Foreign Direct Investment Increases Bureaucratic Corruption

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March 16, 2025

Word count: 9,882

Abstract

Despite economic liberalization, corruption in developing countries grows unabated. We analyze this puzzle, focusing on foreign direct investment (FDI). FDI liberalization increases investment, expanding opportunities for bureaucratic corruption. Local politicians abuse their bureaucratic oversight authority to encourage and profit from this corruption. We exploit India's 2005 FDI liberalization to identify FDI's effects on observable implications of bureaucratic corruption. In FDI-exposed districts, bureaucrats susceptible to political pressure were more likely to be transferred and appointed to corruption-lucrative posts. Leveraging close legislative elections in FDI-exposed districts, we show abnormal asset growth among only winners with influence over transfers. After liberalization, only majority-foreign-owned firms reported more corruption demands. We find no evidence that politicians transfer bureaucrats to prevent corruption or maximize positive spillovers from FDI. Our findings highlight FDI as an income shock that fuels corruption and demonstrate that local politicians in developing democracies view FDI as a source of corruption rents.

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We thank Gaurab Aryal, Celeste Beesley, Rikhil Bhavnani, Gaurav Chiplunkar, Kerem Cosar, Leora Friedberg, Jeffry Frieden, Dan Gingerich, Gabrielle Kruks-Wisner, David Leblang, John McLaren, audiences at the 2023 meeting of the American Politicial Science Association, and the Global Research in International Political Economy seminar for insightful feedback. Helms thanks the Bankard Fund for Political Economy and the Institute for Politics and Strategy at Carnegie Mellon University for their support.

1 Introduction

Corruption, the use of public office for private gain (Rose-Ackerman 2007; Bardhan 1997), is pervasive and growing in developing countries (Olken and Pande 2012; Transparency International 2024). Canonical political economy theories attribute corruption, in part, to payments by firms to circumvent market entry barriers (Ades and Di Tella 1999; Djankov et al. 2002). Economic liberalization is thought to reduce the scope for corruption by increasing competition for investment and introducing anti-corruption norms (Sandholtz and Gray 2003; Gerring and Thacker 2005). Yet, despite extensive liberalization in most developing countries, corruption continues to grow.

Foreign direct investment (FDI) embodies this puzzle. These investments to produce goods and services in foreign countries are the single largest global capital flow, with half going to developing countries (Azémar and Giroud 2023). Political economy scholars argue that multinational corporations (MNCs) engage in grand corruption, payments to top-level public officials, to capture monopoly profits in otherwise restricted markets (Malesky et al. 2015; Zhu 2017; Pinto and Zhu 2016). Yet, most developing countries have liberalized FDI (Pandya 2014; Danzman 2019) and proactively subsidize investment (Jensen and Malesky 2018; Harding and Javorcik 2011). By these accounts, corruption should not be growing.

We argue that liberalized FDI inflows encourage a qualitatively different type of corruption: bureaucratic corruption, or corruption by public officials related to routine local government functions (Gans-Morse et al. 2018). Our theoretical framework shifts focus away from MNCs' motives to supply corruption and toward host country officials' motives to demand corrupt payments from MNCs. The framework highlights that bureaucrats are agents of politicians. Electoral dynamics in many developing democracies make bureaucratic corruption commonplace or even necessary for political survival (Bussell 2012; Gingerich 2013). Local politicians exploit their bureaucratic oversight authority to encourage and extract a share of bureaucratic corruption rents. Liberalization increases FDI inflows, creating more opportunities for this corruption.

Empirically testing our argument requires overcoming two formidable challenges. The first lies in accurately inferring FDI's effects on bureaucratic corruption. All else equal, corrupt countries receive less FDI (Wei 2000; Hines 1995). Our analyses leverage India's sudden 2005 FDI liberalization to identify FDI's causal effects on multiple facets of bureaucratic corruption. Liberalization eliminated foreign ownership restrictions that forced MNCs into joint ventures with local firms, which jeopardize MNCs' control over their most valuable technologies. Figure 1 illustrates sharp FDI growth following liberalization, expressed as capital inflows to fund new FDI projects (top) and MNCs' capital expenditures on newly completed FDI projects (bottom). Corruption, as measured by Transparency International, closely tracks FDI growth.[1]

We harness temporal and cross-state variation in FDI inflows in a difference-in-differences (DID) research design and event study estimation. We also estimate a two-stage instrumental variable (IV) model that uses district exposure to FDI liberalization – measured with original FDI restrictions data – to instrument for district-year FDI. With these designs, we unpack FDI's consequences for bureaucratic corruption in Indian districts, the administrative unit of local government responsible for land acquisition, infrastructure access, regulatory enforcement, and other FDI-relevant administrative tasks.

The second challenge lies in measuring district-level bureaucratic corruption before and after FDI liberalization. Corruption is, of course, notoriously difficult to measure, and bureaucratic corruption especially so. Payments are usually small, ubiquitous, and not criminalized (Zervos 2006). We meet this challenge by analyzing multiple observable implications of the mechanism through which FDI fuels bureaucratic corruption. These implications are mostly actions of politicians, consistent with our goal of explaining politicians' demand for bureaucratic corruption.

Our first measure focuses on the institutional mechanism that Indian politicians exploit

[1]Transparency International's measure summarizes both bureaucratic and grand corruption, and corruption prevention efforts.

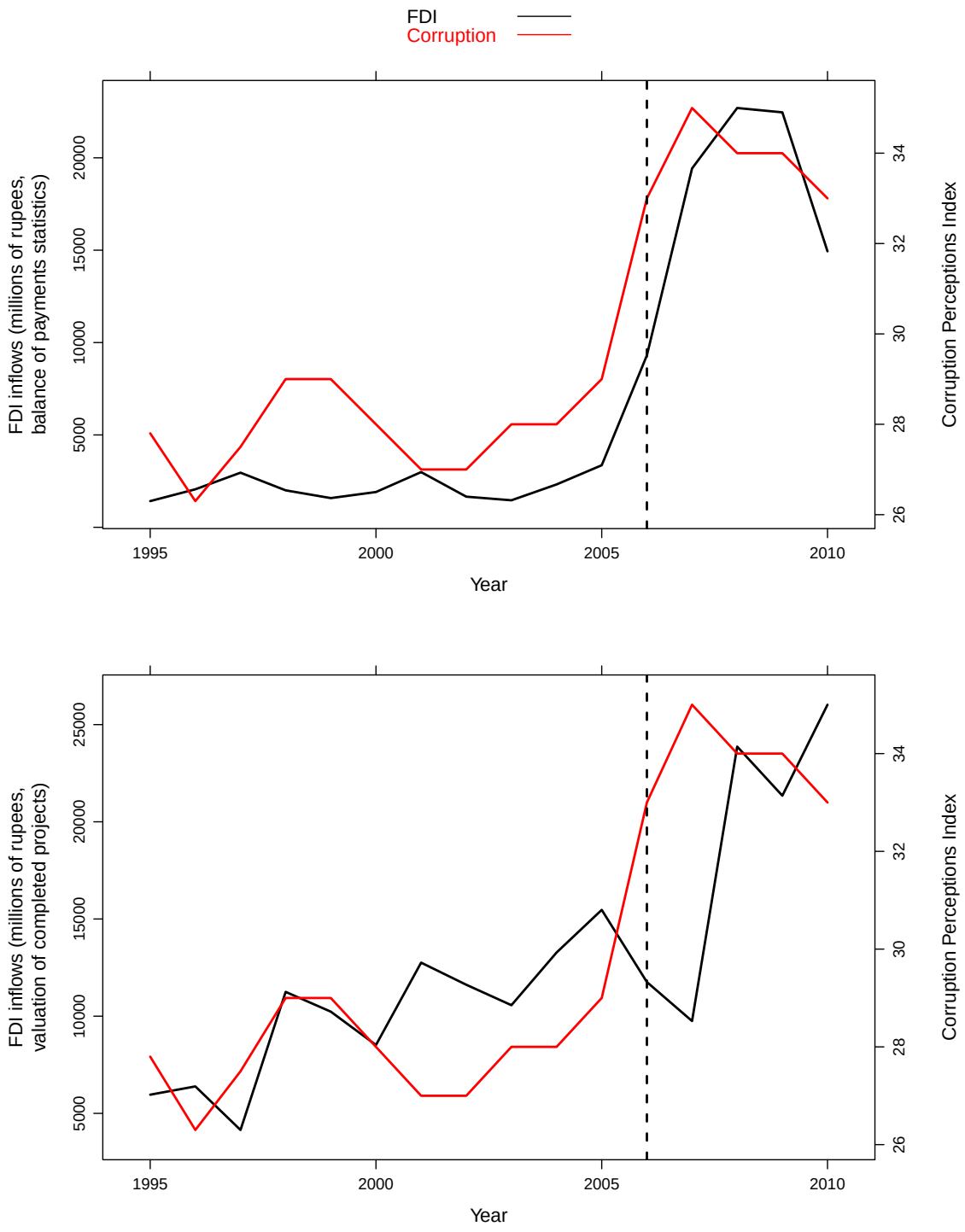

Figure 1: FDI and Corruption in India, 1995-2010. Top: inflation-adjusted FDI inflows, balance of payments data (Source: Reserve Bank of India). Bottom: inflation-adjusted capital expenditures on newly completed FDI projects (source: CapEx). Panels reflect lag between intended and completed FDI. Transparency International Corruption Perceptions Index plotted in red.

to extract a share of bureaucratic corruption rents. Indian state legislators commonly abuse their authority to transfer district-level bureaucrats across posts, soliciting payment in exchange for corruption-lucrative posts and threatening punitive transfers for bureaucrats who fail to deliver rents (Wade 1985). We use detailed public data on bureaucrats' career histories to discern these abusive transfers. Transfers are at politicians' discretion and occur in real time, making them a compelling proxy for bureaucratic corruption in Indian districts.

We find that in FDI-exposed districts, corruption-prone bureaucrats, those with weaker incentives to resist undue political pressure, were 17 percentage points more likely be transferred after liberalization than their less corrupt counterparts. This finding documents more frequent use of the precise mechanism by which politicians extract bureaucratic corruption rents, the expected consequence of expanded corruption opportunities. Further analysis indicates that these opportunities are sufficiently large that politicians reorient overall district governance towards corruption. We show that in FDI-exposed districts, a corruption-prone bureaucrat was more likely to be appointed District Magistrate, the chief district bureaucrat and single most lucrative district post for bureaucratic corruption. The finding strongly suggests that politicians do not use transfers to prevent corruption.

We document heterogeneity in transfers consistent with bureaucratic corruption. Abusive transfers are concentrated where supply and demand of corruption are highest: districts that were more corrupt before liberalization and that receive FDI originating from relatively corrupt countries. We find no evidence that politicians use transfers to maximize economic spillovers from FDI. Transfer probability does not increase for more competent or locally embedded bureaucrats, traits plausibly relevant to spillovers.

We gain sharper insight into the magnitude of FDI-induced corruption by analyzing abnormal growth in state legislators' personal assets, a common measure of politicians' returns to corruption (Fisman et al. 2014; Chauchard et al. 2019). Our close election research design compares post-liberalization asset growth of winners and runners up in elections won by a narrow margin. This comparison holds constant non-corruption mechanisms through

which FDI could influence assets of all candidates, such as FDI-induced local prosperity.

Winners experienced a 24 percent increase in asset growth relative to runners up, but only when they belong to the state's ruling coalition – which confers control over transfers – and a high proportion of their district's bureaucrats are corruption-prone. Abnormal growth is concentrated in liquid assets, which more likely reflect corruption rents. These findings reaffirm the large magnitude of FDI's effects and reinforce abusive transfers as politicians' rent extraction mechanism.

Finally, we analyze firm surveys to confirm that MNCs reported a concomitant rise in bureaucratic corruption. We use multiple waves of the World Bank Enterprise Survey, a common measure of firms' corruption exposure. After liberalization, majority-foreign-owned firms became more likely to report demands for informal payments. Domestic and minority-foreign-owned firms reported no change, which helps rule out other ways that FDI liberalization could have changed all firms' corruption exposure.

We make multiple contributions to scholarship on corruption. A large literature considers how income shocks influence corruption, including natural resource windfalls (Caselli and Michaels 2013; Asher and Novosad 2023) and climate variability (Nikolova and Marinov 2017; Wenzel 2021). We introduce FDI liberalization as a positive income shock that creates more opportunities for bureaucratic corruption. Our findings help explain why global economic integration does not reliably curb corruption despite consistent evidence that trade liberalization reduces corruption (Ades and Di Tella 1999; Sequeira 2016). Related, we demonstrate that politicians exploit a feature of formal institutions, their bureaucratic oversight authority, to extract corruption rents created by an income shock. Prior work emphasizes informal mechanisms including co-opting law enforcement (Rexer 2025; Asher and Novosad 2023), political connections (Lehne et al. 2018), and coethnicity (Seim and Robinson 2020).

Our findings shed new light on FDI's consequences for corruption. We highlight bureaucratic corruption, whereas prior work focuses on grand corruption (Malesky et al. 2015;

Zhu 2017; Pinto and Zhu 2016).[2] Bureaucratic corruption is a leading driver of governance failure in poor countries (Freund et al. 2016; Olken and Pande 2012) and key component of prominent political risk measures (Howell 2013).

Further, we offer a novel account of politicians' demand for corruption that helps explain why corruption grows following liberalization. Prior work focuses on MNCs' supply of grand corruption and implies that corruption should decline after liberalization erodes MNCs' monopoly rents. Our proxies for bureaucratic corruption focus on local politicians rather than MNCs. Corruption is closely tied to politicians' abuse of bureaucratic transfers (Wade 1985; Brierley 2020; Toral 2024) and abnormal asset returns (Chauchard et al. 2019; Fisman et al. 2014; Szakonyi 2018; Asher and Novosad 2023).

