the private individuals interested in some government produced goods (and in the extreme case that the top level government and these private individuals are one and the same) and where the principal (criminal politicians) can punitively transfer (or at least threaten to transfer) the agent (law and order, and administrative officials).

By committing an offense, such as a murder, of gravity m, a criminal enjoys a private benefit $g(m)$ strictly increasing, concave and differentiable, but is also subject to a fine f. The government employs a law and order official, such as a judge, to enforce this regulation. To investigate the criminal with intensity μ, the judge must incur unobservable effort $e(\mu)$, strictly increasing, convex and differentiable. The intensity $\mu \in [0,1]$ represents the probability that the judge will learn the criminal's true crime level, m, and secure evidence for successful prosecution. It is assumed that the criminal knows the evidence that the judge finds. The judge has discretion over her choice of effort and the level of crime, $\hat{m}$, that she reports to the government. She is paid a fixed wage that will be omitted from the analysis for simplicity[35]. It is assumed that the penalties on the judge for over-reporting are high enough such that $\hat{m} \leq m$.

The criminal may bribe the judge with an amount b to report a level of crime lower than that for which she has evidence. By doing so, the criminal can reduce its fine from fm to $f\hat{m}$. In such cases, the information about the bribe and the criminal's true crime level, m, leaks to the politician only if the criminal and the politician are well connected[36]. This model thus concerns only the criminals well connected to politicians. A good politician may then punish the judge with a transfer of fixed cost T, but discounted by the gravity of under-reporting $m - \hat{m}$, with a certain exogenous probability λ measuring his ability to exercise a punishment. The judge will thus gain $b - \lambda(m - \hat{m})T$ by taking

[35] A motivation payment proportional to the level of crime m could be introduced in this model. This path is not followed for two reasons. First, the purpose of this paper is to focus on political control over judges, not on the optimal compensation politicy to maximise a certain objective function. Second, in India, salaries of judges as written in the constitution of India are fixed and do not depend on the amount of crimes successfully prosecuted.

[36] There is no informational symmetry in this paper between the criminal and the politician if they are well connected. In the extreme case, this is equivalent to saying that the politician is the criminal himself. On the other hand, there is perfect informational asymmetry between the criminal and the politician if they are not connected, meaning that the mechanism does not work in this case.

a bribe. There are no other penalties for giving or taking a bribe as these do not modify the fundamental result of the model.

A bad (criminal) politician may use transfer in the opposite manner. If his interests converge with the criminal's (or if he is himself the criminal in question), he might transfer the judge in case she reports the true level of crime, m, thus imposing a cost λmT to the judge. In such a case, the judge will gain $b + \lambda(m - \hat{m})T$ by taking a bribe.

These two situations (with a good or bad politician) are reconcilable in a single expression: the judge gains $b + \lambda(m - \hat{m})T$ by taking a bribe with $\lambda \in [-1, 1]$ measuring the criminality of politicians ($\lambda < 0$ indicates a good politician, an increasing λ indicates an increasing criminal type of the politician). In other words, under the control of a criminal politician, the judge gains from taking a bribe by obtaining a monetary payment, but also by avoiding the cost of being transferred.

III.1 Bribery

Under this setting, it is possible to identify the conditions under which bribery emerges. The expected gain of bribing for a criminal is thus $f(m - \hat{m}) - b$ as the criminal benefits from a lower fine but has to pay a bribe. As written above, the judge gains $b + \lambda(m - \hat{m})T$ by taking a bribe. A bribe will change hands if and only if both criminal and judge can benefit. Therefore, a necessary and sufficient condition for bribery is that:

$$f > -\lambda T \tag{1}$$

Bribery may always occur with a criminal politician but whether bribery actually occurs under a good politician depends endogenously on the government's policy. When bribery is profitable in the sense that the policy meets (1), and following Mookerjee et al (1995), it is assumed that the criminal and the judge choose to report $\hat{m}$ that maximizes their joint profits $f(m - \hat{m}) - b + b + \lambda(m - \hat{m})T = (f + \lambda T)(m - \hat{m})$. By (1), joint profits are decreasing in $\hat{m}$ and so, will be maximized with

$$\hat{m} = 0 \tag{2}$$

Following Mookerjee et al (1995), it is further assumed that the criminal and the judge agree upon a bribe that balances their net respective gains such that $f(m - \hat{m}) - b = b + \lambda(m - \hat{m})T$. By (2), this implies that:

$$b = \frac{1}{2}(f - \lambda T)m \tag{3}$$

A fundamental insight may be gained from this expression: the amount of bribe depends negatively on the level of criminality, λ, of the politician. Criminal politicians actually reduce the amount of bribe given[37]. This is because the threat of a transfer acts as a substitute for monetary bribes. Similar to Mookherjee et al (1995), in the case of a good politician ($\lambda < 0$), an increasing transfer cost T raises the cost borne by the judge for not reporting criminality, and thus merely raises the level of bribes paid. Only when the transfer cost T is increased sufficiently to overturn (1) will corruption fall.

III.2 Criminal activity

We turn to the ex-ante incentives of the criminal (to commit an offence), and the judge (to investigate criminal activity) depending on the criminality of the politician. Consider the case where bribery is profitable in the sense that (1) is fulfilled. The judge investigates at rate μ, and whenever she discovers evidence m, takes a bribe b and reports zero crime[38]. The criminal's expected profit is:

$$\Pi^C(m, \mu) = g(m) - \frac{1}{2}\mu(f - \lambda T)m \tag{4}$$

Since this function is concave, the criminal will choose m such that:

$$g'(m) = \frac{1}{2}\mu(f - \lambda T) \tag{5}$$

[37] The main result of Mookherjee et al (1995) may also be obtained from this model. To see this, consider a good politican ($\lambda < 0$) and an increasing transfer cost T. In this case, an increase in the penalty against bribes raises the cost borne by the judge for not reporting pollution, and thus merely raises the level of bribes paid.

[38] One may see here an inherent contradiction. In this model, judges do not convict criminals as judges take bribes and are subject to politicians' influence. Therefore, there should be no "criminal" politicians in the first place. However, remember that affidavits in India disclose not only past convictions; but also acquittals, discharges, and cases pending. Futhermore, in a totally corrupt world, it is still possible for a judge to investigate thoroughly, accuse, and acquit in exchange for a higher bribe. Politicians subject to this procedure would qualify as a criminal politicians in this analysis.

The criminal's reaction function $m(\mu)$ is decreasing since g is a concave function.

The judge, when investigating at rate μ, may extract a bribe b and a private benefit $\lambda T m$ of not being transferred by a criminal politician[39]. The judge's expected profit is thus:

$$\Pi^J(m,\mu) = \frac{1}{2}\mu(f+\lambda T)m - e(\mu) \tag{6}$$

Since this function is concave, the judge will choose μ such that:

$$e'(\mu) = \frac{1}{2}(f+\lambda T)m \tag{7}$$

The judge's reaction function $\mu(m)$ is increasing since e is a convex function. Considering that the criminal's reaction function $m(\mu)$ is decreasing, there always exists a unique equilibrium that involves both some criminal activity and some investigation.

