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SOCIAL, FORMAL, AND POLITICAL DETERMINANTS OF TRADE UNDER WEAK RULE OF LAW: EXPERIMENTAL EVIDENCE FROM SENEGALESE FIRMS*

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Abstract

When contracting institutions are weak or exploitable, firms in developing countries rely on a mixture of social and formal heuristics to select business partners. What is the relative importance of social and formal determinants of trade, and how do political considerations factor in firms' risk calculus? Politically connected partners can be at once risky and useful to firms: they can break contracts with relative impunity, but they also open access to lucrative markets. I implement a survey with a conjoint experiment among 2,389 formal and informal firms in Senegal. The results demonstrate the surprisingly large influence of formal predictors of exchange even in an overwhelmingly informal business environment, and also establish the countervailing effects of political connections on trade. This evidence suggests that firms in developing countries must contend with an intricate political calculus to ensure growth, thus complicating economic policy intended to develop the private sector.

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1 Introduction

Markets are embedded in social structures (Polanyi 1944; Granovetter 1985). An economy is never fully autonomous, but is subordinated to society and its organization, including politics, religion, and social relations. This is particularly true of developing countries, where, due to weak institutions for rule of law, informal influences and social relations permeate the core of state institutions. When conducting business in such contexts, firms rely on social heuristics to choose business partners in order to ensure smooth private-sector operations (North 1991). But such social influences coexist with state institutions, weak as they may be, and formal considerations like state-backed contracts also affect how firms conduct private-sector trade (Williamson 1985; North 1990; Poppo and Zenger 2002).

In the midst of these competing influences, markets can also be subordinated to the informal influences of asymmetric political power. When informalities pervade all corners of the marketplace, connections to the politically powerful can critically influence the enforcement of property rights and contracts: they lead to preferential treatment from the state, including the ability to break contracts with relative impunity, and thus ultimately affect economic behavior. There are numerous studies highlighting the value of political connections for firms in developing countries (e.g. Fisman 2001; Khwaja and Mian 2005; Faccio 2006), but the full equilibrium is less understood: How do firms' political connections affect how *other* firms perceive them, and does this in turn affect the likelihood of exchange? What role do political connections play in moderating the confidence that businesses have in their potential partners? These questions are important to address in order to mitigate trade losses stemming from politically induced risk. Concerns of this type are increasingly salient as emerging markets develop, pitting traditional, often-informal forms of doing business against formal, state-related considerations.

This paper seeks to understand how this confluence of formal and social influences shapes modern markets in developing countries. Building on existing theory, I argue that when the state's institutions for rule of law are weak or selectively enforced, both social and formal factors can

critically affect firms' decisions to conduct trade. Social mechanisms such as shared ethnic or religious networks lend greater security to deals by increasing the perceived likelihood of contract enforcement (Grimard 1997; Keefer and Knack 2002), particularly for firms in the informal economy that cannot rely on state institutions. At the same time, formal considerations like state-backed contracts similarly inspire confidence in trade by decreasing the perceived probability of contract breach (North 1990). This is especially likely to be the case for firms in the formal economy that can actually access the state's contract enforcement institutions.

This paper also puts forth a theory of the role of political connections in trade. Given that political influence enables the biased subversion of state institutions in contract disputes, I argue that the political connections of potential business partners pose significant risks. If a potential trading partner is able to break a contract with relative impunity, a firm is less likely to engage in exchange with this partner, unless the advantages of doing business with politically influential firms outweighs the risks of defection. These concerns are particularly relevant in exchanges with previously unknown business partners as well as in one-shot deals, both of which are increasingly common in modern, large-scale economies for which sustaining equilibrium forces like self-enforcing institutions and reputation costs are immaterial. In this context, political connections are a form of rent-seeking, in that they are economically inefficient and the benefits obtained for connected firms are purely distributional in nature. Political connections, I thus argue, can suppress overall levels of trade when states selectively enforce rule of law.