We also engage literature on democratic politicians' motives to attract FDI. This work views FDI through the lens of politicians in advanced democracies, emphasizing their motives to claim credit from voters for attracting FDI (Jensen et al. 2020; Owen 2019). We situate FDI and corruption within typical electoral dynamics of developing democracies. When institutions are weak and contingent transfers drive voter behavior, corruption can be necessary for politicians' survival (Bussell 2012; Gingerich 2013). Though we cannot say whether politicians seek FDI for corrupt purposes, corruption rents from FDI likely matter more for election outcomes than credit claiming for attracting FDI.

2 Theoretical Framework

Our theoretical framework explains how FDI increases bureaucratic corruption in developing democracies. This corruption is the product of MNCs' willingness to engage in corruption (supply) and host politicians' motives and capacity to seek corruption rents from MNCs (demand). On both dimensions, we challenge prevailing stylized facts. Regarding supply, we

[2]Brazys and Kotsadam (2020) and Donaubauer et al. (2022) consider FDI's indirect effects on household exposure to bureaucratic corruption.

emphasize that MNCs frequently invest in corrupt countries, accepting corruption's costs in exchange for new market opportunities. Regarding demand, we highlight that many politicians in developing democracies rely on bureaucratic corruption for political survival. These politicians rarely have the FDI motives ascribed to politicians in advanced democracies, such as claiming credit from voters or economic growth.

MNCs and the Supply of Bureaucratic Corruption

FDI entails firms establishing subsidiaries in foreign countries to capture global scale economies from firm-specific technologies.[3] The resulting MNCs are among the world's most productive firms (Helpman et al. 2004). MNCs organize global production to enter new markets, lower production costs, and access inputs (Helpman 2006). Most countries actively pursue FDI as a source of high-wage jobs and productivity spillovers (Harrison et al. 2011). For developing countries, FDI is one of the few conduits for advanced production technologies (Alfaro 2017).

Corruption is a source of uncertainty for MNCs, who weigh its costs against expected investment returns (Hines 1995; Wei 2000) and available strategies to minimize exposure (Rodriguez et al. 2005; Uhlenbruck et al. 2006). Countries with weak institutions are more likely to offer MNCs tax breaks and other subsides, which offset corruption's costs (Li 2006). MNCs frequently invest despite corruption when countries offer unique opportunities such as access to natural resources or large markets (Vernon 1971; Kobrin 1987). Consider China, among the world's largest FDI recipients despite high corruption. Indeed, current scholarship emphasizes that MNCs proactively engage in grand corruption to capture monopoly rents in markets with restricted entry (Malesky et al. 2015; Pinto and Zhu 2016; Zhu 2017).

Our framework shifts attention to bureaucratic corruption in developing countries. Bureaucratic corruption occurs when public officials extract informal payments to complete administrative tasks (Gans-Morse et al. 2018). Developing countries on average score worse

[3]Firm specificity of productive assets distinguishes FDI from lower-value-added forms of global production pursued through arm's-length contracts.

on measures of bureaucratic quality (Besley et al. 2022). Bureaucratic corruption is inefficient: firms that make more informal payments report longer wait times (Kaufmann and Wei 1999; Freund et al. 2016). MNCs are especially attractive targets. Across developing countries, MNCs make larger informal payments relative to domestic firms to complete administrative tasks related to entry and operations (Morisset and Lumenga Neso 2002). In India, bureaucrats extract more rents from large firms and firms for whom delays are more costly, both typical MNC characteristics (Amirapu and Gechter 2020).

MNCs weigh costs of bureaucratic corruption against returns to investment in a country. Though individual payments are generally small (Cuervo-Cazurra 2008), firms report large cumulative costs (Svensson 2005). MNCs usually lack the tacit knowledge and social ties that local firms use to navigate corruption (Zaheer 1995; Perkins et al. 2008), but may become more efficient at corruption over time (e.g., knowing whom to pay and how much) (Doh et al. 2003).[4] MNCs' baseline propensity to corruption varies with home country laws and norms (Kwok and Tadesse 2006; Gerring and Thacker 2005; Donaubauer et al. 2022).

While some MNCs may not invest because of bureaucratic corruption, many others will, judging that expected returns exceed corruption's costs. Scholarship on grand corruption makes this same point. Indeed, bureaucratic corruption may be less of a deterrent because, unlike grand corruption, it is rarely subject to legal sanction in MNCs' home and host countries. For example, the US Foreign Corrupt Practices Act, which criminalizes corruption by US MNCs, exempts informal payments related to "routine governmental action."

[4]Potential local agents with requisite knowledge may behave opportunistically (Lambsdorff 2007). Initiatives to limit MNCs' exposure to bureaucratic corruption, such as special economic zones, are often counterproductive (Alkon 2018).

Politicians' Demand for Bureaucratic Corruption

Next, we explain demand for corruption: why politicians in developing democracies target MNCs for bureaucratic corruption. The answer is not straightforward. Scholars argue that in democracies, politicians have electoral motives to maximize FDI inflows or at least give the appearance of doing so. Owen (2019) shows that incumbent parties in Brazil are more likely to win mayoral races when they attract FDI. Jensen and Malesky (2018) offer experimental evidence that US voters have higher approval ratings for governors who actively promote FDI. To the extent that corruption deters FDI, this scholarship suggests politicians in democracies should prefer to reduce corruption.

These arguments, informed by voter behavior in advanced democracies, fail to capture distinctive electoral dynamics in developing democracies. Electoral accountability is generally weak, undermined by patronage and other forms of contingent transfers to voters (Golden and Min 2013; Hicken 2011; Stokes et al. 2013), group-based political cleavages (Chandra 2005), and weak party systems that obscure responsibility for outcomes (Jensenius and Suryanarayan 2022). Economic performance ranks lower in voters' assessments of candidates (Anderson 2007; Lewis-Beck and Stegmaier 2019). Voters frequently lack information about politicians' corruption or recognize the absence of non-corrupt alternatives (Banerjee et al. 2014). Voters are more tolerant of politicians' corruption when it funds vote buying (Weschle 2016) and may even perceive corrupt politicians as more competent to navigate highly corrupt settings (Vaishnav 2017). These politicians may value the economic benefits of FDI, but value corruption rents more than forgone FDI deterred by corruption.

By contrast, bureaucratic corruption is a matter of political survival. In democracies with strong electoral accountability, incumbent politicians have incentives to foster bureaucratic efficiency and minimize corruption (Ashworth 2012). When accountability is weak, as is the case in many developing democracies, politicians have strong motives to extract bureaucratic corruption rents to fund election campaigns and contingent transfers to voters

(Gingerich 2013; Sircar 2018).[5] Bussell (2012) finds that Indian state politicians resist public sector reforms that could limit bureaucratic corruption, especially those who rely more on corruption rents for electoral purposes.

Corruption Propensity of Bureaucrats

Bureaucrats, not politicians, are responsible for administrative tasks that enable bureaucratic corruption. We first describe bureaucrats' incentives for corruption and to resist politicians' pressure to engage in corruption. The following section describes a common institutional mechanism that politicians use to encourage and profit from bureaucratic corruption.

In the classic Weberian model, professionalized bureaucracies emerge from meritocratic recruitment, competitive compensation, job protections, and predictable, merit-based career advancement. These institutional features motivate and socialize bureaucrats, aligning their career concerns with bureaucratic efficiency (Rauch and Evans 2000; Dahlström et al. 2012). Despite having many of these features, bureaucracies in developing democracies often fail to fully professionalize due to low pay, political interference, and inadequate resources (Besley et al. 2022; Dasgupta and Kapur 2020). Bureaucratic service can nonetheless appeal by offering social prestige (Iyer and Mani 2012), job security (Rauch and Evans 2000), and perks such as housing and relocation to desirable areas (Dal Bó et al. 2013).

Bureaucrats may engage in corruption for multiple reasons. While some enter public service for that purpose (Hanna and Wang 2017), others come to corruption reluctantly to supplement low wages (Van Rijckeghem and Weder 2001) or, as we highlight, in response to pressure from politicians. Corruption is typically incompatible with meritocratic advancement because it undermines standard merit criteria including efficiency and responsiveness. Thus, bureaucrats with better prospects for meritocratic advancement have stronger incen-

[5]Our theory suggests an alternative explanation for Owen (2019)'s finding on Brazilian mayoral elections: corruption rents derived from FDI help incumbents win elections.

tives to resist political pressure (Bertrand et al. 2020).[6]

Abuse of Bureaucratic Transfers

Politicians can exploit their institutionalized bureaucratic oversight authority to extract a share of corruption rents. Oversight authority is intended to address agency problems arising from politicians' and bureaucrats' divergent incentives and politicians' limited monitoring capacity (Kiewiet and McCubbins 1991; Strøm 2000). Though oversight is meant to increase efficiency, politicians can abuse it to pressure bureaucrats into sharing corruption rents.

Our focus is a specific oversight tool: politicians' authority to transfer bureaucrats across posts. Even professionalized bureaucracies grant politicians limited discretion over transfers to overcome agency problems and to better match bureaucrats to posts. When bureaucrats have preferences over posts, politicians can use transfers to align bureaucrats' incentives with their own objectives. When electoral accountability is strong, politicians are motivated to use bureaucratic transfers to improve public service (Raffler 2022).

When electoral accountability is weak, as in many developing democracies, politicians can abuse transfers to extract a share of bureaucratic corruption rents, a phenomenon we call "abusive transfers." In its most basic form, politicians effectively auction posts to the highest bidder. Wade (1985) documents Indian bureaucrats paying politicians 40 times the average salary for a post overseeing irrigation, a lucrative position from which bureaucrats can extract bribes from farmers. Bureaucrats can also abet politicians' corruption through regulatory enforcement (Asher and Novosad 2017), public procurement (Lehne et al. 2018; Brierley 2020), and land administration (Agnihotri et al. 2022).

Other bureaucrats reluctantly engage in corruption under threat of punitive transfer to less prestigious posts or less desirable locations (Banik 2001; Brierley 2020). Politicians strategically threaten bureaucrats with weaker motives to resist their pressure. They also

[6]Bureaucratic corruption as we define it implies local, early-career bureaucrats. Later-career bureaucrats with FDI-relevant expertise may view MNCs as potential future employers.

make punitive transfers to discipline bureaucrats who refuse to share rents, a perverse manifestation of the agency problem that transfer authority is meant to address (De Zwart 1994).

FDI Fuels Bureaucratic Corruption: Hypotheses

This section brings together our accounts of corruption supply and demand to derive testable hypotheses. We evaluate bureaucratic corruption in the context of FDI liberalization, a setting that reveals the evolution of bureaucratic corruption following liberalization.

Historically, the most common FDI restriction forces MNCs to be minority shareholders in joint ventures (JVs) with local firms (Pandya 2014).[7] From MNCs' perspective, forced JVs are "forced technology transfers" (Sykes 2021), a textbook example of contractual risks arising from relationship-specific investments (Grossman and Hart 1986; Williamson 1996). Local partners can expropriate technologies and opportunistically hold up production (Gatignon and Anderson 1988; Oxley 1997). When property rights are weak, as is typical of corrupt countries (Sartor and Beamish 2018), local partners are more likely to collude with their governments against the MNC (Henisz 2000; Javorcik and Wei 2009). Even voluntary JVs are increasingly rare due to ever-growing sophistication of MNCs' production technologies, which magnifies risks of even voluntary JVs, and prevalence of global tax strategies requiring MNCs to coordinate activities across subsidiaries (Desai et al. 2004).

China provides the most prominent recent example of foreign ownership restrictions, which were the leading justification for the 2018 US-China trade war (Bradsher 2020). The US Trade Representative estimates Chinese ownership restrictions and other intellectual property violations have cost US firms as much as $600 billion in lost revenue (USTR 2018). A significant majority of foreign MNCs in China indicate that, but for ownership restrictions, they would have invested via wholly-owned subsidiaries (European Commission 2013, p. 13).

Liberalization increases FDI inflows, expanding opportunities for bureaucratic corruption.

[7]Other types of FDI restrictions such as mandatory government screening of proposed projects create additional uncertainty and delays.

Without the risks of forced JVs, total FDI inflows grow (Gomes-Casseres 1990; Pandya 2014) and the share of FDI via wholly-owned subsidiaries increases sharply (Contractor 1990; Desai et al. 2004). Liberalization may obviate grand corruption to circumvent market entry barriers but increases the number of MNCs who must still interact with local officials to establish and operate subsidiaries. As we previously noted, MNCs make substantially higher informal payments than local firms (Morisset and Lumenga Neso 2002; Amirapu and Gechter 2020).

Our framework articulates specific mechanisms through which FDI fuels bureaucratic corruption. Though corruption itself is not readily observable, our proposed mechanism has multiple testable implications. We specify expected consequences for FDI-exposed areas due to the localized nature of bureaucratic corruption. Below, we discuss and empirically address potential alternative explanations.

H1: In FDI-exposed areas, corruption-prone bureaucrats are more likely to be transferred.

H2: In FDI-exposed areas, corruption-prone bureaucrats are more likely to occupy posts lucrative for bureaucratic corruption.

H3: In FDI-exposed areas, politicians who can transfer bureaucrats exhibit asset growth consistent with corruption.

H4: In FDI-exposed areas, MNCs are more likely to experience bureaucratic corruption than domestic firms.

3 Empirical Context: India

Our empirical context is India, the world's largest electoral democracy and fifth-largest economy. Corruption is widespread, with India ranking above average in prominent worldwide corruption measures (Transparency International 2024). Firm surveys routinely cite bureaucracy as the single largest source of political risk to doing business in India (Jones and Comunale 2018; Santander 2021). In India's decentralized federal system, the central government sets FDI regulations but state and local governments oversee key administrative

functions relevant to MNCs.