Comparative statics with respect to the level of criminality of the politician λ may be derived. As visible in (5), an increase in λ unambiguously increases crime m since g is concave. The intuition is that a criminal politician reduces the amount of bribe to be paid, increasing the incentives for committing crime. However, as visible in (7), an increase in λ also unambiguously increases investigation rate μ. The intuition is that a criminal politician increases the incentives for a judge to underreport crime at $\hat{m}$ and take the bribe, which increases only if the judge gathers evidence of criminal activity[40]. The criminal reaction function shifts up, while the judge reaction function shifts right, providing an increase in the equilibrium level of the investigation rate μ but an ambiguous impact on criminal activity m. This is because a criminal politician reduce the amount of bribe needed but encourages judges to investigate more to be able to extract a higher bribe. The overall impact is ambiguous and depends on the functional forms taken by gain from criminal activity $g(m)$ and cost of investigation $e(\mu)$. Under

[39] or a loss of $\lambda T m$ imposed by a good politician.

[40] An alternative way to understand this is to look at the case of good politicians with $\lambda < 0$. If the judge chooses to take the bribe as is the case here, he incurs a high cost of transfer. A natural reponse in this case is to lower the investigation rate μ to avoid unearthing criminal activity m.

reasonable functional forms[41], it can be proven that, for a criminal politician ($\lambda > 0$), :

$$\frac{\partial m}{\partial \lambda} > 0 \tag{8}$$

It can be further noted in this case that $\frac{\partial \Pi^C}{\partial \lambda} > 0$ if $\lambda > 0$, as Π^C is a combination of increasing functions of λ. Criminals benefit from criminal politicians exerting a threat of transfer on judges as this reduces the bribes they have to pay, and more than compensate for an increased investigation rate to extract bribes (for the functional forms chosen).

Three testable implications may thus be derived from this analysis. First, criminal politicians reduce the need to pay bribes as the threat of transfer acts as a substitute for bribes: $\frac{\partial b}{\partial \lambda} > 0$ (as visible in (3)). Second, criminal politicians encourage criminal activity as less bribes need to be paid: $\frac{\partial m}{\partial \lambda} > 0$ (as visible in (8)) even though judges may be more inclined to investigate more to extract more bribes. Third, criminals benefit from criminal politicians: $\frac{\partial \Pi^C}{\partial \lambda} > 0$. This might explain why, in India, criminals themselves become politicians: by controlling the enforcement authorities, criminals reduce the bribes they have to pay to avoid conviction.

The theory only works when the threat of transfer is credible. For example, as explained above, the Bharatiya Janata Party, a market-oriented centre-right party, is committed to the independence of the judiciary. If criminal politicians from the Bharatiya Janata Party restrain themselves from using the threat of transfer to respect their party's ideology, these predictions should not hold. Furthermore, this mechanism is only true if the politician's interests converge with the criminal's interests: only the criminal activity of those protected by politicians through the threat of transfer on judges increases; only the welfare of those protected by politicians through the threat of transfer on judges increases. This generates three falsification tests: the theory should not work for those not connected with criminal politicians, for example those bureaucrats not influences by

[41] Assume $g(m) = \sqrt{m}$ and $e(\mu) = \mu^2$. In this case, (5) becomes $\frac{1}{2\sqrt{m}} = \frac{1}{2}\mu(f - \lambda T)$ and (7) becomes $\mu = \frac{1}{4}(f + \lambda T)m$. Solving this system of two equations leads to $\frac{\partial m}{\partial \lambda} = \frac{1}{3}\lambda T^2 m^{\frac{5}{2}}$. For a criminal politician with $\lambda > 0$, $\frac{\partial m}{\partial \lambda} > 0$. For a good politician with $\lambda < 0$, $\frac{\partial m}{\partial \lambda} < 0$. This is because, if the ability of a politician to enforce a transfer decreases, then the threat of a transfer in case of underreporting is less pregnant. This increases the judge's incentives to investigate the criminal activity to increase the amount of bribe extracted. The natural response of criminals is to reduce criminal activity. The conclusion is reversed in case of criminal politicians who decrease bribes through a higher threat of transfer.

politicians, those committing different types of crimes as the criminal politicians, or the poorer sections of society.

India provides an ideal testing ground for this theory. The three testable implications ($\frac{\partial b}{\partial \lambda} > 0$, $\frac{\partial m}{\partial \lambda} > 0$, $\frac{\partial \Pi^C}{\partial \lambda} > 0$) will be tested by measuring the impact of criminal politicians on the extent of bribes collected by law and order officials and bureaucrats, reported criminal activity[42] and welfare. A key assumption of this model is the exogeneity of the level of criminality of the politicians λ. This is not obvious, but was modelled in this way as the determinants of the criminality of the politicians is not the point of this paper. However, to rigorously test the theoretical predictions of the model, one needs to find an exogenous source of variation in the level of criminality of the politician in office.

IV Methodology

Criminal politicians may differ systematically from non-criminal politicians. For example, one could argue that a criminal politician who gets caught is simply less smart than a criminal politician who does not get caught and is thus classified as a non-criminal. Comparing economic outcomes in districts with and without criminal politicians in office would boil down to comparing areas with more or less clever politicians. Another hypothesis would be that a politician with a criminal record in a corrupt place is an individual who did not have sufficient financial means to pay a bribe to avoid conviction. To address these concerns, Table Appendix 1 compares the characteristics of criminal to non-criminal politicians in a regression framework (the dependent variable is a variable taking the value 1 if the candidate is criminal, 0 otherwise). Column (1) shows that criminal politicians do not seem to be less educated. This result holds when disaggregating the education variable into seven dummy variables (no schooling, primary, secondary, intermediary, undergraduate, graduate and postgraduate). Criminal politicians do not come disproportionately from the Bharatiya Janata Party (Column (3)),

[42] We will use the number of crimes reported and investigated, not the number of cases leading to conviction. This is because the model predicts no conviction, but a high level of investigation to extract higher bribes.

or from a national party[43](column (4)). They are not overly represented in state (assembly) elections as opposed to federal (Lok Sabha) elections (column (5)). They seem to come from lower places and have more liabilities, but not more assets (column (6)). This result holds when disaggregating assets into its main categories[44] (column (7)).

However, pseudo R-squared from the regressions in Table appendix 1 are low, suggesting that criminal politicians differ in other unobservable ways from non-criminal politicians. Comparing districts with or without criminal politicians would not measure the causal impact of having a criminal politician in office. For example, in a totally corrupt place, it might be that there are no criminal politicians (as they avoid prosecution by paying the appropriate bribe). Comparing districts with a criminal politician to districts without, might be equivalent to comparing districts without corruption to districts with corruption. In this case, the primary result of the paper (reduced corruption from law and order, and administrative officials with a criminal politician) might just be driven by unobservables.

To address this concern, we use a regression discontinuity design. Regression discontinuity designs involve a dichotomous treatment that is a deterministic function of a single, observed, continuous covariate. Treatment is assigned to those individuals whose level of the latter covariate crosses a known threshold (Hahn et al, 2001). While applied in many settings (Angrist and Lavy, 1998; van der Klaauw, 2002), political elections represent a natural avenue for this method as candidates are elected only if they garner a 50 percent vote share threshold (Lee, 2008). As we know the criminal record of candidates, a regression discontinuity design will then compare districts where a criminal politician just *barely* won an election to a non-criminal candidate, and hence barely became elected, to districts where the criminal politician just *barely* lost the election to a non-criminal politician. If there exists a random chance element (that has a continuous density) to the final vote share, then whether the criminal candidate wins in a closely contested election with a non-criminal candidate, is determined as if by a flip of a coin.