To test these claims, I conducted a survey with a conjoint experiment among 2,389 firms in Senegal, a country in West Africa where social influences and formal state structures compete in a rapidly modernizing business environment. My sample included firms from both the formal and informal economies, in order to gain theoretical leverage from the different strategy sets and enforcement recourse options available by sector. From each firm, I sampled the employee who is most responsible for the firm's deals and contracts (most often firm owners themselves), and therefore actually holds decision-making powers when considering new business opportunities. The conjoint experimental framework enabled simultaneous testing of the theory's multiple observable

implications, by presenting respondents with two hypothetical deals with randomized social, formal, and political profile attributes. Respondents selected which deal they were more likely to accept, as well as which deal they believed more likely to result in contract breach.

The results show that social, formal, and political considerations can all motivate firms' decisions to engage in business. Ethnic group and religious affiliation affected respondents' likelihood of trade overall, while co-religiosity—not co-ethnicity—increased the likelihood of deal acceptance. Formal considerations also motivated trade, even in this context of valuable social networks: respondents were much more likely to conduct business with firms when the deal included a formal, written contract. Political connections, meanwhile, both in the form of party affiliation and personal connections to those in power, decreased the likelihood of exchange. This was the case for all but the highest type of political connection: when potential partners were personally connected to the president, respondents were more likely to select the deal. This suggests that there exists a threshold at which dealing with the political connected becomes an asset.

Results also show that respondents' perceptions of contract breach inversely correlated with their decisions to do business; that is, firm owners chose deals with partners they believed less likely to break contracts. Again an exception, however, were business partners who had the strongest type of personal political connection. Although these highly connected partners were perceived as significant risks of contract breach, respondents nevertheless sought deals with them due to the potential rewards: access to lucrative state markets and contracts. Thus, in some cases, it seems the potential advantages of dealing with the politically connected outweigh the risks of broken deals. This effect was driven by formal firms, not informal ones, in line with the fact that these potential rewards require formal status in Senegal. Examining differences between formal and informal firms more closely, the motivating factors to engage in trade align with expectations of available recourse options by sector. Because informal firms are unable to access formal institutions for enforcement, they place greater weight on social networks and less on formal factors when choosing business partners, relative to firms in the formal economy.

This paper makes several contributions to the literatures on political connections, economic

development, and the formal and informal institutions underpinning property rights and contract enforcement. First, I develop a more complete picture of the political economy of political connections in economic exchange. While political connections confer enormous benefits to firms in developing countries, this paper demonstrates that there may be unintended consequences in the form of stifled exchange. The results also suggest, however, that there is a tipping point at which connections become so powerful that they dominate the private sector—the potential advantages of working with such powerful-yet-risky firms outweigh the costs of potential defection. This paper thus makes the case that firms in countries with weak rule of law must deal with a complicated political calculus to ensure their growth. Second, the results of this paper show that despite weak rule of law, firms still seek out deals based on formal, state-backed contracts. Even in societies where markets are irrevocably embedded in social structures, the findings in this article suggest that formal institutions can still offset social and political risks. Finally, this project reached an important sample of both formal and informal firms at a substantial scale. This enables the causal examination of differing motivations and mechanisms of trade by the formal versus informal sector, with firm owners and managers who are actually responsible for their firms' business decisions.

2 Theory

What influences firms' decisions to take on new business partners in weak contracting environments? Above all, firms are most likely to conduct trade when they believe their deals to be secure. When the risk that a partner will break a contract is perceived to be high, firms are unlikely to make significant investments (e.g. [Li and Resnick 2003](#), 185). Institutions—both formal and informal—that protect against defection can solve commitment problems in exchange, thereby facilitating trade and contributing to economic growth ([North and Weingast 1989](#); [North 1991](#); [Acemoglu and Johnson 2005](#)). Institutional solutions to the commitment problems in exchange fall into two broad categories: (1) those in which secure exchange emerges from social institutions that do not depend on a central state, and (2) those in which the state serves as the primary enforcement authority. In the following subsections, I examine the factors affecting risk perceptions and trade propensities

for firms in developing countries, and use them to structure the paper’s empirical design.