2005 FDI Liberalization

Our empirical strategies leverage India's extensive 2005 FDI liberalization to identify its effects on corruption.[8] India regulates industry-level FDI inflows on two dimensions: the percent foreign ownership allowed in a single firm, and whether government approval is required ("government route") or not ("automatic route"). Though India initiated extensive economic liberalization in 1991, FDI liberalization remained relatively modest. During 1991-2005, India allowed up to 51 percent foreign ownership through the automatic route in just 35 industries.

On December 23, 2005, India's Department of Industrial Promotion and Planning (DIPP) issued guidance that "FDI up to 100% is permitted under the automatic route in most sectors/activities." The guidance explains "[i]t has been observed that sometimes proposals are submitted for prior Government approval even though the cases are eligible for the automatic route. The investors are hereby advised to access the automatic route where the policy so permits" (DIPP 2005). This was the first legally binding policy statement that, unless stated otherwise, foreign firms can hold 100% ownership without government approval. The context indicates that this liberalization was independent of other policy reforms and not driven by specific industries.

The clarification effectively liberalized ownership and entry into 110 industries. Figure 2 disaggregates official Indian FDI inflow data by entry route, showing that new ("greenfield") FDI via the automatic route drove FDI's explosive growth after 2005. Consistent with global trends and our theoretical framework, joint ventures between foreign and Indian firms declined (Kale and Anand 2006; Chari and David 2012).

[8]Bau and Matray (2023) and Li et al. (2025) also exploit this liberalization episode.

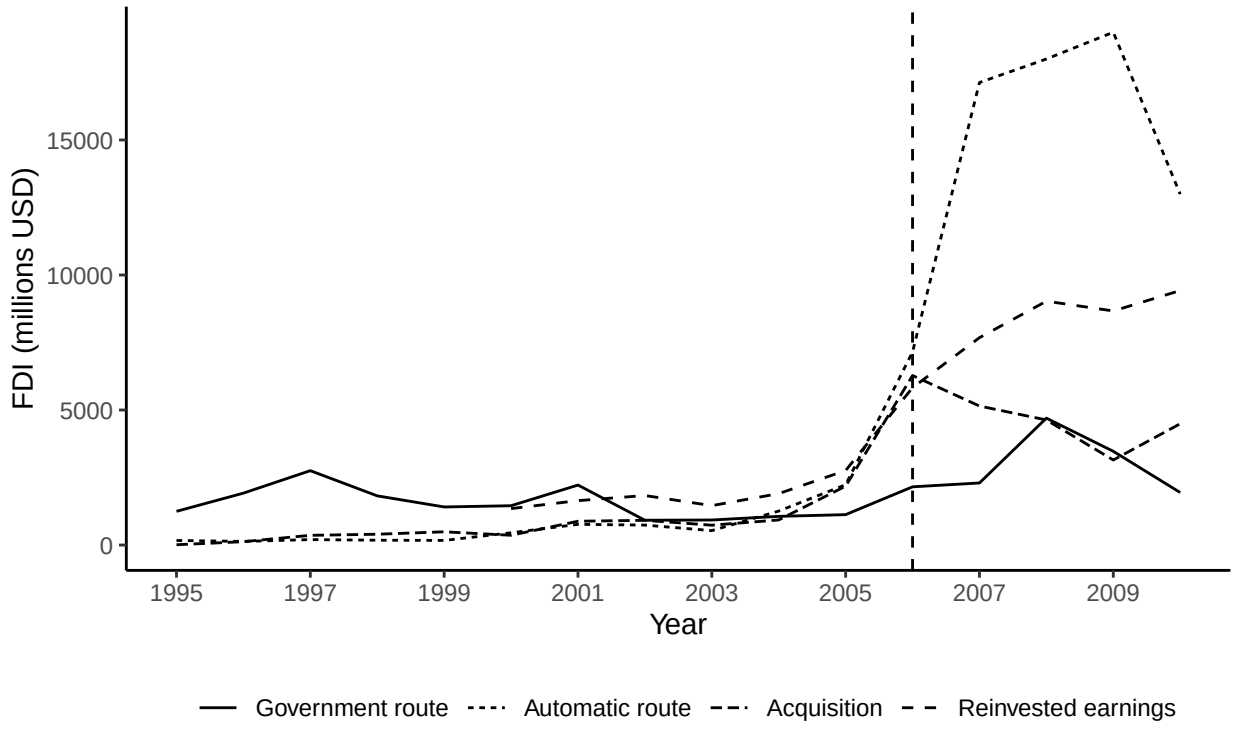

Figure 2: FDI in India by Entry Route, 1995-2010. Source: 2012 Reserve Bank of India Bulletin.

FDI and Bureaucratic Corruption in Indian Districts

MNCs encounter bureaucratic corruption in districts, India's primary administrative unit of local government.[9] District governments oversee permits, regulations, and infrastructure access (e.g., electricity, water, communications), among other vital functions. District bureaucrats also broker industrial land acquisition and are responsible for land valuation and title certification (Chandra 2015; Agnihotri et al. 2022; PERC 2010; Dutta and Fischer 2021).

[9]Districts are roughly equivalent to counties in the United States.

Bureaucrats: Indian Administrative Service

The relevant bureaucrats are district-level officers of the Indian Administrative Service (IAS).[10] The IAS's roughly 5,000 officers oversee key functions of district, state, and central governments and state-owned companies. District IAS officers' wide-ranging responsibilities include revenue collection, infrastructure development, implementation of government welfare programs, law enforcement, and crisis administration (Vaishnav and Khosla 2016).

The IAS is professionalized in many respects, but its recruitment procedures create variation in officers' propensity to resist undue political pressure. Of the fewer than 200 people who join the IAS annually, two-thirds are "direct recruits," selected through a highly competitive national process and quasi-randomly assigned to a state for the duration of their career.[11] Applicants must be 21-30 years old. Median entry age is 26. Direct recruits undergo two years of training prior to starting an entry-level district post in their assigned state. The remaining one-third of officers are "promotees," state employees nominated by the state government to join their state's IAS cadre. Promotees are ostensibly the state's most talented civil servants but are widely viewed as less competent than direct recruits and lackeys of state politicians (Krishnan and Somanathan 2017; De Zwart 1994; Saxena 2019). The average promotee is 42 at entry. During our sample period, promotees were not required to pass a civil service exam. They receive eight weeks of training before assignment to an entry-level district post.

The IAS's seven-tier pay scale and merit promotion criteria are set by a central civil service commission and are uniform nationwide for both types of officers. Promotion criteria reward efficiency and responsiveness to citizens and penalize officers deemed corrupt or susceptible to undue political pressure (Bertrand et al. 2020). Promotion eligibility is at fixed intervals, subject to vacancies and, especially at higher tiers, strict merit evaluations by senior IAS officers. After 20 years of service, officers are eligible for appointments to

[10]See Appendix C (p. A12) for a detailed description of the IAS.

[11]Transfers across states are exceedingly rare.

coveted central government posts, which boast a 50 percent pay raise, exceptional prestige, and access to lucrative post-retirement opportunities. Mandatory retirement is at age 60.

Promotees, we posit, are more corruption prone because they have less scope for merit-based career advancement. Given their average age at entry, IAS promotion rules and the mandatory retirement age, central government posts are largely unattainable. In our sample, promotees hold less than five percent of central posts. Many commentators estimate that 25 percent of IAS officers are corrupt, consistent with promotees' one-third share of total officers (Saxena 2019; Keshavdev 2024). Bertrand et al. (2020) find that IAS officers perceive their career-constrained peers as less effective and more susceptible to political interference.

Politicians: Members of State Legislative Assemblies

Members of India's state legislative assemblies (MLAs) drive much of the district-level corruption relevant for MNCs. Voters elect MLAs in single-member constituencies for five-year terms within a first-past-the-post parliamentary system.[12] MLAs' constituencies are geographically small and nest within districts. Electoral politics in Indian states are typical of developing democracies including fragile coalition governments (Chhibber et al. 2014; Verma 2012), weak parties (Jensenius and Suryanarayan 2022), vote buying (Ravishankar 2009; Suri 2009; Uppal 2009), and identity-based voting (Chandra 2005).

In the absence of organized campaign finance, MLAs rely on corruption to fund campaigns and payments to voters (Vaishnav 2017). A large proportion of MLAs are convicted or accused criminals who engage in extensive rent-seeking (Asher and Novosad 2023). On average, during a five-year legislative term, MLAs' nominal personal wealth grows roughly thirty times more than average household income growth (Chauchard et al. 2019). Patterns are consistent with MLAs' rent seeking once in office, not their ax ante wealth or skill (Fisman et al. 2014). Much of this rent seeking involves firms who seek MLA intervention to facilitate administrative tasks (Asher and Novosad 2017; Sukhtankar and Vaishnav 2014).

[12]Elections are staggard across states.

MLAs abuse control over IAS transfers to encourage and profit from bureaucratic corruption. The Constitution grants state Chief Ministers (CMs) authority to make lateral transfers of IAS officers, across posts within the same pay grade, at will.[13] In practice, CMs make lateral transfers at the direction of MLAs whose parties belong to their ruling coalition. Most CMs preside over fragile governing coalitions and use transfers as favors to retain MLAs' support (Saxena 2019). Substantial anecdotal evidence supports our claim. Transfers are widely regarded as a tool for corruption (Shurmer-Smith 1998, p. 2167). MLAs are thought to prefer promotees in powerful posts because they are easier to manipulate (Ramashankar 2011). Direct recruits often lament that they are excluded from important posts because they resist MLAs' pressure for corruption (Mishra and Mohanty 2012).

4 Empirical Strategy

We articulate two research designs to causally identify the effects of India's FDI liberalization. We deploy these designs to assess a plausible and observable implication of bureaucratic corruption: politicians' abuse of bureaucratic oversight in FDI-exposed districts.

Research Designs

Our research designs build on FDI's strong tendency to agglomerate in close proximity to other firms in the same industry (Head et al. 1995; Bobonis and Shatz 2007). Agglomeration produces knowledge spillovers, especially important for firms operating in an unfamiliar country. Agglomeration also allows MNCs to more readily access specialized parts suppliers and workers with industry-specific skills.

Our DID approach compares outcomes across two sets of Indian states. Six states received most of India's FDI surge following liberalization in 2005: Maharashtra, Karnataka, National

[13]CMs have minimal influence over promotions, which remain merit-based. They cannot fire IAS officers and demotions are rare.

Capital Region (NCR) of Delhi, Tamil Nadu, Andhra Pradesh, and Gujarat. Consistent with geographic agglomeration, Figure 3 shows that pre-liberalization FDI was concentrated in these six states ("treatment") and they received nearly all of the post-liberalization FDI growth. India's remaining states ("control") had low levels of FDI before and after liberalization. An obvious concern is that districts in treated states may have other underlying traits that correlate with FDI or corruption. We analyze state- and district-level correlates of treatment status for 1962-2001 and find only modest differences between treatment and control areas.[14] "Treated" states appear at both the top and bottom of state corruption rankings, suggesting that they do not systematically differ on this dimension (Transparency International India 2005). Our use of district fixed effects accounts for unobserved, time-invariant characteristics that may correlate with FDI and our outcomes. Additionally, we control for time-varying district characteristics that may correlate with relevant omitted district characteristics and employ district-specific time trends in estimations.

Our IV approach is a finer-grained analysis that does not rely on treatment/control classification. We use district-year exposure to liberalization to instrument for exposure to FDI.[15] This approach rests on the identifying assumption that national FDI regulations influence FDI inflows but are otherwise uncorrelated with our outcomes of interest. We discuss construction of this instrument later. We prefer our DID design because it allows us to draw upon a wider range of data to analyze more nuanced implications of our framework.

5 Data and Measurement

IAS personnel records, containing officer characteristics and posts held, are publicly available from India's Ministry of Personnel, Public Grievances, and Pensions. We use this information to create an officer-year panel dataset. Our data cover the universe of active IAS officers

[14]See Appendix B (p. A9), including Tables B.1 and B.2, for full results and discussion.

[15]Topalova (2010) uses an analogous measure of district trade exposure.

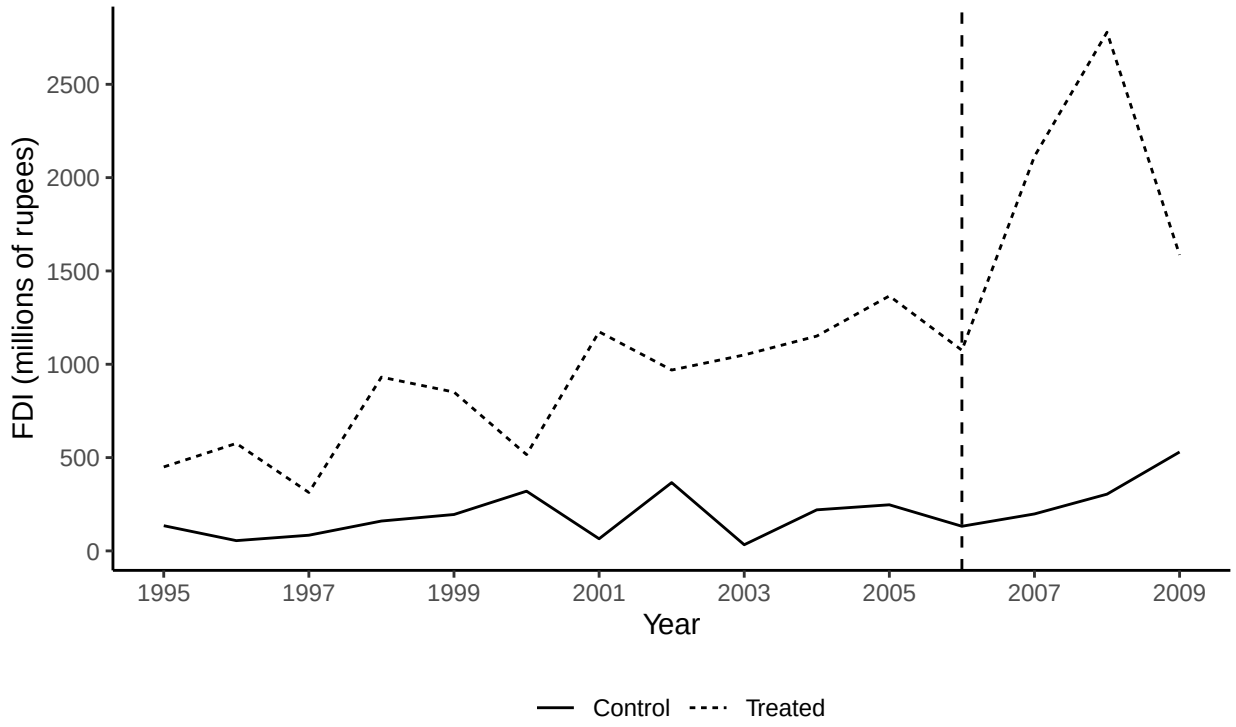

Figure 3: FDI in India Over Time in Treated vs. Control States. Source: CapEx.

during 1995-2009.[16] Consistent with our focus on local governance, we limit our sample to district-level officers, whose responsibilities are uniform throughout India, an artefact of the colonial-era civil service from which the IAS emerged (Potter 1996). Records do not report specific portfolios of sub-district officers so we cannot evaluate hypotheses related to substantive aspects of posts (FDI salience, prestige, corruption potential). However, records identify District Magistrates (DMs) – chief local bureaucrats with high corruption potential.