[43]Bahujan Samaj Party ("Majoritarian Society Party", BSP), Bharatiya Janata Party ("Indian People's Party", BJP), Communist Party of India (CPI), Communist Party of India (Marxist) (CPI(M)), Indian National Congress (INC), Nationalist Congress Party (NCP)

[44]Cash, Deposits in Banks or Non-Banks Institutions, Gold, Ornaments, Bonds, Debentures, Shares in companies, Value of Motor Vehicles, Value of Agricultural Land, Value of Non-Agricultural Lands, Value of Residential and Commercial Buildings

The crucial identification assumption is the continuous density of election scores for each candidate, at least in the neighborhood of the discontinuity of treatment. This condition is directly related to candidates' incentives and ability to sort around the threshold (score difference between the two candidates equal to zero). If individuals have exact control over their own score, the density for each individual is likely to be discontinuous. When this is the case, the regression discontinuity design is likely to yield biased impact estimates. Even with complete control, only certain types of fraud would lead to biased estimates. For example and following Lee (2008), suppose a non-trivial fraction of criminal candidates (but no non-criminals) had the ability to (1) selectively invalidate ballots cast for their opponents and (2) perfectly predict what the true vote share would be without interfering with the vote counting process. In this scenario, suppose the criminal candidates followed the following rule: (a) if the "true" vote count would lead to a non-criminal win, dispute ballots to raise the criminal vote share, but (b) if the "true" vote count leads to a criminal win, do nothing. It is easy to see that in repeated elections, this rule would lead to a discontinuous density in the density of the scores right at the $\frac{1}{2}$ threshold[45].

However, the validity of the regression discontinuity design is empirically testable. First, one may look at the shape of the density function of the score difference between criminal and non-criminal candidates to see if there is any king of discontinuity at the threshold. Figure 1 graphs this density function and indicate no such evidence. Second, if this form of electoral fraud is empirically important, then all pre-determined characteristics of districts should be different between the two sides of the discontinuity threshold; if it is unimportant, then these characteristics should have the same distribution on either side of the threshold. We will perform this test by undertaking the same analysis with pre-determined characteristics.

We therefore perform the following regressions (on a restricted sample of 178 districts where a criminal candidate faced a non-criminal candidate):

[45]Note that other "rules" describing fraudulent behavior would nevertheless lead to a continuous density in density of the scores. For example, suppose all criminals had the ability to invalidate ballots during the actual vote counting process. Even if this behavior is rampant, if this ability stops when 90 per cent of the vote is counted, there is still unpredictability in the vote share tally for the remaining 10% of the ballots. It is plausible that the probability density for the vote share in the remaining votes is continuous.

$$y_{id} = \beta_0 + \beta_1 score\_dif_d + \beta_2 winner_d + X'_{id}\beta_X + X'_{pd}\beta_p + \alpha_s + \varepsilon_{id}$$

where y_{id} is the corruption level of individual (law and order, and administrative officials[46]) i living in district d[47], $score\_dif_d$ is the score difference between criminal and non-criminal candidate in district d, $winner_d$ is a variable taking the value 1 if the criminal candidate was elected ($score\_dif_d > 0$) and 0 otherwise, X_{id} is a vector of individual characteristics, X_{pd} is a vector of characteristics of politician p elected in district d, α_s are state fixed effects. β_2 is the coefficient of interest, and represent the discontinuity jump in y_{id} due to a criminal politician being barely elected. Standard errors clustered at the state level. Following Imbens et al (2008), we also performed local linear regressions and found the same results.

Critical to this study is the measure of corruption used. The first measure used is the value of gifts received. The 61st round of the National sample survey provides information on the source of the non-durable goods consumed (food, pan, tobacco, intoxicants, fuel, and light). These goods may be purchased, home-grown, freely collected, exchanged for goods and services or received as gifts. Value of gifts of different products were added per household to generate a household value of gifts received (see Table 2 for descriptive statistics). While the level of gifts received does not measure only corruption, our identification strategy is based on the comparison of value of gifts received for individuals in a district where a criminal politician barely won to a non-criminal politician; to a district where a criminal politician barely lost. Any systematic difference in these two districts might indicate a change in in-kind corruption.

The second measure is the consumption-income gap, following Gorodnichenko et al (2007). This gap may include additional non-reported monetary compensation. We simply difference the value of expenditures at the household level to an imputed income[48]. While the level of the consumption-income gap does not measure only corruption, our

[46] see Appendix Table 2 for the occupation codes of these individuals.

[47] Other outcomes will be criminal activity and poverty level measured at the level of district d.

[48] A problem with the 61st consumption round used in this analysis is that it does not include information about earnings. We therefore estimate wage using the 55th employment round containing information on wages. We use a mincer equation regressing the log of wage on occuptaion dummies (at the 3-digit level), sex, age, education dummies, using multipliers and robust standard errors clustered at the state level. Using these estimates, we predict wage with the same explanatory variables in the 61st consumption round. See Table 2 for descriptive statistics.

identification strategy is based on the comparison of the consumption-income gap for individuals in a district where a criminal politician barely won to a non-criminal politician; to a district where a criminal politician barely lost. Any systematic difference in these two districts might indicate a change in bribe-taking.

Criminal data is gathered from the governmental publication "Crime In India"[49]. Poverty levels are measured with district-level headcount ratio using the official Planning commission state poverty lines of the corresponding year[50]. We now turn to the results.

V Results

A graphical exploration of the results is helpful in order to understand the intuition of a regression discontinuity design. Figure II shows the level of the consumption-income gap for law and order, and administrative officials[51]. Locally weighted regressions are presented to smooth the consumption-income gap. One can see a discontinuity at the threshold of a score difference of zero. The consumption-income gap is lower for individuals living in a district where a criminal politician barely won than for individuals living in a district where a criminal politician barely lost. Two falsification exercises are then presented in figures III and IV. Figure III repeats the same test for clerical supervisor and cashiers[52]. These individuals are not under the control of politicians and the theory presented above is not appropriate anymore. One can see on the graph almost no discontinuity at the threshold in the consumption-income gap measure. Figure IV shows the consumption-income gap from the 55th round of the National sample survey (1999-2000). There is no discontinuity. This represents a test of the identification assumption: there does not seem a systematic difference in pre-determined levels of corruption at the threshold.

Table 3 explores the impact of criminal politicians on corruption levels (measured as value of gifts received) of law and order, and administrative officials. The sample is restricted to all occupations falling in these categories. Column (1) indicates that law

[49]The annual reports "Crime In India" 2002, 2003, 2004, 2005, 2006 are from the National Crime Records Bureau, Ministry of Home Affairs, Government of India.

[50]Poverty lines recalculated using new prices are not available for the 61st round (Deaton, 2003).

[51]see Appendix Table 2 for the occupation codes of these individuals.