2.1 Social mechanisms for secure exchange

Turning first toward social mechanisms, a “dense social network of informal constraints” can lower transaction costs, boost confidence in exchange, and ensure a sustained enforcement equilibrium (North 1991, 99). Greif (1989, 1993) uses the example of 11th century Maghribi traders to show that a lasting enforcement equilibrium in trading markets emerged via a reputational mechanism based on honoring contracts and punishing defectors. Other historical evidence from medieval Europe shows how merchant guilds enabled secure exchange prior to the emergence of the state via similar reputation and sanctioning mechanisms (e.g. Milgrom, North et al. 1990; Greif, Milgrom and Weingast 1994). But there are many commercial markets where such self-enforcing institutions are weak or non-existent, which may be in part due to the competing presence of an existing state. And when the state does not adequately protect property rights, these self-sustaining mechanisms often constrain growth to the scale of “flea market economies” (Fafchamps and Minten 2001). Unlike the historical examples described above, much of the modern world is characterized by hybrid democracies in which some state apparatus to enforce contracts exists, even if its institutions selectively favor certain citizens (Diamond 2002).

Repeated interactions also play a vital role for secure exchange via social mechanisms. Folk theorem results based on repeated play show how relationships over the long term lead to stable equilibria (e.g. Fudenberg and Maskin 2009), even in the absence of third-party enforcement. Related work on incomplete contracts demonstrates how contract enforcement can arise via relational contracts based on repeated interactions (e.g. Baker, Gibbons and Murphy 2002; Brown, Falk and Fehr 2004). However, modern markets increasingly involve one-shot exchanges—with partners for whom reputational information is scarce or too costly to accrue—in which a sustained equilibrium based on repeated interaction is not an option by definition.

Another form of social enforcement that has received much attention, particularly in Africa, stems from shared identity, often based on ascriptive features such as ethnicity or religion. In-

group enforcement can operate via several channels, including through risk-sharing mechanisms, shared tastes and preferences, shared enforcement technologies, and common behavioral patterns (Grimard 1997; Habyarimana et al. 2007). Co-ethnics may also interact more frequently and be better placed to identify each other's type, which increases opportunities for sanctioning in cases of defection (Fearon and Laitin 1996). Combined, these mechanisms can enable secure exchange among in-group members both by decreasing the probability of defection and by making punishment after defection more probable (Besley, Coate and Loury 1993; Miguel and Gugerty 2005). Experimental evidence from the DRC confirms this, showing that in environments with weak rule of law, co-ethnicity smooths trade and decreases contract defection (Sanchez de la Sierra 2018). This type of in-group enforcement is likely to extend beyond ethnicity to other salient, identity-based cleavages such as religion. I hypothesize that members of shared social groups are less likely to fear defection without recourse, and are thus more likely to exchange with one another.

2.2 Formal mechanisms for secure exchange

Formal solutions to commitment problems in exchange involve the state as the third-party enforcement mechanism. The state protects property rights and enforces contracts for private-sector exchange (Barzel 1997; Acemoglu and Johnson 2005). Assuming a certain threshold of state strength, contracts reduce the transaction costs of trade and also allow for riskier exchanges to occur (North 1981; Williamson 1985). There are two broad mechanisms by which formal contracts might boost confidence in trade. First, legal explanations are the most common argument for the utility of formal contracts: contracts establish proof an exchange occurred, explicitly set the terms of a deal, and clarify recourse options in the case of breach (e.g. Williamson 1985; Hart 1995). Second, there may also be a signaling effect of formal contracts: by virtue of offering a formal contract as part of a deal, a business partner signals something positive about their type.¹ Empirically, evidence confirms that even in environments with weak contracting institutions, formal

¹It is possible that formal contracts have a countervailing effect, however, if politically connected firms are able to use formal contracts as an additional channel of political influence, given the inherent dependence of such contracts on the state. However, existing empirical evidence shows that formal contracts are unlikely to negatively affect trade, even when the potential trading partner is politically powerful (Bhandari 2019).

contracts can boost levels of trade (Li, Poppo and Zhou 2010; Sanchez de la Sierra 2018; Bhandari 2019). I thus hypothesize that state-backed contracts increase the likelihood of exchange, while their relative importance vis-à-vis social considerations remains an empirical question.