Transfer $Transfer_{ijt}$, equals one if officer i in district j is posted in a different position in year t than in year $t-1$ and zero otherwise. $Lateral_{ijt}$ equals one if officer i in district j holds

[16]Direct recruits complete two years of training after entry so post-liberalization applicants are not in the sample. Promotees undergo only eight weeks of training, so our sample includes promotees who enter the IAS after liberalization. Any post-liberalization changes in selection into the IAS are unlikely to drive differential transfer patterns of promotees.

a new position at the same rank in year t as in year $t-1$ and zero otherwise. $Promotion_{ijt}$ is an analogous measure that captures transfer to a higher rank in year t.[17] The probability of transfer in a given year is 0.57.

District Magistrate DM_{ijt}, equals one if officer i in district j is appointed as a DM at time t and zero otherwise.[18]

Recruitment Source $Promotee_i$ is a time-invariant indicator equal to one if bureaucrat i entered the IAS from a state civil service and zero otherwise.

FDI

FDI data are from CapEx, a database published by the Centre for Monitoring Indian Economy (CMIE). These project-level data include district location, industry, and date project became operational.[19] To the best of our knowledge, these data are the most granular and accurate Indian FDI data available for the sample period. Official FDI estimates, derived from balance of payments data, are based on intended investment, a portion of which never materializes, whereas CapEx identifies completed investments.[20] One limitation is that these data do not differentiate between JVs and wholly-owned subsidiaries. Our argument proposes that liberalization expands bureaucratic corruption in part, because new investment occurs through wholly-owned subsidiaries. We, however, have already noted a steep decline in voluntary JVs both worldwide and in India during our sample. Further, any unobserved JVs in our sample should bias against our hypotheses because they would be less susceptible to bureaucratic corruption.

[17] Some officers experience multiple transfers within the same year. Following Iyer and Mani (2012), we code them as transferred only once, creating a conservative measure of transfer.

[18] Some states instead use the title "District Collector" for this post.

[19] CMIE obtains this data through press reports, government filings, and firm correspondence.

[20] CapEx data are also less likely to capture Indian firms' use of foreign tax havens, which inflates official FDI estimates.

We measure FDI as the count of completed greenfield FDI projects in a district-year.[21] The industry distribution of projects pre- and post-liberalization indicates that no specific industries drive topline FDI growth.

Our IV approach uses original FDI regulations data to construct an instrument for district-level FDI exposure. For each 4-digit industry in the 2008 Indian National Industrial Classification, we code the percent foreign ownership allowed in a firm and whether investment required government authorization (government route) or not (automatic route) in a given year. For each industry-year, we measure liberalization as the percent foreign ownership allowed via the automatic route.

We use these data to measure district-year exposure to FDI liberalization. Exposure is a function of districts' pre-liberalization industrial composition, which we measure using employment data from the 2001 Indian National Sample Survey (NSS). The measure averages district exposure to liberalization, weighted by industrial employment composition. To illustrate, if a district-year has five industries, each accounting for 20 percent of employment in 2001, and one industry is open to 100 percent foreign ownership via the automatic route, exposure is 0.2. If, in the following year, a second industry is fully liberalized, the value increases to 0.4. On average, 35 percent of a district's economy is open to FDI.

Control Variables

We use data from the 1991 and 2001 Indian Census to construct district controls: logged population, Scheduled Caste rate, adult literacy rate, employment rate, and gender ratio. We interact these decennial variables with year indicators – we use 1991 census values from 1995-2000 and 2001 values for subsequent years. Summary statistics for all variables are available in Appendix Table A.1 (p. A4).

[21] Valuation data are missing for more than 25 percent of projects.

6 Empirical Analysis

Our baseline DID analysis compares transfers in treated states' districts before and after FDI liberalization to districts in other states. We estimate the following empirical model:

$$Transfer_{ijt} = \alpha_0 + \alpha_1 Treated_{ij} * Post_t + \alpha_2 Rank_{it} + \alpha_3 X_{jt} * \kappa_t + \theta_j + \kappa_t + \theta_j * Year_t + \epsilon_{ijt} \quad (1)$$

where $Treated_{ij}$ is an indicator equal to one if officer i is located in a treated district j; $Post_t$ is an indicator equal to one for years 2006 and beyond; $Rank_{it}$ corresponds to IAS rank for officer i at time t; and $X_{jt} * \kappa_t$ is a vector of controls for district j interacted with year indicators κ_t. θ_j and κ_t are district and year fixed effects.[22] $\theta_j * Year_t$ represents district-specific linear time trends. ϵ_{ijt} is the error term. α_1 is the parameter of interest. We estimate all models using OLS with state-clustered standard errors.[23]

Table 1 shows the baseline results.[24] $Transfer_{ijt}$ is the dependent variable in Columns (1) (no controls), (2) (control for population), and (3) (all controls). Transfers significantly grew in FDI-exposed districts after liberalization. Officers in exposed districts had a 23.7 percentage point increased probability of transfer. The results in Columns (4) ($Lateral_{ijt}$) and Column (5) ($Promotion_{ijt}$) show that lateral (within-rank) transfers drives our topline result. Politicians have most control over lateral transfers.

We classify treated districts as those in the six states accounting for most of India's post-liberalization FDI. To check for robustness, we modify this definition by excluding the treated state that received the least FDI (Gujarat) and by redefining the next largest FDI recipient state (West Bengal) as treated. In Appendix Tables A.3 and A.4 (p. A6), we show that our results are substantively unchanged.

[22] Transfers exhibit electoral cycles (Iyer and Mani 2012), so we also estimate models using state election year fixed effects. Results are identical (available upon request).

[23] Results are robust to clustering by district.

[24] We estimate these models with officer fixed effects; results in Appendix Table A.2 (p. A2).

Table 1: FDI Liberalization and Bureaucratic Transfers

	Dependent variable:				
	$Transfer_{ijt}$	$Transfer_{ijt}$	$Transfer_{ijt}$	$Lateral_{ijt}$	$Promotion_{ijt}$
	(1)	(2)	(3)	(4)	(5)
$Treated_{ij} * Post_t$	0.121^{***}	0.138^{***}	0.237^{***}	0.195^{***}	0.036
	(0.043)	(0.044)	(0.053)	(0.067)	(0.031)
Observations	11,091	10,399	10,399	10,399	10,399
Number of districts	556	497	497	497	497
Control for district pop.	X	✓	✓	✓	✓
Other district controls	X	X	✓	✓	✓

Notes: $^{*}p < 0.1$; $^{**}p < 0.05$; $^{***}p < 0.01$. Robust standard errors clustered by state in parentheses. All models estimated using OLS with district and year fixed effects and district-specific time trends.

Event Study

We scrutinize the parallel trends assumption underlying our DID design with an event study:

$$Transfer_{ijt} = \alpha_0 + \sum_{l=1996}^{2009} \gamma_l (Treated_{ij} * d_l) + \alpha_2 Rank_{it} + \alpha_3 X_{jt} * \kappa_t + \theta_j + \kappa_t + \theta_j * Year + \epsilon_{ijt} \tag{2}$$

where notation remains the same as in Equation 1. γ_l are year-specific estimates of the interaction of $Treated_{ij}$ and year indicators d_l.

Figure 4 shows our results. 2005 is the excluded reference year.[25] The figure plots the coefficients of the interaction term between treatment and year indicators with 95 percent confidence intervals. Pre-liberalization estimates are small and statistically insignificant. We observe a sharp, significant increase in the probability of transfer in 2006, following FDI liberalization; the effect stays relatively constant thereafter. We observe no differential pre-trends by treatment status, and the timing of increased transfer corresponds with liberalization.

We address the possibility that heterogeneous treatment effects bias our results using the

[25]We also omit the first year, 1995, due to the inclusion of district-specific trends.

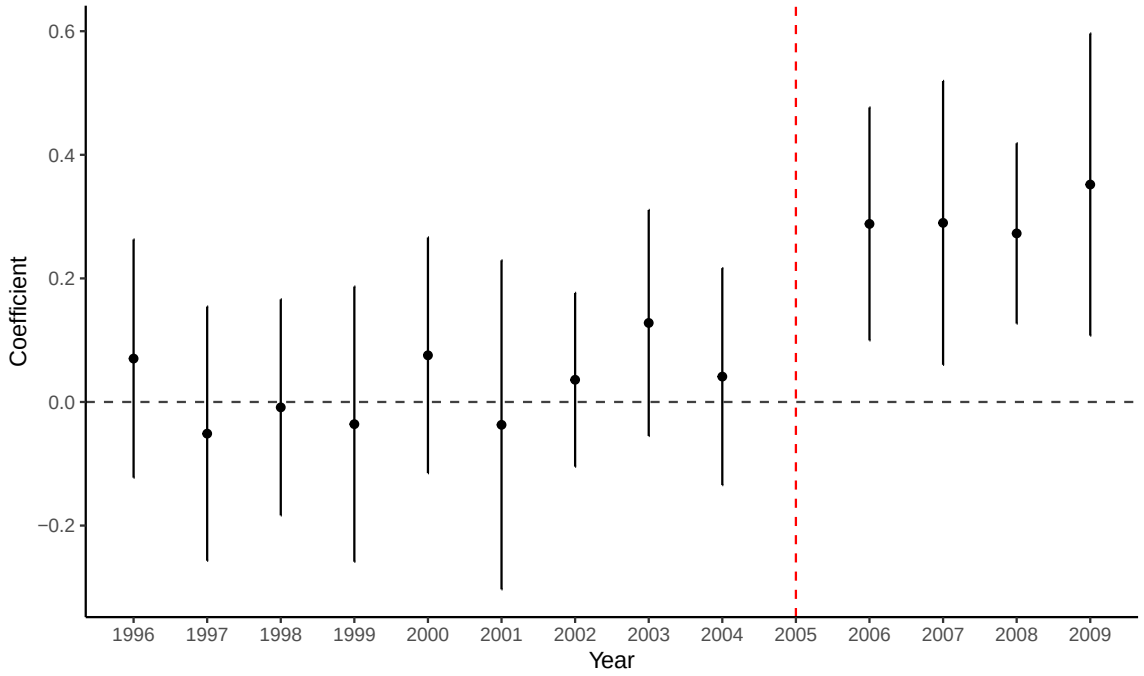

Figure 4: Year-by-Year Treatment Estimates. Notes: year-by-year coefficient of interaction between treatment and year indicators on transfers with 95 percent confidence intervals. Standard errors clustered by state. 2005 omitted as reference period. Model includes district and year fixed effects and district-specific time trends.

estimator developed by de Chaisemartin and D'Haultfœuille (2020) in Appendix Table A.5 (p. A7).[26] Estimates are virtually identical to our baseline results. Appendix Figure A.1 (p. A2) presents a placebo test that shows little evidence of differential pretrends using the same estimator.

Instrumental Variables Estimation

We also estimate a two-stage least-squares (2SLS) IV model with district and year fixed effects. As previously discussed, district-year exposure to FDI liberalization instruments for FDI exposure. This estimation addresses the possibility that MNCs' choices of Indian

[26]Our design does not leverage differential treatment timing, so only one post-period coefficient is estimated.

district are non-random with respect to outcomes. The first-stage regression is:

$$FDI_{jt-1} = \beta_0 + \beta_1 LiberalizationExposure_{jt-2} + \beta_2 Rank_{it} + \beta_3 X_{jt} * \kappa_t + \theta_j + \kappa_t + u_{jt} \quad (3)$$

where FDI_{jt-1} is the count of new FDI projects district j receives at time $t-1$; $LiberalizationExposure_{jt-2}$ is exposure to liberalization in district j at time $t-2$; and u_{jt} is the error term. All other notation is the same as Equation 1.

The second-stage regression is estimated as follows:

$$Transfer_{ijt} = \alpha_0 + \alpha_1 \widehat{FDI_{jt-1}} + \alpha_2 Rank_{it} + \alpha_3 X_{jt} * \kappa_t + \theta_j + \kappa_t + {}_{ijt} \quad (4)$$

where $\widehat{FDI_{jt-1}}$ is the instrumented number of new FDI projects from Equation 3 and ϵ_{ijt} is the error term. We report state-clustered standard errors and utilize a linear specification to estimate our 2SLS model. Table 2 reports our findings. Columns (1) and (2) report our first and second stage results, respectively. Liberalization corresponds to significantly more FDI exposure. FDI exposure increases probability of transfer by 36 percentage points.