[52]see Appendix Table 2 for the occupation codes of these individuals.

and order, and administrative officials experience a 90 percent decline in the value of gifts received because of the close election of a criminal politician. Column (2) presents a test of the theory. The Bharatiya Janata Party (BJP), a market-oriented centre-right party, is known to be committed to the independence of the judiciary[53]. A criminal politician from the BJP might therefore not be able to misuse punitive transfers to comply with his party's ideology. In column (2), we interact the score difference between the two candidates and the winner dummy variable (taking the value 1 if the criminal politician won) with a dummy variable equal to 1 if the criminal politician is from the Bharatiya Janata Party. Only the coefficient of Winner is significant, indicating that the mechanism seems to hold only for politicians capable of influencing law and order, and administrative officials. Columns (3) to (6) present robustness checks including control variables. In column (3), individual controls are added (age, household size, 4 social group dummies (scheduled tribe, scheduled caste, other backward class, others), a dummy indicating if the household owns land, 3 dummies for the broad occupation group (law, order, administrative officials). In column (4), 35 state dummies are added. In column (5), politicians control variables are included (crime category: Offences against human body, Offences against property, Crimes against public order, Economic crimes, Corruption, Other; Movable Assets (Cash, Deposits in Banks, Financial Institutions, and Non-Banking financial companies, NSS, Etc., Gold / Ornaments, Bonds, Debentures, Shares in companies & Business, Motor Vehicles) and Immovable Assets (Agricultural Land, Non-Agricultural Lands, Residential and Commercial Buildings), Liabilities (total debts at Bank/Financial Institution, Tax Dues and Dues to Govt. Depts.), party affiliation dummies. Results remain remarkably stable and indicate that criminal politicians reduced corruption of law and order, and administrative officials. The insignificance of the effect of BJP politicians indicate that this mechanism works only when the politician can influence the bureaucrat. A further test is provided in column (7) and (8). The same analysis is performed for clerical supervisors and cashier in column (7) (professors and economists in column (8)). Criminal politicians do not

[53]Party Manifesto of the Bharatiya Janata Party for the Elections to the 14th Lok Sabha (April-May 2004): "The BJP is firmly committed to the independence of the judiciary."
http://www.indian-elections.com/partymanifestoes/bjp.html

seem to influence these occupation categories, upon which they have less control than on judges, policemen, and administrative officials.

Table 4 performs the same analysis with a different measure of corruption, the consumption-income gap, to show that these results are not sensitive to the measure of corruption used. Column (1) shows that criminal politicians close the consumption-income gap of law and order, and administrative officials, by 34 percent. Column (2) shows that this is not true for criminal politicians who have less control on these agents (such as BJP politicians). Column (3) and (4) shows that these results hold when using a 365 days recall period, as opposed to a 30 days recall. Column (5) and (6) show that this mechanism does not hold for occupations less influenced by politicians.

The analysis performed in Tables 3 and 4 was conducted at other thresholds of the score difference to test the robustness of the results. There should be no significant results at other levels of score difference, say at a score difference of 10, as criminal politicians are elected both below and above this threshold. No significant results have been found at other thresholds[54]. An additional concern is the possibility of wrongful accusations by rival candidates. According to this view, criminal politicians might have not committed any crimes. To address this concern, we used the information on the conviction records of politicians. It is found that there are no systematic differences between the accused and the convicted politicians.

Table 5 presents the test of the identification assumption of the regression discontinuity design: there should be no systematic difference in pre-determined characteristics between districts where a criminal politician barely won and districts where a criminal politician barely lost. The dependent variables in rows (1), (2), (3), (4), (5) and (6) are coming from the 55th round (1999-2000) of the National sample survey in India. The insignificance of the "Winner" coefficient indicates that there were no differences in 1999-2000 in value of gifts received, consumption income gap, sex of individual, age of individual, scheduled caste-scheduled Tribe status, education of individual. Furthermore, rows (7), (8), (9), (10), (11) and (12) show that criminal politicians that barely won are comparable to criminal politicians that barely lost. Criminal politicians com-

[54]such as, a score difference of +10 or -10.

mitted the same amount of murder or corruption offences (rows (7) and (8)), have the same level of assets or liabilities (rows (9) and (10)), the same education levels (row (11), and the same affiliation to national parties (row (12)). This tends to indicate that there was no systematic manipulation of the scores at the threshold for certain categories of politicians.

Table 6 explores the impact of criminal politicians on criminal activity. The theory predicts that criminal activity should be encouraged only for those connected to politicians, who can then influence law and order, and administrative officials to protect them. Table 1 shows that criminal politicians commit mostly offences against the human body and against public order. One might expect criminal politicians to protect people committing similar offences. Rows (1), (2) and (3) show that offences against human body increase after a criminal politician barely won. For example, row (2) shows that culpable homicide increase by 26 percent due to criminal politicians. It is important to note that there were no pre-existing differences in levels of offences against human body in these districts, as witnessed by the insignificance of the dummy variable "Winner" interacted with a time dummy equal to 1 before 2004. Rows (7) and (8) show that similar increases in crimes against public order (riots and arson) occur because of criminal politicians. No significant effect is found for offences against property (rows (4), (5), and (6)) and economic crimes (rows (9), (10), and (11)), accrediting the theory according to which criminal politicians protect those who commit crime like themselves.

Table 7 explores the impact of criminal politicians on welfare and poverty. As crime is directly related to economic activity, one may expect welfare to decrease in districts where a criminal politician is elected. Column (1) shows that mean urban per capita expenditure decreased by a significant amount. Column (2) shows that there is no impact on rural expenditure. This might be because the theory is not applicable if law and order, and administrative officials are less influenced by politicians, which might be the case in rural areas where the physical distance between politicians often residing in urban areas might be an obstacle to supervision. The theory generated another interesting falsification test: welfare of those less connected with criminal politicians, for example the poorer sections of society, should decrease, but only when politicians might

have some influence over law and order, and administrative officials. Column (3) shows that urban headcount ratio increases by 7 percentage points or 22 percent because of criminal politicians, with no effect on rural headcount ration (column (4)). There were no pre-existing differences in poverty levels at the threshold in 2000 (columns (5) and (6)).

VI Conclusion

Using a regression discontinuity design, whereby individuals living in districts where a criminal politicians barely won to districts where a criminal politicians barely lost, this paper shows that criminal politicians reduce the consumption-income gap of law and order, and administrative officials by 34 percent. A potential explanation is that politicians in India have extensive power over these bureaucrats. Criminal politicians could then misuse their power to influence law and order officials, and prevent the prosecution of crimes committed by people like themselves. Criminals connected to criminal politicians would then need to pay less bribes to law and order officials to avoid prosecution. This theory is confirmed by two findings. First, criminal politicians from the Bharatiya Janata Party (BJP) (a party committed to the independence of the judiciary) are less able to misuse punitive transfers and are not associated with a reduction in consumption-income gap. Second, other occupations less influenced by politicians experience no such decrease.

As less bribes to law and order, and administrative officials need to be paid, criminal activity might be encouraged. Crime categories such as offences against human body and public order, offences similar to those mostly committed by criminal politicians, experience an approximate 25 percent increase. No significant effect is found for offences against property and economic crimes accrediting the theory according to which criminal politicians protect those who commit crime like themselves. This increase in crime has adverse effects on poverty, in other words those not connected to politicians. For example, the urban headcount ration increases by 22 percent because of criminal politicians.

Three policy implications stem from this paper. First, this paper calls attention to

the problem of the measurement of corruption. If corruption is only measured by bribe-taking (proxied in this paper by value of gifts received and consumption-income gap), then corruption is likely to be underestimated as other forms of corruption might exist, such as, in this case, the threat of punitive transfers exercised by politicians over law and order, and administrative officials. Similar to the conclusions of Bardhan et al (2006) about the impact of decentralization, measures of corruption which focus only on bribes and exclude such forms of special interest capture provide a misleading impression of the true welfare effects of criminal politicians. In this case, one cannot interpret the reduction in bribe-taking as a desirable outcome, since a side consequence is the encouragement of criminal activity and its adverse impact on the poor.

Second, this paper relates to the literature on decentralization as a way to develop governance structures that are responsive to the interests of the poor. This literature emphasizes that, on the one hand, it may enhance the accountability of elected representatives and amplify the political voice of poor people while, on the other, it may enhance the influence of local elites (Bardhan et al, 2000). This paper provides an example of such capture: criminal politicians misusing their influence over law and order, and administrative officials to benefit interest groups sharing the same preferences. This paper thus exemplifies the devastating consequences of local governments capture. It is close in spirit to Besley et al (2004) who looks at the impact of politicians' identity (scheduled caste or tribe) on local public good provision.

Third, considering these devastating consequences, the next step is to find ways to reduce the prevalence of criminal politicians in office. The reform mandating the publicization of criminal records of politicians (used in this paper) was exactly aimed at this, by increasing the level of political awareness. A promising avenue of research is therefore the evaluation of the impact of the reform on the probability of election of criminal politicians.

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Table 1: Descriptive statistics of criminal politicians

Description of Variable		Source	Observations	Mean	St. Dev.
Score difference between criminal and non (or less) criminal candidate		Affidavit Information of the candidates contesting elections for the State and Parliamentary Constituencies in India (April-May 2004) from India Election Watch and the Indian Election Commission	178	-0.22	13.09971
Criminal candidate is the winner			178	0.49	0.499917
Type of crime committed by politicians	Offences against human body		15		
	Offences against property		6		
	Crimes against public order		70		
	Economic crimes		8		
	Corruption		9		
	Other		70		
Education of politician			178	3.96	1.10
Assets			178	3273077	1.34E+07
Cash			178	31983.96	110808.2
Deposits in Banks or Non-Banks Institutions			178	232006.5	3121313
Gold / Ornaments			178	53725.61	232879.5
Bonds, Debentures, Shares in companies			178	193251.2	2166932
Value of Motor Vehicles			178	70328.37	369667.1
Movable assets			178	525940.7	3623855
Value of Agricultural Land			178	280856.8	1445041
Value of Non-Agricultural Lands			178	198471.7	1381546
Value of Residential and Commercial Buildings			178	643535.3	2942793
Immovable assets			178	1042977	3983023
Liabilities			178	254152.2	1658007
Bharatiya Janta Party candidate			178	0.08	0.27
National party (BSP, BJP, CPI, CPM, INC, NCP)			178	0.18	0.38
local elections (not federal elections)			178	0.24	0.43
Number of voters by district (in thousands)			178	1749.33	870.37

Education of politician (0: no schooling, 1: Primary, 2: Secondary, 3: Intermediary or pre-university, 4: University undergraduate, 5: University graduate, 6: University postgraduate)

Table 2: Descriptive statistics

Description Variable			Source	Observations	Mean	St. Dev.
Dependent Variables						
Corruption	Value of gifts received		Consumption round of the 61st round of the National Sample Survey of India	124624	414.93	4074.86
	Consumption income gap (30 days recall)			124589	835.28	1157.76
	Consumption income gap (365 days recall)			124589	871.02	811.97
crime	Offences against human body	Murder	Crime In India 2002, 2003, 2004, 2005, 2006, the annual reports from the National Crime Records Bureau, Ministry of Home Affairs, Government of India	732	135.40	970.71
		Culpable homicide		732	11.12	49.56
		Dowry deaths		628	21.01	62.31
	Offences against property	Robbery		732	130.17	1331.91
		Burglary		732	571.01	5644.09
		Theft		732	2126.08	23872.35
	Crimes against public order	Riots		628	223.57	1517.46
		Arson		628	41.60	373.47
	Economic crimes	Criminal breach of trust		628	151.14	1774.64
		Cheating		628	271.61	2186.84
		Counterfeiting		628	23.07	255.67
	Crimes against women	Kidnap. Abduc. women girls		732	93.11	1030.52
		Cruelty by husband or relatives		628	394.42	3908.92
poverty	Urban mean per capita expenditure		Consumption round of the 61st round of the National Sample Survey of India	506	1020.89	297.2372
	Rural mean per capita expenditure			501	691.2703	233.4713
	Urban headcount ratio			508	0.326068	0.172416
	Rural headcount ratio			504	0.202084	0.15326
Individual control Variables						
Social group	scheduled tribe		Consumption round of the 61st round of the National Sample Survey of India	124603	0.13	0.34
	scheduled caste			124603	0.16	0.37
	other backward class			124603	0.37	0.48
	others			124603	0.34	0.47
age				124642	45.72	13.58
Household size				124644	4.89	2.52
Whether land?				124581	0.85	0.35

Table 3: Impact of criminal politician in office on bribe-taking behavior of law and order, and administrative officials

(Dependent variable: value of gifts received)

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Occupation	law and order, and administrative officials						Clerical supervisor, cashier	professor, economists
Score difference	12.32	12.28	14.02	6.35	13.65	13.65	13.05	-10.64
	(1.61)	(1.60)	(1.66)*	(1.20)	(1.08)	(1.04)	(1.53)	(1.04)
Winner	-370.10	-347.98	-414.13	-324.98	-583.44	-583.44	-503.28	961.51
	(2.47)**	(2.36)**	(2.61)***	(2.05)**	(1.97)**	(1.89)*	(1.65)	(1.16)
Score difference of BJP candidates		-0.78						
		(0.10)						
Winner from BJP party		-124.62						
		(1.05)						
Individual controls	No	No	Yes	Yes	Yes	Yes	No	No
State fixed effects	No	No	No	Yes	Yes	Yes	No	No
Politician controls	No	No	No	No	Yes	Yes	No	No
Standard errors clustered at the state level	No	No	No	No	No	Yes	No	No
Observations	966	966	965	965	965	965	479	92
R-squared	0.00	0.00	0.02	0.16	0.18	0.18	0.01	0.02