Transfers and Appointments of Corruption-Prone Officers

We next specifically evaluate H1 and H2, which posit heterogeneity in transfers according to officers' corruption propensity. Recall our proposition is that promotees are more corruption-prone because mandatory retirement lowers their returns to meritocratic career advancement.

We estimate a triple difference model:

$$\begin{aligned} Y_{ijt} \;=\; & \alpha_o + \alpha_1 Treated_{jt} * Post_t + \alpha_2 Treated_{jt} * Post_t * Promotee_i + \\ & \alpha_3 Post_t * Promotee_i + \alpha_4 Treated_{ij} * Promotee_i + \\ & \alpha_5 Rank_{it} + \alpha_6 X_{jt} * \kappa_t + \theta_j + \kappa_t + \theta_j * Year_t + \epsilon_{ijt} \end{aligned} \quad (5)$$

where the parameter of interest is α_2, the coefficient on the interaction between liberalization exposure and whether officer i is a promotee.

Table 2: Instrumental Variables (2SLS) Estimation

	Dependent variable:	
	FDI_{jt-1}	$Transfer_{ijt}$
	1st stage	2nd stage
	(1)	(2)
$AvgFDIAllowed_{jt-2}$	0.017***	
	(0.005)	
FDI_{jt-1}		0.363**
		(0.183)
First stage F-statistic	10.6	
Observations	9,787	9,787
Number of districts	488	488

Notes: $^{*}p < 0.1$; $^{**}p < 0.05$; $^{***}p < 0.01$. Robust standard errors clustered by state in parentheses. All models estimated using two-stage least-squares (2SLS) with district and year fixed effects.

Table 3 presents the results.[27] Models (1)-(3) analyze $Transfer_{ijt}$. Transfers induced by liberalization are concentrated among promotees, who are an additional 17.2 percentage points more likely to experience transfers in FDI-exposed areas. The top panel of Appendix Figure A.2 (p. A3) shows the results of an identical event study model expressed in Equation 2 separately for promotees and direct recruits. For each year during 1996-2004, estimates for both promotees and direct recruits are small and statistically insignificant. Liberalization increases promotees' probability of transfer relative to direct recruits.

In Models (4)-(6), we analyze DM_{ijt} – the selection of officers for kingpin district posts. In FDI-exposed districts, promotees are about 14 percentage points more likely to be appointed DMs. The bottom panel of Appendix Figure A.2 (p. A3) shows the results of an analogous event study model, which verifies our interpretation. The elevation of corruption-

[27]All constituent interactions are included but suppressed due to space constraints.

Table 3: FDI Liberalization and Transfer and Appointment of Promotees

	Dependent variable:					
	$Transfer_{ijt}$	$Transfer_{ijt}$	$Transfer_{ijt}$	DM_{ijt}	DM_{ijt}	DM_{ijt}
	(1)	(2)	(3)	(4)	(5)	(6)
$Treated_{ij} * Post_t *$	0.168^{***}	0.178^{***}	0.173^{***}	0.160^{**}	0.133^{**}	0.136^{**}
$Promotee_i$	(0.045)	(0.047)	(0.049)	(0.067)	(0.065)	(0.063)
$Treated_{ij} * Post_t$	0.049	0.060	0.164^{***}	-0.003	0.019	0.042
	(0.050)	(0.050)	(0.058)	(0.042)	(0.039)	(0.051)
Observations	11,098	10,406	10,406	9,666	9,063	9,063
Number of districts	556	497	497	551	495	495
Control for district pop.	X	✓	✓	X	✓	✓
Other district controls	X	X	✓	X	X	✓

Notes: $^{*}p < 0.1$; $^{**}p < 0.05$; $^{***}p < 0.01$. Robust standard errors clustered by state in parentheses. All models estimated using OLS with district and year fixed effects and district-specific time trends. For Models (4)-(6), sample includes only bureaucrats eligible for DM positions.

prone officers to chief district bureaucrat helps rule out the possibility that MLAs increased transfers to curb corruption. In Appendix Tables A.6 and A.7 (p. A8), we again replicate these results using our two alternate treatment definitions (excluding Gujarat from, and adding West Bengal to, treated status); estimates are substantively identical.

Additional Sources of Heterogeneity

We document additional sources of heterogeneity in FDI exposure and transfers consistent with bureaucratic corruption. Further details are available in Appendix D (p. A14).

Transfers are concentrated where demand and supply of corruption are greatest. FDI exposure should correlate with increased transfers of corruption-prone officers in states with higher ex ante levels of bureaucratic corruption. Using pre-liberalization Transparency India state bureaucratic corruption rankings, we estimate a triple difference model similar to Equation 5, interacting FDI exposure with state corruption rank in 2005. We find that transfers of

promotees are almost entirely concentrated in ex ante more corrupt states (Appendix Table D.1, p. A19). Likewise, if MNCs from more corrupt countries are more likely make corrupt payments, then transfers of promotees should be pronounced in the presence of FDI from relatively corrupt countries. Using V-Dem data on home country bureaucratic corruption, we find support for this implication (Appendix Table D.2, p. A20).

Another facet of MNCs' supply of corruption derives from their motives for investing in India. MNCs producing for export likely are less tolerant of corruption because they can more readily relocate. This is the mechanism by which some argue FDI should reduce corruption (Gerring and Thacker 2005). MNCs producing for the Indian market have less flexibility, suggesting greater corruption tolerance. Using data on related party exports from India, we classify industries by the export orientation of their Indian FDI. We find that in districts that received more export-oriented FDI, promotees were less likely to be transferred, indicating less bureaucratic corruption (Appendix Table D.3, p. A20).

Alternative Explanations for Transfers

We address two potential alternative explanations for transfers. First, politicians may transfer bureaucrats frequently to reduce corruption (McCubbins et al. 1987). Though frequent transfers may prevent corruption arising from bureaucratic entrenchment, they encourage impersonal forms of corruption as bureaucrats maximize rent extraction prior to their next transfer (Scott 1969; De Zwart 1994; Grindle 2012). Also, our District Magistrate result is inconsistent with anti-corruption motives.

Second, MLAs may use transfers to advance bureaucratic efficiency and maximize positive economic spillovers from FDI. Yet frequent transfers are associated with bureaucratic *in*efficiency (Akhtari et al. 2022; Toral 2024) and may especially undermine FDI spillovers (Evans 1995). Additionally, efficiency motives suggest that transfer probability of all officers would increase as MLAs replace promotees with direct recruits in key posts. Yet only promotee transfers change. Our result regarding District Magistrates also defies this logic.

We explore the possibility that promotees have other traits relevant to maximizing economic spillovers. In Appendix D (p. A17), we consider heterogeneity in transfer probability by officer competence and local embeddedness. Using multiple competence measures based on education and performance, more competent officers in FDI-exposed areas see no change in transfer probability (Appendix Table D.4, p. A21). We also rule out the role of promotees' embeddedness and local contextual knowledge. Direct recruits quasi-randomly assigned to their home state, who are also embedded, see no change in transfer probability.

Liberalization Increases Private Returns to Office

We next evaluate H3, the implications of our framework for growth in politicians' personal assets. If MLAs abuse transfer authority to extract more rents following FDI liberalization, we should observe growth in their personal assets consistent with corruption rents. We evaluate this hypothesis using candidate-level asset disclosure data collected by the Election Commission of India (ECI) and provided by India's Association for Democratic Reform (ADR). Following a 2002 Supreme Court ruling, all candidates for state and national office must disclose the value of their household assets. Misstatement is punishable with financial penalties, imprisonment up to six months, and disqualification from holding office. Disclosures include candidates' assets, dependents' assets, education, criminal charges, and age.[28]

We use these data in an empirical strategy pioneered by Fisman et al. (2014) that models the private returns to office using a subset of MLAs who were involved in close elections, elections won by a narrow margin. This research design treats winning in close elections as a quasi-random outcome and compares subsequent asset growth of winners and runners up. This comparison is key because it controls for local economic conditions that would effect asset growth of both winners and runners up. Abnormal asset growth among winners is consistent with politicians using public office for private gain (i.e. corruption).

For each candidate, some of whom won and some lost, we observe the total value of

[28]Summary statistics in Appendix Table A.1 (p. A4).

personal assets at two points in time – an election before liberalization and a second election post-liberalization.[29] This comparison of winners and runners up in a single constituency holds constant non-corruption channels through which FDI liberalization may influence asset growth for both winners and runners up. For example, FDI may generate local economic prosperity that increases the value of real estate assets. This would not generate abnormal asset growth for winners because both winners and runners up benefit from this growth.

Asset data are further disaggregated by the value of *movable* (e.g., cash, vehicles) vs. *immovable* (e.g., real estate) assets. We conjecture that asset growth is concentrated in movable assets, which can be more readily transferred as corruption rents. We match each candidate to the cumulative amount of FDI received in their district between the two time points. We also match each candidate to the share of district IAS officers who are promotees in the year prior to their second election. Recall that MLA constituencies are nested within districts so MLAs' corruption rents depend on their control over officers with authority over their constituency.

We model politicians' asset growth as:

$$\begin{aligned} Assets_{pjt} \;=\; & \gamma_0 + \gamma_1 CumulFDI_{jt} + \gamma_2 Incumbent_{pjt-} + \gamma_3\ Promotee_{jt-1} + \\ & \gamma_4\ CumulFDI_{jt} * Incumbent_{pjt-} + \gamma_5\ Promotee_{jt-1} * Incumbent_{pjt-} + \\ & \gamma_6\ CumulFDI_{jt} * Promotee_{jt-1} + \\ & \gamma_7\ CumulFDI_{jt} * Promotee_{jt-1} * Incumbent_{pjt-} + \\ & \gamma_8\ Assets_{pjt-} + \gamma_9\ X_{pt} + \tau_{t-} + \mu_{pjt} \end{aligned} \tag{6}$$

where $Assets_{pjt}$ is the logged value of assets of politician p in district j at time t, the year of the politician's post-liberalization election; $CumulFDI_{jt}$ is the cumulative count of FDI

[29]The exact time points depends on the particular state's election cycle. Recall that our baseline results are robust to inclusion of election year fixed effects.

projects in district j that were completed between the pre-liberalization election at time $t-$ and the post-liberalization election at time t; $Incumbent_{pjt-}$ is an indicator for whether politician p in district j won the pre-liberalization election at time $t-$ and therefore holds office at the time of the post-liberalization election t; $Promotee_{jt-1}$ is the share of bureaucrats in district j that are promotees at time $t-1$, the year prior to the post-liberalization election; $Assets_{pjt-}$ is the logged value of assets of politician p in district j at the time of the pre-liberalization election, $t-$; and X_p is a vector of candidate p characteristics at time t including age, gender, education, and criminal convictions. τ_{t-} represent pre-liberalization election fixed effects. We estimate these models using OLS and cluster standard errors by state.

Table 4 presents our results. Panel A shows the results for total logged assets, while Panels B and C show the results for movable and immovable assets, respectively. Following Fisman et al. (2014), we restrict the sample to politicians who narrowly won or lost their pre-liberalization election to address potential endogeneity concerns with respect to candidate selection. In Column (1) we analyze all candidates, while in Columns (2) and (3) we disaggregate politicians by whether their party belonged to the state's ruling coalition. We first note that greater cumulative numbers of FDI projects are unconditionally associated with increased asset growth for MLAs. This result is driven entirely by MLAs whose party belongs to the state government, which is necessary for MLAs to influence officer transfers.

The more relevant comparison is between incumbents in FDI-exposed areas with relatively more or less promotees in their district. Among more FDI-exposed districts, incumbents whose districts have no promotees immediately preceding the election experience negative asset growth (Panel A, second row). But in FDI-exposed districts with a higher share of promotees, incumbents whose parties are in the state's governing coalition see a substantial increase in their assets. This gain is especially concentrated in *movable* rather than *immovable* assets: the triple interaction estimated in Column (2) of Panel B indicates a 24 percent increase in assets in between pre- and post-liberalization elections. The average FDI-exposed district received approximately four new projects during the politician's term.

Table 4: FDI Liberalization, Bureaucratic Transfers, and Private Returns to Office

Panel A: $Assets_{pjt}$	All (1)	In govt. (2)	Out of govt. (3)
$CumulFDI_{jt} * Incumbent_{ijt-} * Promotee_{jt-1}$	0.084**	0.119*	0.057
	(0.034)	(0.067)	(0.052)
$CumulFDI_{jt} * Incumbent_{ijt-}$	−0.023*	-0.059	−0.002
	(0.013)	(0.035)	(0.033)
$CumulFDI_{jt}$	0.021	0.027**	0.005
	(0.012)	(0.011)	(0.029)
Observations	716	315	401
Panel B: $MovableAssets_{pjt}$	All (1)	In govt. (2)	Out of govt. (3)
$CumulFDI_{jt} * Incumbent_{ijt-} * Promotee_{jt-1}$	0.056	0.214**	−0.063
	(0.084)	(0.082)	(0.080)
$CumulFDI_{jt} * Incumbent_{ijt-}$	−0.081	−0.141***	−0.009
	(0.011)***	(0.038)	(0.024)
$CumulFDI_{jt}$	0.051	0.073***	−0.014
	(0.021)**	(0.015)	(0.026)
Observations	706	310	396
Panel C: $ImmovableAssets_{pjt}$	All (1)	In govt. (2)	Out of govt. (3)
$CumulFDI_{jt} * Incumbent_{ijt-} * Promotee_{jt-1}$	0.041	0.100	0.020
	(0.033)	(0.077)	(0.048)
$CumulFDI_{jt} * Incumbent_{ijt-}$	0.004	-0.076*	0.026
	(0.053)	(0.095)	(0.107)
$CumulFDI_{jt}$	0.032***	0.033***	0.020
	(0.010)	(0.010)	(0.031)
Observations	677	295	382

Notes: $^{*}p < 0.1$; $^{**}p < 0.05$; $^{***}p < 0.01$. Robust standard errors clustered by state in parentheses. All models estimated using OLS with first election fixed effects. Candidate controls include: years of education, criminal record, gender, age, previous incumbency status, and logged net assets at time of prior election.