OLS regressions. Robust t statistics in parentheses,* significant at 10%; ** significant at 5%; *** significant at 1%. The dependent variable in all columns is the value of gifts received (food, pan, tobacco, intoxicants, fuel, and light) during the last 30 days (Source: National Sample Survey, 61st round, Consumer expenditure). The sample is restricted to all districts where a criminal politician was a candidate opposed to a non-criminal candidate. The sample is further restricted in columns 1 through 6 to the gifts received by law and order, and administrative officials (defined in Table 1). The sample is restricted in column 7 to the gifts received by Clerical supervisor and cashiers and in column 8 to the gifts received by professor, economists (defined in Table 1). The explanatory variables in column 1 are the score difference between the two candidates and a winner dummy variable taking the value 1 if the criminal politician won. In a Regression discontinuity design, this is the coefficient of interest. In column 2, these 2 explanatory variables are further interacted with a dummy variable equal to 1 if the criminal politician is from the Bharatiya Janata Party. In column 3, individual controls are added (age, household size, 4 social group dummies (scheduled tribe, scheduled caste, other backward class, others), a dummy indicating if the household owns land, 3 dummies for the broad occupation group (law, order, administrative officials). In column 4, 35 state dummies are added, In column 5, politicians control variables are added (crime category: Offences against human body, Offences againts property, Crimes against public order, Economic crimes, Corruption, Other; Movable Assets (Cash, Deposits in Banks, Financial Insitutions, and Non-Banking financial companies, NSS, Etc., Gold / Ornaments, Bonds, Debentures, Shares in companies & Business, Motor Vehicles) and Immovable Assets (Agricultural Land, Non-Agricultural Lands, Residential and Commercial Buildings), Liabilities (total debts at Bank/Financial Institution, Tax Dues and Dues to Govt. Depts.), party affiliation dummies (ADMK, AGP, AIFB, AITC, BJD, BJP, BSP, CPI, CPM, DMK, INC, IND, JD(S), JD(U), JMM, LJNSP, NCP, RJD, SAD, SAD(M), SHS, SP, TDP, TRS), (Source: affidavit Information of the candidates contesting elections for the State and Parlimentary Constituencies in India (April-May 2004) from http://www.indiaelectionwatch.net/disclosures.htm and the Election Commission of India). Standard errors are clustered at the state level in column 6.

Table 4: Impact of a criminal politician in office on the Consumption-income gap

	(1)	(2)	(3)	(4)	(5)	(6)
	Consumption income gap (30 days recall)		Consumption income gap (365 days recall)		Clerical supervisor, cashier	professor, economists
Score difference	5.81	5.00	9.97	9.29	-14.12	70.14
	(1.01)	(0.87)	(1.75)*	(1.64)	(1.78)*	(2.25)**
Winner	-281.98	-357.61	-401.65	-489.66	34.55	-1,826.88
	(1.78)*	(2.18)**	(2.43)**	(2.85)***	(0.15)	(1.62)
Score difference of BJP candidates		20.55		19.11		
		(2.60)***		(2.07)**		
Winner from BJP party		25.49		137.17		
		(0.14)		(0.55)		
Observations	965	965	965	965	479	92
R-squared	0.01	0.02	0.02	0.03	0.03	0.09

OLS regressions. Robust t statistics in parentheses, * significant at 10%; ** significant at 5%; *** significant at 1%. In all columns, the dependent variable is the consumption-income gap. Consumption is measured by the mean per capita expenditure (30 or 365 days recall). Income is imputed from the 55th employment round of the national sample survey. A mincer equation is estimated by regressing the logarithm of the wage from the principal activity on 3-digit occupation dummy, sex, age, 10 education dummies. A wage is then predicted using the same explanatory variables for individuals in the 61st consumption round. The dependent variable is the consumption-income gap of Clerical supervisor and cashiers in column 5, and of professor, economists in column 6 (as defined in Table 1).

Table 5: Regression discontinuity design using NSS55 data and criminal politician data

(dependent variable in first column, explanatory variables: Score difference and Winner)

	Dependent variable	Score difference		Winner		Observations
(1)	Value of gifts received in 2000	4,280.96	(2.98)***	-42,612.09	(1.71)	137
(2)	Consumption income gap in 2000	9.8	(2.47)**	-141.49	(1.38)	4555
(3)	Sex of individual in 2000	0	(0.85)	-0.01	(0.32)	4563
(4)	Age of individual in 2000	0.06	(1.32)	-2.06	(1.59)	4559
(5)	Sch. caste/ Sch. Tribe in 2000	0	0	0.04	(1.38)	4563
(6)	Education of individual in 2000	-0.01	(1.47)	-0.1	(0.39)	4557
(7)	Murder committed by politician	0	(0.86)	0.11	(1.13)	159
(8)	Corruption committed by politician	0	(1.73)*	-0.07	(1.1)	159
(9)	Assets of politician	99,368.83	(0.63)	137,887.14	(0.02)	159
(10)	Liabilities of politician	30,376.74	(1.54)	24,679.45	(0.03)	159
(11)	Education of politician	0	(0.12)	-0.09	(0.29)	124
(12)	Politician in a national party	0	(0.87)	0.14	(1.18)	159

OLS regressions. Robust t statistics in parentheses,* significant at 10%; ** significant at 5%; *** significant at 1%. The dependent variables in rows 1, 2, 3, 4, 5 and 6 are coming from the 55th round (1999-2000) of the National sample survey in India. The dependent variables are: Value of gifts received in 2000, Consumption income gap in 2000, Sex of individual in 2000, Age of individual in 2000, Sch. caste/ Sch. Tribe in 2000 (dummy), Education of individual in 2000 and show no discontinuity. The dependent variables in rows 7, 8, 9, 10, 11 and 12 are coming from the Affidavit Information of the candidates contesting elections for the State and Parlimentary Constituencies in India (April-May 2004) from India Election Watch and the Election Commission of India. The dependent variables are: Murder commited by politician (dummy), Corruption commited by politician (dummy), Assets of politician, Liabilities of politician, Education of politician, Politician in a national party (dummy) and show no discontinuity.

Table 6: Impact of a criminal politician in office on crime

(Dependent variable in the column "Type of crime": Number of crimes by type, explanatory variables: Score difference, Winner, Score difference interacted with a year dummy before 2004, Winner interacted with a year dummy before 2004, year and state fixed effects)

	Broad crime category	Type of crime	Score difference		Winner		(Score difference)* (before 2004)		(Winner)* (before 2004)		Obs.	R2
(1)	Offences against	Murder	0.69	(0.76)	25.15	(1.28)	-3.66	(1.31)	-42.22	(0.95)	732	0.70
(2)	human body	Culpable homicide	-0.07	(1.12)	**2.84**	**(1.94)***	-0.14	(0.85)	-3.29	(0.87)	732	0.72
(3)		Dowry deaths	-0.04	(0.46)	**5.75**	**(2.65)*****	-0.18	(0.79)	-3.48	(0.68)	628	0.73
(4)	Offences against	Robbery	1.33	(1.02)	25.42	(0.86)	-4.83	(1.19)	-68.54	(1.06)	732	0.69
(5)	property	Burglary	6.27	(1.21)	25.53	(0.23)	-18.58	(1.15)	-279.53	(1.08)	732	0.70
(6)		Theft	27.35	(1.27)	88.86	(0.19)	-76.70	(1.15)	-1,157.45	(1.10)	732	0.72
(7)	Crimes against	Riots	0.16	(0.11)	**52.17**	**(1.75)***	-5.84	(1.13)	-109.58	(1.04)	628	0.69
(8)	public order	Arson	0.14	(0.41)	**14.28**	**(2.02)****	-1.42	(1.06)	-34.89	(1.29)	628	0.68
(9)	Economic crimes	Criminal breach of trust	1.41	(0.91)	31.21	(0.97)	-6.83	(1.12)	-138.42	(1.13)	628	0.69
(10)		Cheating	2.77	(1.36)	-8.86	(0.17)	-7.42	(1.02)	-168.14	(1.08)	628	0.72
(11)		Counterfeiting	0.10	(0.50)	2.17	(0.50)	-0.81	(1.06)	-16.38	(1.06)	628	0.73
(12)	Crimes against	Kidnap. Abduc. women girls	0.49	(0.57)	**30.19**	**(1.69)***	-2.95	(1.10)	-49.56	(1.18)	732	0.74
(13)	women	Cruelty by husband or rel.	1.90	(0.60)	**114.21**	**(1.73)***	-12.93	(1.05)	-295.38	(1.19)	628	0.71

OLS regressions. Robust t statistics in parentheses, * significant at 10%; ** significant at 5%; *** significant at 1%. In all rows, the dependent variable is the number of crimes per district corresponding to the type described in the column "Type of crime". Criminal data comes from the governmental publication Crime in India 2002, 2003, 2004, 2005, 2006. Score difference is interacted with a year dummy before 2004 (as well as winner) to perform a falsification exercise before 2004. In all columns, 5 year and 35 state fixed effects are added.

Table 7: Impact of a criminal politician in office on poverty

	(1)	(2)	(3)	(4)	(5)	(6)
	Mean urban per capita expenditure-2004	Mean rural per capita expenditure-2004	Urban headcount ratio-2004	Rural headcount ratio-2004	Mean urban per capita expenditure-2000	Urban headcount ratio-2000
Score difference	351.41	-42.30	-0.00	-0.00	0.63	0.00
	(1.41)	(0.27)	(1.33)	(0.20)	(0.33)	(0.21)
Winner	-14,196.29	-259.99	0.07	0.01	-45.95	-0.00
	(2.16)**	(0.05)	(1.92)*	(0.33)	(0.75)	(0.01)
Observations	156	154	156	154	145	145
R-squared	0.03	0.00	0.03	0.00	0.01	0.00

OLS regressions. Robust t statistics in parentheses, * significant at 10%; ** significant at 5%; *** significant at 1%. In all columns, the dependent variable is measured at the district level. Headcount ratio are estimated using the official Planning commission state poverty lines of the corresponding year.

Appendix table 1: correlates of criminality of politicians
Dependent variable: Politician is a criminal (1 or 0)

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Education	-0.01		-0.01	-0.01	-0.01	-0.01	-0.01
of politician	(0.39)		(0.54)	(0.39)	(0.31)	(0.60)	(0.76)
Primary		-0.03					
		(0.23)					
Secondary		0.14					
		(1.18)					
Intermediary		0.08					
		(0.61)					
Undergraduate		0.07					
		(0.73)					
Postgraduate		0.11					
		(1.03)					
Bharatiya Janata Party			0.06				
candidate			(1.29)				
National party (BSP, BJP,				-0.01		-0.03	-0.04
CPI, CPM, INC, NCP)				(0.18)		(0.94)	(1.01)
local elections					-0.00		
(not federal elections)					(0.01)		
Number of voters						-0.03	-0.03
by district (in millions)						(2.74)***	(2.85)***
Liabilities						0.01	0.01
						(2.13)**	(1.99)**
Assets						-0.00	
						(1.58)	
Cash							-0.09
							(1.50)
Deposits in Banks							0.01
or Non-Banks Institutions							(1.39)
Gold, Ornaments							-0.01
							(0.26)
Bonds, Debentures,							-0.00
Shares in companies							(1.54)
Value of Motor Vehicles							0.00
							(0.13)
Value of Agricultural Land							-0.00
							(0.13)
Value of Non-Agri. Lands							0.00
							(2.42)**
Value of Residential							-0.00
and Commercial Buildings							(1.51)
Observations	1071	1071	1071	1071	1071	1071	1071
Pseudo R-Squared	0.0002	0.0058	0.003	0.0003	0.0002	0.0371	0.0438

Probit regressions. Marginal effects are shown at the mean. Robust z statistics in parentheses.
* significant at 10%; ** significant at 5%; *** significant at 1%

Appendix Table 2: Occupations considered in the 55th and 61st Rounds of the Indian National Sample Survey

Broad category	National occupations code (1968) / National industry code (1998)		Number of observations	
			NSS55	NSS61
Legal officials	140	lawyers	1155	190
	141	judges	22	12
	142	legal assistant	36	16
	149	Jurists*	151	25
	Total		1364	243
Order officials	75231	Public order and safety activities of the Union government	510	108
	75232	Public order and safety activities of the State governments	2572	879
	571	Policemen and Detectives (Inspector; Sub-Insp.; Constable; Detective)	3480	913
	572	Customs Examiners, Patrollers and Related Workers**	106	23
	573	Protection Force, Home Guard and Security Workers	998	286
	574	Watchmen, Chowkidars and Gate Keepers (Watchman; Gateman)	2876	811
	579	Protective Service Workers	153	67
	Total		10695	3087
Administrative officials	200	Elected Officials, Union Government	6	4
	201	Elected Officials, State Government	64	11
	202	Elected Officials, Local Bodies	40	35
	209	Elected Officials, n.e.c.	10	3
	210	Administrative and Executive Officials, Union Govt	468	69
	211	Administrative and Executive Officials, State Government	1111	201
	212	Administrative and Executive Officials, Quasi Government	142	19
	213	Administrative and Executive Officials, Local Bodies	139	21
	219	Administrative and Executive Officials, Govt and Local Bodies, n.e.c	107	186
	310	village officials	819	309
	Total		2906	858
Clerical supervisor and cashiers	300	Clerical Supervisors, Office Superintendents, Head Clerks, Section Heads	2090	367
	301	Other Supervisors, Inspectors, etc.	1309	240
	302	Ministerial and Office Assistants	1860	317
	309	Clerical and Other Supervisors, Other	1294	185
	330	Book Keepers and Accounts Clerks	1653	326
	331	Cashiers	869	158
	339	Bookkeepers, Cashiers and Related Workers, n.e.c.	164	31
	Total		9239	1624
professor, economists	150	University and Colleges Teachers	1159	265
	110	Economists	0	1
	111	Economic Investigators and Related Workers	25	10
	119	Economists and Related Workers, n.e.c	25	1
	101	Statisticians	34	4
	104	Statistical Investigators and Related Workers	188	23
	109	Mathematicians, Statisticians and Related Workers ,n.e.c	29	2
	Total		1460	306

* including Prothonotary and Senior Master; Registrar (Appellate Side, High Court); Registrar; Master Official Referee and Registrar in Equity etc; Taxing Master; Insolvency Registrar; Official Assignee (High Court); Court Receiver and Liquidator; Sheriff; Shirestedar; Petition Writer

**Inspector, Customs; Inspector, Excise; Supervisor, Customs; Appraiser, Customs; Searcher, Customs; Sepoy, Customs; Constable, Excise