No plausible alternative explanations can square these multiple dimensions of heterogeneity.

MNCs Report More Corruption Post-Liberalization

H4 identifies MNCs' differential exposure to bureaucratic corruption. This analysis addresses alternative explanations for how FDI fuels bureaucratic corruption. For example, FDI-related economic prosperity could increase the supply of corruption from individual citizens with more income or higher opportunity costs of bureaucratic delays. Liberalization could also increase corruption demands for all firms, not just MNCs, by creating bureaucratic overload.

Liberalization increases MNCs' corruption exposure, in part, because they are more likely to invest via a wholly-owned subsidiary. We test this hypothesis using the 2002 and 2006 waves of the World Bank Enterprise Survey (WBES), a leading firm survey commonly used to measure MNCs' corruption exposure (e.g., Pinto and Zhu 2016). Firm surveys can be biased because they exclude firms that choose not to invest. This concern is less relevant given our interest in change over time in firms' self-reported corruption exposure.

WBES distinguishes between domestic, minority-foreign, and majority-foreign firms (including wholly-foreign firms). These distinctions permit a fine-grained test of our mechanism, as only the third group of firms should experience more bureaucratic corruption following liberalization. Both waves asked firms if bureaucratic corruption is a constraint to their business. The independent variable of interest is an interaction between indicators for foreign ownership and post-liberalization. We include industry $\times$ year and ownership fixed effects and estimate all models using OLS. We note two limitations of these data. They are repeated cross-sections and lack location identifiers, precluding us from identifying firms in FDI-exposed districts. In Table 5, we indeed find that only majority-foreign-owned firms were more likely to report corruption as a constraint post-liberalization. Domestic and minority-owned firms see no change.

Table 5: FDI Liberalization and Self-Reported Firm Corruption

	$Corruption_{ft}$ (1)	$Corruption_{ft}$ (2)	$Corruption_{ft}$ (3)
$ForeignMinority_{ft} * Post_t$	-0.053		-0.050
	(0.105)		(0.106)
$ForeignMajority_{ft} * Post_t$		0.213**	0.212**
		(0.087)	(0.088)
Observations	5,905	5,905	5,905

Notes: $^{*}p < 0.1$; $^{**}p < 0.05$; $^{***}p < 0.01$. Robust standard errors clustered by industry-year in parentheses. 66 firms are minority-foreign and 62 are majority-foreign. All models estimated using OLS with industry × year fixed effects.

7 Conclusion

Why does corruption grow following economic liberalization? This pattern is puzzling in light of prevailing theories attributing corruption to market entry barriers. We shed light on this puzzle by showing that bureaucratic corruption, corruption by low-level public officials, increases following FDI liberalization. Our theoretical framework emphasizes that bureaucrats are agents of politicians. Bureaucratic corruption therefore reflects politicians' preferences over FDI and capacity to shape bureaucrats' incentives. Liberalization increases FDI inflows and changes how MNCs structure their investments in ways that expand opportunities for bureaucratic corruption. We assemble a body of evidence consistent with politicians using control over bureaucrats' careers to extract a share of bureaucratic corruption rents.

We note possible extensions. A novel implication of our framework is that politicians can view FDI as, first and foremost, a source of corruption rents. Though politicians may value positive economic spillovers from FDI, we find that they exercise bureaucratic oversight in ways that prioritize corruption rents. These preferences are especially likely in developing democracies such as India where economic voting is weak and corruption supports politicians' efforts to remain in office. Future research can explore these dynamics. One dimension is the electoral consequences of FDI-derived corruption rents. These rents may be distinctive with

respect to their size, frequency, and availability. For example, MNCs could be more resilient to negative economic shocks that reduce domestic firms' capacity to pay rents. Another dimension is the potential divergent FDI preferences of national and local politicians such that bureaucratic corruption pursued by the latter undermines policy goals of the former.

Another set of questions arise from our finding that liberalization changes how politicians deploy bureaucratic talent. Future research can investigate how these changes influence governance outcomes. For example, competent, less corrupt bureaucrats may become more likely to hold posts that are not lucrative for corruption but important to basic welfare. From a political economy perspective, politicians must weigh the electoral value of rents against bureaucrats' provision of electorally salient public services. Our framework also suggests that corruption consistently fails to "grease the wheels" because bureaucrats willing to engage in corruption may systematically differ in career concerns and efficacy.

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A Appendix for "Foreign Direct Investment Increases Bureaucratic Corruption"

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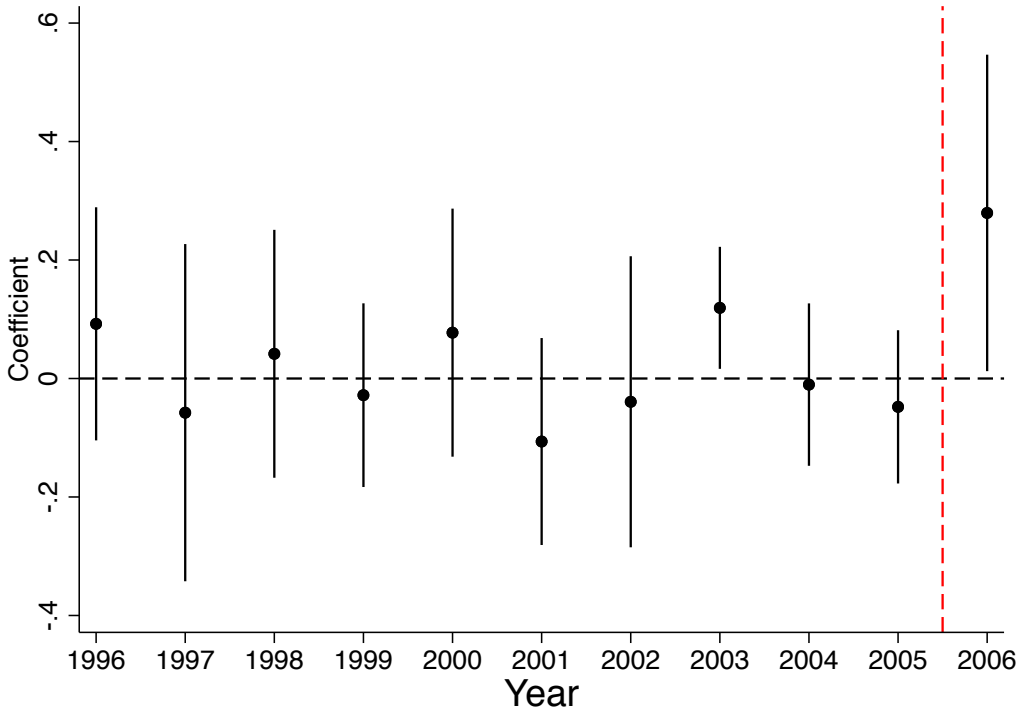
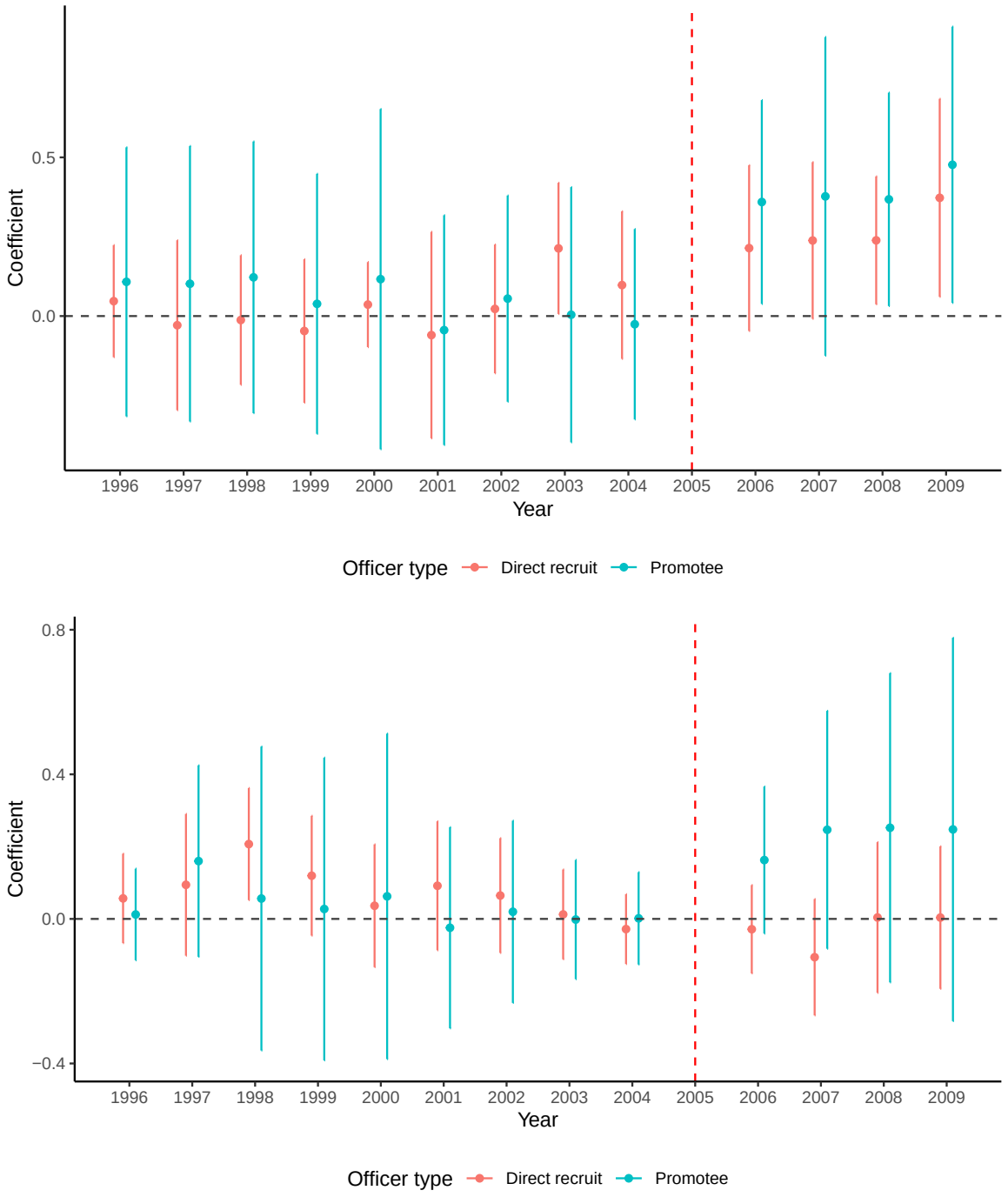
A Summary Statistics, Robustness Checks, and Figures

Appendix Figure A.1: Placebo Test Robust to Heterogeneous Treatment Effects



Notes: Pre-trend placebo estimates robust to heterogeneous treatment effects using estimator from de Chaisemartin and D'Haultfœuille (2020). Implemented using *did_multiplegt* command in Stata. Robust standard errors clustered by state. Model includes district and year fixed effects and district-specific time trends.

Appendix Figure A.2: Year-by-Year Treatment Estimates for Promotees and Direct Recruits



Top panel outcome: $Transfer_{ijt}$. Bottom panel outcome: DM_{ijt}. Notes: year-by-year coefficient of interaction between treatment and year indicators with 95 percent confidence intervals. Standard errors clustered by state. 2005 omitted as reference period. Model includes district and year fixed effects and district-specific time trends. Figures show relative difference in estimated effect for promotees and direct recruits.

Appendix Table A.1: Summary Statistics

Variable	Observations	Mean	SD	Min.	Max.
IAS Data					
$Transfer_{ijt}$	10,406	0.572	0.495	0	1
$Lateral_{ijt}$	10,406	0.370	0.483	0	1
$Promotion_{ijt}$	10,406	0.192	0.394	0	1
$Promotee_i$	10,406	0.317	0.465	0	1
$Top20Exam_i$ (direct recruits)	4,697	0.277	0.447	0	1
$SameDomicile_i$ (direct recruits)	6,690	0.275	0.446	0	1
$FirstClassDegree_i$ (direct recruits)	6,690	0.792	0.406	0	1
$FirstClassDegree_i$ (promotees)	3,294	0.112	0.315	0	1
$ForeignDegree_i$ (direct recruits)	6,690	0.196	0.397	0	1
$ForeignDegree_i$ (promotees)	3,294	0.029	0.167	0	1
FDI Data					
FDI_{jt-1}	9,794	0.200	0.999	0	22
$AvgFDIAllowed_{jt}$	9,794	35.33	10.164	13.98	72.05
Census Data					
$\text{Log(population)}_{j1991}$	10,406	14.56	0.605	11.88	16.11
$Log(population)_{j2001}$	10,406	14.44	0.692	11.52	16.30
$ScheduledCaste_{j1991}$	10,406	0.164	0.078	0	0.518
$ScheduledCaste_{j2001}$	10,406	0.163	0.081	0	0.501
$Literacy_{j1991}$	10,406	0.426	0.129	0.145	0.851
$Literacy_{j2001}$	10,406	0.547	0.115	0.242	0.854
$Employment_{j1991}$	10,406	0.377	0.068	0.239	0.540
$Employment_{j2001}$	10,406	0.399	0.064	0.241	0.570
$Female_{j1991}$	10,406	0.481	0.015	0.441	0.547
$Female_{j2001}$	10,406	0.484	0.014	0.434	0.504
Politician Asset Data					
$Log(NetAssets)_{pt}$	741	15.980	1.44	11.945	20.923
$Log(NetAssets)_{pt-}$	741	15.118	1.400	11.695	20.607
$Log(MovableAssets)_{pt}$	731	14.550	1.494	9.616	20.768
$Log(MovableAssets)_{pt-}$	731	13.534	1.618	6.215	18.966
$Log(ImmovableAssets)_{pt}$	697	15.774	1.493	11.462	20.112
$Log(ImmovableAssets)_{pt-}$	697	14.904	1.438	10.309	20.606
$Promotee_{jt-1}$	741	0.314	0.411	0	1
Miscellaneous Data					
$OriginCountryCorruption_{jt-1}$	699	0.054	0.073	0.005	0.678
$RelatedParty_{jt}$	1,069	2.4	9.4	0	99.6

Appendix Table A.2: FDI and Bureaucratic Transfers - Including Officer Fixed Effects

	Dependent variable:				
	$Transfer_{ijt}$	$Tranfer_{ijt}$	$Transfer_{ijt}$	$Lateral_{ijt}$	$Promotion_{ijt}$
	(1)	(2)	(3)	(4)	(5)
$Treated_{ij} * Post_t$	0.091*	0.102*	0.275***	0.198**	0.081**
	(0.050)	(0.052)	(0.066)	(0.080)	(0.034)
Observations	11,091	10,399	10,399	10,399	10,399
Number of districts	556	497	497	497	497
Control for district pop.	X	✓	✓	✓	✓
Other district controls	X	X	✓	✓	✓

Notes: $^{*}p < 0.1$; $^{**}p < 0.05$; $^{***}p < 0.01$. Robust standard errors clustered by state in parentheses. All models estimated using OLS with officer, district, and year fixed effects and district-specific time trends.

Appendix Table A.3: FDI Liberalization and Bureaucratic Transfers - Excluding Gujarat from Treated Status

	Dependent variable:				
	$Transfer_{ijt}$	$Transfer_{ijt}$	$Transfer_{ijt}$	$Lateral_{ijt}$	$Promotion_{ijt}$
	(1)	(2)	(3)	(4)	(5)
$Treated_{ij} * Post_t$	0.097^{*}	0.108^{**}	0.188^{***}	0.163^{**}	-0.002
	(0.051)	(0.050)	(0.058)	(0.072)	(0.022)
Observations	11,091	10,399	10,399	10,399	10,399
Number of districts	556	497	497	497	497
Control for district pop.	X	✓	✓	✓	✓
Other district controls	X	X	✓	✓	✓

Notes: $^{*}p < 0.1$; $^{**}p < 0.05$; $^{***}p < 0.01$. Robust standard errors clustered by state in parentheses. All models estimated using OLS with district and year fixed effects and district-specific time trends.

Appendix Table A.4: FDI Liberalization and Bureaucratic Transfers - Adding West Bengal to Treated Status

	Dependent variable:				
	$Transfer_{ijt}$	$Transfer_{ijt}$	$Transfer_{ijt}$	$Lateral_{ijt}$	$Promotion_{ijt}$
	(1)	(2)	(3)	(4)	(5)
$Treated_{ij} * Post_t$	0.089^{*}	0.110^{**}	0.189^{***}	0.190^{***}	0.031
	(0.051)	(0.052)	(0.063)	(0.062)	(0.030)
Observations	11,091	10,399	10,399	10,399	10,399
Number of districts	556	497	497	497	497
Control for district pop.	X	✓	✓	✓	✓
Other district controls	X	X	✓	✓	✓

Notes: $^{*}p < 0.1$; $^{**}p < 0.05$; $^{***}p < 0.01$. Robust standard errors clustered by state in parentheses. All models estimated using OLS with district and year fixed effects and district-specific time trends.

Appendix Table A.5: Robustness to Heterogeneous Treatment Effects

	Dependent variable: $Transfer_{ijt}$	
	(1)	(2)
$Treated_{ij} * Post_t$	0.262^{**}	0.280^{**}
	(0.130)	(0.136)
Observations	722	722
District time trends	X	✓

Notes: $^{*}p < 0.1$; $^{**}p < 0.05$; $^{***}p < 0.01$. Robust standard errors clustered by state in parentheses. All models estimated using procedure from de Chaisemartin and D'Haultfœuille (2020) and implemented with *did_multiplegt* command in Stata.

Appendix Table A.6: FDI Liberalization and Transfer and Appointment of Promotees - Excluding Gujarat from Treated Status

	Dependent variable:					
	$Transfer_{ijt}$	$Transfer_{ijt}$	$Transfer_{ijt}$	DM_{ijt}	DM_{ijt}	DM_{ijt}
	(1)	(2)	(3)	(4)	(5)	(6)
$Treated_{ij} * Post_t *$	0.169^{***}	0.180^{***}	0.177^{***}	0.180^{**}	0.152^{**}	0.154^{**}
$Promotee_i$	(0.054)	(0.056)	(0.058)	(0.072)	(0.067)	(0.066)
$Treated_{ij} * Post_t$	0.027	0.033	0.120^{**}	-0.039	-0.015	0.020
	(0.057)	(0.056)	(0.060)	(0.040)	(0.035)	(0.047)
Observations	11,098	10,406	10,406	9,666	9,063	9,063
Number of districts	556	497	497	551	495	495
Control for district pop.	X	✓	✓	X	✓	✓
Other district controls	X	X	✓	X	X	✓

Notes: $^{*}p < 0.1$; $^{**}p < 0.05$; $^{***}p < 0.01$. Robust standard errors clustered by state in parentheses. All models estimated using OLS with district and year fixed effects and district-specific time trends. For Models (4)-(6), sample includes only bureaucrats eligible for DM positions.

Appendix Table A.7: FDI Liberalization and Transfer and Appointment of Promotees - Adding West Bengal to Treated Status

	Dependent variable:					
	$Transfer_{ijt}$	$Transfer_{ijt}$	$Transfer_{ijt}$	DM_{ijt}	DM_{ijt}	DM_{ijt}
	(1)	(2)	(3)	(4)	(5)	(6)
$Treated_{ij} * Post_t *$	0.126^{***}	0.134^{***}	0.125^{**}	0.220^{***}	0.196^{***}	0.190^{***}
$Promotee_i$	(0.049)	(0.051)	(0.054)	(0.065)	(0.064)	(0.060)
$Treated_{ij} * Post_t$	0.038	0.050	0.140^{**}	-0.040	-0.017	0.0270
	(0.050)	(0.053)	(0.056)	(0.046)	(0.043)	(0.048)
Observations	11,098	10,406	10,406	9,666	9,063	9,063
Number of districts	556	497	497	551	495	495
Control for district pop.	X	✓	✓	X	✓	✓
Other district controls	X	X	✓	X	X	✓

Notes: $^{*}p < 0.1$; $^{**}p < 0.05$; $^{***}p < 0.01$. Robust standard errors clustered by state in parentheses. All models estimated using OLS with district and year fixed effects and district-specific time trends. For Models (4)-(6), sample includes only bureaucrats eligible for DM positions.

B Historical Correlates of FDI Distribution Across Indian States

We analyze the historical roots of FDI agglomeration in India using state-level data for 1962-1992 and 1992-2001.[30] These data provide an unbalanced panel of state characteristics including media coverage, labor regulations, industrial base, taxes, and poverty. We estimate a probit model of treatment (e.g., status as high FDI recipient state) based on these state characteristics and state geographic features in 1991; year indicators are also included.[31] Treatment correlates positively with state land area, stamps and registration fees, excise duties on commodities and services, number of registered factories, and number of industrial regulations. Rural poverty, population, and labor regulations are negatively correlated.[32]

In more recent decades (1991-2001) leading up to the FDI liberalization, we assess agglomeration using a linear model of how demographic characteristics, climatic characteristics, and infrastructure expenditure on features such as roads and transportation influence the location of FDI using district level data. The infrastructure data comes from the CapEx data collected by the Center for Monitoring Indian Economy and the demographic data comes from the Indian Census.[33] Rainfall and temperature data are from the University of Delaware series.[34] Results are in Appendix Table B.2. Size of transportation infrastructure positively influences location choice whereas investment in transport infrastructure negatively correlates with treatment albeit to a very small extent. Investment in water, electricity, and welfare infrastructure (schools, dispensaries, hospitals) is uncorrelated with treatment but number of water projects is positively correlated. Literacy rates, employment rates, and female population are correlated with treatment. However, important confounders can be trends. We observe a negative correlation with trends. Areas with better emergent trends in literacy, employment, and gender ratio are less likely to receive treatment. Precipitation is negatively and temperature is positively correlated with the treatment status.

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[30] State data are from the Economic Opportunities and Public Policy Programme, STICERD-LSE. `http://sticerd.lse.ac.uk/eopp/_new/data/indian_data/default.asp`. We consider state-level FDI correlates because analogous district-level data are unavailable.

[31] Model estimates in Appendix Table B.1.

[32] We find no correlation between treatment and total factory workers, newspaper circulation, urban poverty, public expenditures on education/art/culture, scientific services and research.

[33] Data is used for 1991 and 2001.

[34] Spatial tools have been used to extract the data for the Indian districts.

Appendix Table B.1: Historical Correlates of State-Level FDI Agglomeration 1962-1992

Dependent Variable: Treated

Variables	Probit Estimation marginal effects (in %)
Number of total newspapers in all languages	-0.0043
	(0.0064)
Cumulative Regulatory Change	4.96***
	(1.08)
Labor Regulation Index	-14.09***
	(2.69)
No. of Factories covered under Payment of Wages Act 1936	0.0054***
	(0.0005)
Factory Sector total workers	0.0000
	(0.0017)
Mean per capita expenditure rural (1973-74 prices)	-1.74***
	(0.33)
Mean per capita expenditure urban (1973-74 prices)	-0.2938
	(0.2299)
Stamps and registration fees	0.0206***
	(0.0034)
State Excise duty on commodities and services	0.0013**
	(0.0005)
Education, art and culture, scientific services, and research expenditure	0.0002
	(0.0005)
Population	-1.64e-06***
	(2.48e-07)
Area (sq KM)	0.0001***
	(0.0000)
Observations	494
No. of States	15

Notes: ***p<0.01, **p<0.05, *p<0.1; Year fixed effects controlled. District-clustered standard errors parentheses.

Appendix Table B.2: District-Level Correlates of FDI, 1991-2001

Dependent Variable: Treated

Variables	Linear Probability Estimates
Percentage of Schedule Caste Population 1991	-0.324 (0.248)
Percentage of Literate Population 1991	1.304*** (0.171)
Employment rate 1991	2.959*** (0.259)
Percentage of Female Population 1991	-4.444** (2.124)
Change in Percentage of Schedule Caste Population 1991-2001	-0.940 (0.783)
Change in Percentage Literate Population 1991-2001	-0.886*** (0.291)
Change in Employment Rate 1991-2001	-1.008** (0.501)
Change in Percentage of Female Population 1991-2001	-6.025*** (1.893)
Electricity Infrastructure Investment	-2.49e-06 (4.07e-06)
Number of Electricity Infrastructure projects	0.0541 (0.0340)
Water Infrastructure Investment	-0.000979 (0.000878)
Number of Water Infrastructure Projects	0.392*** (0.102)
Transport Infrastructure Investment	-4.38e-05*** (1.55e-05)
Number of Transport Infrastructure Projects	0.0398*** (0.0120)
Welfare Infrastructure Investment	0.00118 (0.00103)
Number of Welfare Infrastructure Projects	0.0292 (0.252)
Rainfall (average annual in mm)	-0.000143*** (3.99e-05)
Temperature (average annual)	0.0391*** (0.00921)
Constant	0.127 (0.907)
Observations	488
R-squared	0.494

Notes: ***p<0.01, **p<0.05, *p<0.1; standard errors clustered by district in parentheses.

C Indian Administrative Service

Often described as the "steel frame" of India (Potter 1996), the IAS supplies key bureaucrats for district, state, and central governments, and state-owned enterprises. Much of the IAS's structure and rules originate from the colonial-era Indian Civil Service, the merit-based civil service that Great Britain established in India during the 19th century. Roughly 5,000 IAS officers serve at a given time, a remarkably small number in comparison to the size of the population they govern.

Entry Officers enter the IAS via one of two pathways. Two-thirds are direct recruits, selected through a highly competitive nationwide process that includes exams and interviews. This centralized process is administered by the Union Public Service Commission, a federal entity. Of the roughly 450,000 applicants in the average year, fewer than 150 are selected. Applicants must be 21-30 years of age. Members of reserved groups, Scheduled Castes and Tribes (SC/ST) and Other Backward Castes (OBC), are eligible until 35. The average entry age for direct recruits is 26.

The remaining one-third of IAS officers are promotees. State politicians nominate individuals from their state-level civil service to join the IAS. Until 2013, promotees were not required to take IAS exams.[35] Promotees are also exempt from age restrictions. The average entry age for promotees is 43, consistent with their prior work history.

CMs ostensibly nominate their most talented state civil servants to the IAS, but allegations of patronage appointments are common. Some suggest that ruling politicians send direct recruits to the central government so that they can be replaced with promotees in key rent seeking positions (Tribune News Service 2003; Times of India 2012). News reports suggest that the selection of provincial officers of the CM's choice allows politicians to establish a grip on the IAS even though its design is supposed to prevent undue political influence (Mishra and Mohanty 2012).

Assignment Once admitted, direct recruits are quasi-randomly assigned to one of 24 "cadres," which correspond to states and three groups of smaller territories. For ease of exposition, we use the term "states" to encompass both states and the three groupings.