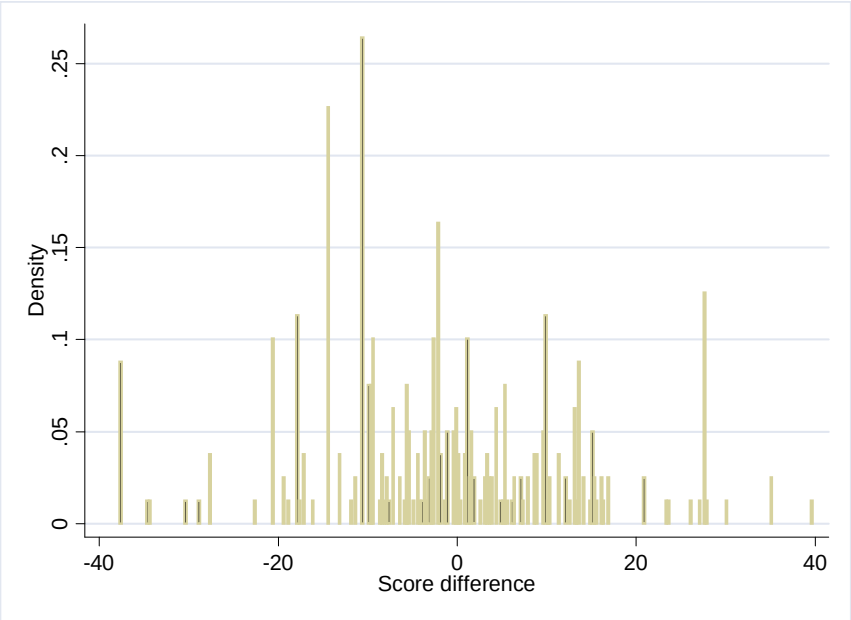

Figure I: density function of the score difference between criminal and non-criminal candidates.

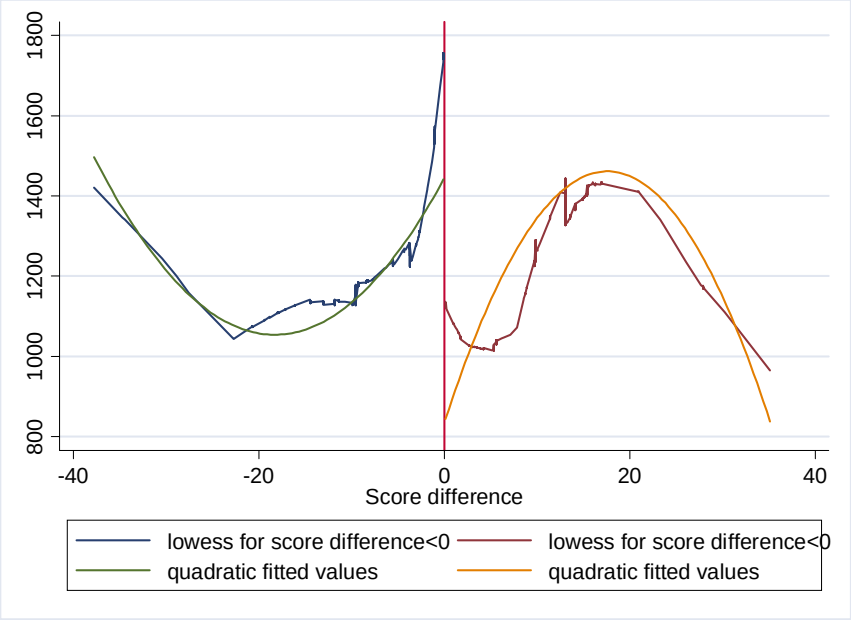

Figure II: locally weighted regression (lowess) of the consumption-income gap for law and order, and administrative officials in 2004-2005 (61st round of the NSS)

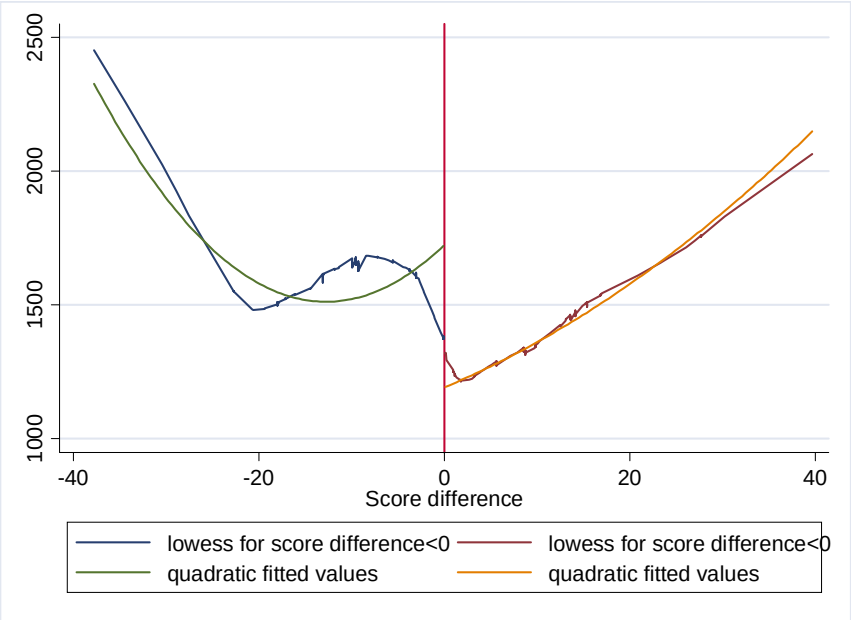

Figure III: locally weighted regression (lowess) of the consumption-income gap for clerical supervisor and cashiers in 2004-2005 (61st round of the NSS).

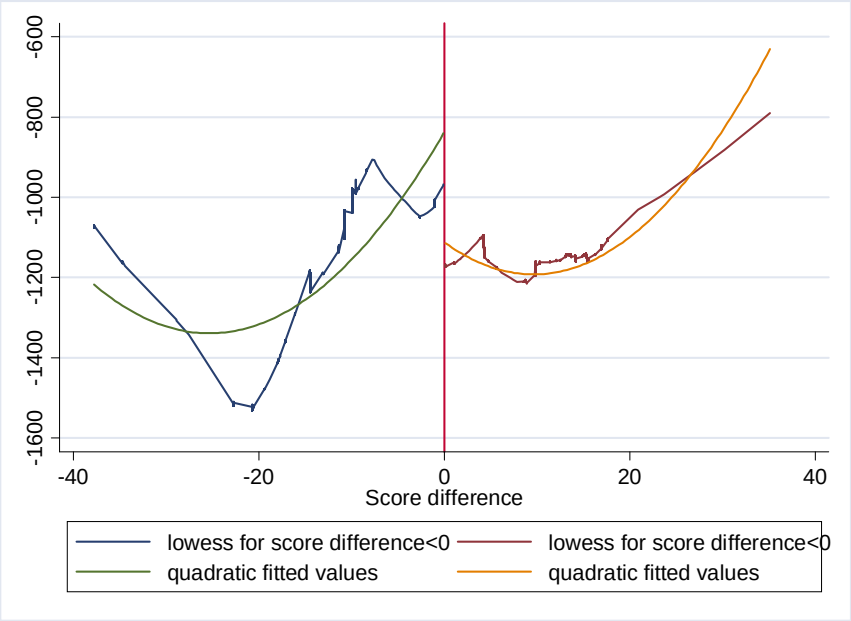

Figure IV: locally weighted regression (lowess) of the consumption-income gap for law and order, and administrative officials in 1999-2000 (55th round of the NSS)