Assignment of direct recruits is a centralized process. States provide some input on the number of vacancies in that year but have no control over which officers are assigned to them. An idiosyncratic rule divides Indian states into four groups based on alphabetical order and rotates their rank annually. For example, if groups A,B,C,D are ranked 1-4, respectively in year *t*, in year *t+1* the rank order shifts to B,C,D,A. This rotation is designed to ensure a

[35] https://www.hindustantimes.com/delhi/govt-for-change-in-rules-for-promotion-in-ias-ips/story-ysn6EtDi4D98fFQ39OCuVL.html

roughly equal distribution of quality. In a given year, direct recruits are sequentially assigned to states based on exam rank. Within this allocation rule, assignments further reflect the number of state vacancies and affirmative action for reserved groups. Direct recruits with the highest exam rankings can indicate a preference. Most choose their home state but placement is subject to available vacancies. State assignments are career-long; transfers across states are exceedingly rare and are usually associated with marriage of two officers. Promotees always become IAS officers in their home state.

Career advancement All direct recruits undergo two years of training consisting of one year of coursework at the Lal Bahadur Shastri National Academy of Administration and one year of hands-on district level training. Promotees receive eight weeks of training at the National Academy or another training institute. After training, IAS officers begin their careers as deputies to the District Magistrate, the chief district-level bureaucrat.[36] District-level IAS officers oversee a wide range of governance functions, including revenue collection, infrastructure development, implementation of government welfare programs, law enforcement, and crisis administration. After four years, officers are eligible for promotion to District Magistrate. Officers are eligible for further promotion to state positions at fixed intervals: 9, 13, 16, 25, and 30 years following their entry. Higher levels of promotion have a significant merit component rather than relying on seniority (Vaishnav and Khosla 2016).

Chief ministers (CM), states' highest-ranked elected official, have no control over which direct recruits are assigned to their state, nor can they fire IAS officers.[37] Salaries associated with pay grades and minimum requirements for promotion are also out of their control. CMs do, however, control officers' job postings and aspects of officers' career advancement, and they also control promotee selection. Transfer refers to IAS officers' reassignment to another post. With respect to the standardized IAS pay scale, transfer can reflect lateral transfer, promotion, or demotion. Transfer is frequent: 57 percent of district-level officers experience transfer at least once annually. On average, most transfer is lateral (64.4 percent), followed by promotion (33.8 percent). Demotions comprise less than two percent of transfer.

Career incentives IAS officers are motivated by a range of career incentives. After the first promotion, which is based on years of service, all further promotions are merit-based. Senior IAS officers in the state confidentially evaluate each officer annually and make recommendations to the CM. This process incentivizes competence, as promotion is

[36] In some some states, the title is district inspector or collector but the job description is identical.

[37] Firing IAS officers is extremely difficult and rare. Temporary suspensions do infrequently occur for serious misconduct or non-performance.

associated with more prestigious postings and higher pay. After at least 20 years of service, officers are eligible for appointment to prestigious central government posts. In a process called empanelment, the state evaluates officers at the highest state-level pay grade for their suitability for central government posts. If deemed suitable, officers are appointed to central government positions as they become available.[38] Empanelment is a strong signal of competence within the IAS, corresponds to the highest pay grade, and carries considerable social prestige. Officer pensions are based on their pay grade at retirement and empaneled officers can leverage prestige for post-retirement job opportunities.

The IAS has a mandatory retirement age of 60, which has differential effects on career incentives of direct versus promotees.[39] Promotees are significantly older than direct recruits. From the outset of their IAS careers, they know they will not achieve the highest levels of service. On average, less than five percent of officers in empaneled positions are promotees.

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D Additional Sources of Heterogeneity

In this appendix, we discuss analyses that explore additional sources of heterogeneity in our main results. These sources include state corruption, corruption of the investment origin country, and motivation of the investment.

[38] Officers continue to serve in state-level positions after being empaneled until they are selected for a posting.

[39] The age was 58 prior to 1998.

State-Level Corruption

An observable implication of our proposed rent seeking mechanism is that FDI's effects on transfers should be greater in more corrupt states. We leverage pre-liberalization (2005) data from Transparency International India on the rankings of Indian states by their level of corruption (Transparency International India 2005).[40] Higher numerical ranks reflect greater corruption. We have notable variation in ex ante levels of corruption among treated states.[41]

We estimate a triple difference model similar to Equation 5, but instead interact liberalization exposure with state corruption rank in 2005. The sample is restricted only to promotees. These results are displayed in Panel A of Appendix Table D.1. We find that transfers of promotees are almost entirely concentrated in states that are ex ante more corrupt. For a relatively clean state such as Gujarat, promotees are an additional 13.5 percentage points more likely to experience transfers. This jumps to 54 percentage points for a more corrupt state such as Tamil Nadu. By contrast, as shown in Panel B, transfers of direct recruits do not systematically vary by state corruption.

Origin Country Corruption

We also examine if transfers vary by corruption levels in MNCs' country of origin.[42] If MNCs that originate in more corrupt countries are more comfortable engaging in rent-seeking behavior, then transfers of promotees should be pronounced in the presence of FDI from relatively corrupt countries.

We estimate an additional triple difference model where we limit the sample to districts that received any FDI, measuring origin-country corruption as the average of public sector corruption according to V-Dem, weighted by the number of projects received from each

[40] These rankings are based on surveys of people on their personal corruption experiences that Transparency India conducts in each state, calculating an overall corruption score and ranking states accordingly.

[41] Gujarat is ranked 3rd, Andhra Pradesh 4th, Maharashtra 5th, Delhi 11th, Tamil Nadu 12th, and Karnataka 17th.

[42] CapEx does not report firms' country of origin. Using firm names and industry, we matched CapEx project data to project data in fDi Markets, a proprietary database of greenfield FDI announcements. We matched approximately seventy percent of firms using fastLink, an R package for probabilistic record linkage (Enamorado et al. 2019) and the remainder through online searches. We assigned projects to the home country of the firm's ultimate beneficial owner to minimize bias caused by MNCs routing investments through low-tax jurisdictions.

country of origin.[43] Projects originate from 29 unique countries of origin.[44] In Appendix Table D.2, we find that promotees are significantly more likely to be transferred in districts that received FDI from relatively more corrupt countries of origin.

Market- vs. Export-Oriented FDI

Large countries such as India are attractive FDI destinations because they allow MNCs to produce for sale in the local market at a profitable scale. We argue that MNCs are, all else equal, more tolerant of rent seeking in these countries because they have few alternatives. By contrast, when MNCs produce for export, their primary concern is cost, a dimension on which countries can compete regardless of market size. MNCs making export-oriented investments should be less tolerant of rent seeking, all else equal.

We test this implication by creating a yearly district-level measure of the extent to which FDI is designed to produce for export. Our measure uses data on related party exports from India to the US. Data are from the US Census Related Party Trade Database, which defines related party trade as trade between entities in which one party holds a five percent or greater ownership in the other party.[45] We take US related-party trade patterns as representative of all MNCs' motives to invest in India. We first match individual FDI projects to their Harmonized System 4 digit (HS-4) industry code. For each HS-4 industry, we then calculate the share of exports from India to the US that are between related parties. We calculate average values during 2003-2005 to capture pre-liberalization levels of related party trade.[46] This measure proxies for the extent to which FDI in an industry that tends to invest to produce for export. Finally, for each district-year, we calculate the average of industry-level FDI export orientation, weighted by the number of FDI projects in each industry. The sample is limited only to district-years that received FDI.

Using this measure, we estimate a triple difference model, interacting liberalization exposure with the average export orientation of FDI inflows. Appendix Table D.3 presents the

[43]The V-Dem public sector corruption measure is bounded by zero and one, with higher values representing greater public sector corruption. We standardize this variable for ease of interpretation.

[44]Origin countries with the highest levels of corruption include China, Malaysia, Mexico, Brazil, and Greece. Origin countries with the lowest levels of corruption include Denmark, Singapore, Sweden, Germany, and New Zealand. The most common countries of origin, the US and UK, also have relatively low corruption scores.

[45]See `https://www.census.gov/foreign-trade/Press-Release/related_party/index.html`.

[46]For non-traded industries, this percentage equals zero.

main results. We split the sample by recruitment source, analyzing state and direct recruits in Columns (1) and (2), respectively. In districts with a higher proportion of export-oriented FDI, we find that promotees are less likely to be transferred.

Officer Competence and Embeddedness

IAS records include multiple measures of officer skill which we use to measure competence. $FirstClassDegree_i$ indicates whether officer i attained a first class university degree. $ForeignDegree_i$ indicates whether officer i graduated from a foreign university. 80 percent of direct recruits hold first class degrees and 20 percent hold foreign degrees, compared to just 20 and three percent, respectively, for promotees. Two additional measures are relevant only for direct recruits. $ExamRank_i$ is the rank earned by direct recruit i on the national IAS entrance exam.[47] Promotees did not take this exam during this period.

Embedded officers, those with local contextual knowledge, may use that knowledge for corruption (Bhavnani and Lee 2018; Xu et al. 2023) or to maximize positive spillovers (Evans 1995). Promotees are from the state in which they serve and worked in state government, possible sources of valuable local knowledge including fluency and awareness of tacit norms. If embeddedness of corruption-prone officers drives transfers, direct recruits posted to their home state should be equally more likely to be transferred. $SameDomicile_i$ equals one if direct recruit i serves in their home state. Promotees always serve in their home state.

We estimate triple difference models with these five competence measures. Appendix Table D.4 displays results. Models (1), (2), (3), and (5) are estimated for direct recruits, while Models (4) and (6) are estimated for promotees. More competent officers in FDI-exposed areas are not more likely to be transferred. Neither are direct recruits posted to their home state, suggesting frequent transfers of promotees are not because of their embeddedness. Overall, we find little evidence for these alternative explanations.

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[47] Data are from the IAS's Empanelment and Appraisal System. Exam data are only available for current officers so we lack data for approximately 30 percent of officers who served during 1995-2009 but retired prior to retrieval of the data.

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Appendix Table D.1: More Bureaucratic Transfers in Corrupt States

Panel A: Promotees	*Dependent variable:* $Transfer_{ijt}$		
	(1)	(2)	(3)
$Treated_{ij} * Post_t *$	0.027^{***}	0.029^{***}	0.045^{***}
$StateCorruptionRank_j$	(0.009)	(0.011)	(0.013)
$Treated_{ij} * Post_t$	0.022	0.014	−0.021
	(0.103)	(0.134)	(0.185)
Observations	3,357	3,223	3,223
Number of districts	476	447	447

Panel B: Direct Recruits	*Dependent variable:* $Transfer_{ijt}$		
	(1)	(2)	(3)
$Treated_{ij} * Post_t *$	−0.002	−0.003	0.003
$StateCorruptionRank_j$	(0.009)	(0.009)	(0.010)
$Treated_{ij} * Post_t$	0.043	0.049	0.103
	(0.107)	(0.113)	(0.130)
Observations	6,862	6,568	6,568
Number of districts	511	477	477
Control for district pop.	X	✓	✓
Other district controls	X	X	✓

Notes: $^{*}p < 0.1$; $^{**}p < 0.05$; $^{***}p < 0.01$. Robust standard errors clustered by state in parentheses. All models estimated using OLS with district and year fixed effects and district-specific time trends. Sample includes only promotees.

Appendix Table D.2: FDI Origin Country Corruption Increases Bureaucratic Transfers

	Dependent variable: $Transfer_{ijt}$		
	(1)	(2)	(3)
$Promotee_i * Post_t *$ $OriginCountryCorruption_{jt-1}$	0.130*** (0.034)	0.140*** (0.040)	0.192*** (0.036)
$Post_t * OriginCountryCorruption_{jt-1}$	−0.089 (0.104)	−0.061 (0.095)	−0.240*** (0.080)
Observations	717	697	697
Number of districts	95	89	89
Control for district pop.	X	✓	✓
Other district controls	X	X	✓

Notes: $^{*}p < 0.1$; $^{**}p < 0.05$; $^{***}p < 0.01$. Robust standard errors clustered by state in parentheses. Models estimated using OLS with district and year fixed effects and district-specific time trends.

Appendix Table D.3: Market-Oriented FDI Increases Bureaucratic Transfers

	Dependent variable:	
	$Transfer_{ijt}$ Promotees	$Transfer_{ijt}$ Direct recruits
	(1)	(2)
$Treated_{ij} * Post_t * RelatedParty_{jt}$	−0.150** (0.051)	0.008 (0.019)
$Treated_{ij} * Post_t$	0.842 (0.752)	0.172 (0.398)
Observations	328	706
Number of districts	80	118

Notes: *p<0.1; **p<0.05; ***p<0.01. Robust standard errors clustered by state in parentheses. All models estimated using OLS with district and year fixed effects and district-specific time trends.

Appendix Table D.4: FDI Liberalization and Transfers of Competent Bureaucrats

	Dependent variable: $Transfer_{ijt}$					
	Direct recruits	Direct recruits	Direct recruits	Promotees	Direct recruits	Promotees
	(1)	(2)	(3)	(4)	(5)	(6)
$Treated_{ij} * Post_t *$ $Top20Exam_i$	−0.098 (0.101)					
$Treated_{ij} * Post_t *$ $SameDomicile_i$		−0.021 (0.053)				
$Treated_{ij} * Post_t *$ $FirstClassDegree_i$			0.045 (0.072)	−0.341* (0.182)		
$Treated_{ij} * Post_t *$ $ForeignDegree_i$					−0.144* (0.079)	−0.299 (0.191)
$Treated_{ij} * Post_t$	0.103 (0.111)	0.138** (0.066)	0.097 (0.095)	0.408*** (0.131)	0.150** (0.066)	0.399*** (0.131)
Observations	4,692	6,683	6,683	3,294	6,683	3,294
Number of districts	479	489	489	457	489	457

Notes: $^{*}p < 0.1$; $^{**}p < 0.05$; $^{***}p < 0.01$. Robust standard errors clustered by state in parentheses. All models estimated using OLS with district and year fixed effects and district-specific time trends.