2.3 How political connections shape exchange

In market contexts where the social and the formal intermix, how do a potential business partner's political connections influence willingness to trade? I argue that political connections impact fundamental considerations of risk and deal security, and thus affect firms' decisions to engage in exchange. However, existing theory does not give clear predictions for the direction in which a potential partner's political connections should impact trade.

On the one hand, firms may be hesitant to conduct trade with politically connected businesses. In many developing contexts, personal connections to people in power result in privileged access to and treatment from state institutions (e.g. Hicken 2011; Holland 2016; Post 2018). These connections can be invaluable in states that have limited capacity to serve the whole population, or in states where administrative procedures are prohibitively costly (either in money or in effort). As a result, politically connected firms enjoy significant advantages in private-sector exchange. During contract disputes, they benefit from the bias of the state when they break contracts and from the punishment capability of the state when they seek to enforce contracts (Lu, Pan and Zhang 2015). The result is that politically connected firms are able to break contracts with relative impunity. Non-connected firms thus have incentives to avoid conducting business with politically connected firms: why do business with firms that can break contracts without consequences? These disproportionate advantages should induce perceptions of risk of contract breach, and stifle trade with politically connected firms.

On the other hand, doing business with politically connected firms may confer significant advantages. Politically connected firms in developing countries have access to lucrative state contracts, have privileged access to capital, and benefit from a host of other political and economic advantages in the private sector (Fisman 2001; Khwaja and Mian 2005; Faccio 2006; Szakonyi

2018). These advantages are increasing in the level of connectivity, with presidential connections being the most lucrative, particularly in hyper-presidential regimes characterized by disproportionately powerful executive branches. For the firms that have them, these high types of connections increase economic opportunity within markets and judicial might within contracting institutions. At the expense of deal security, working with such firms could open access to these lucrative opportunities and potential rewards. Furthermore, developing partnerships with politically connected firms could be a launching pad for developing valuable political connections for one's own firm. Thus, political connections can serve contradictory roles—at once a trade risk and potential boon.

I argue that when the advantages are high enough, firms will conduct trade with politically connected businesses *even if* they think such businesses are most likely to break contracts. Under what conditions will advantages outweigh risks? The higher the level of political connection, the greater the potential reward. Conducting business with firms whose owners are extremely well connected may appeal to businesses who hope to access these rewards, despite these partners' ability to break contracts with relative impunity. When partners' political connections are less powerful, firms are more likely to see the risks rather than the potential advantages of doing business; the risk of defection, even if lower than that of more politically powerful firms, outweighs the marginal potential benefits of dealing with these firms. I thus expect that firm owners will avoid deals with weakly connected firms and seek deals with the most politically powerful ones, despite believing that politically connected firms are more likely to break contracts.

2.4 The impact of firm formality

In developing countries where the informal economy dominates, the above claims can critically depend on the formality status of firms. Firms in the informal sector differ from those in the formal sector in several key aspects. First, informal firms do not have access to the same type of enforcement institutions as do formal firms, which may factor into their risk calculations when considering new deals and potential business partners. Due to legal requirements, informal businesses are often unable to use state institutions, including police and courts, to enforce their contracts. In the ab-

sence of formal means of enforcement, informal firms rely more on social heuristic devices when considering the risk of a given trade. Recourse via shared social networks in the case of contract disputes offers some protective insurance against risky deals for informal firms. I thus expect social factors such as ethnicity and religion to be more valuable to informal firms than formal firms. Formal considerations such as written contracts may still increase confidence in trade, however. For example, there is the signaling value of contracts as described above, and formal contracts may also enable clearer *social* enforcement by providing written evidence of a trade with concrete terms. Thus, I expect informal firms to react positively to formal contracts in deals, though not as much as formal firms that actually have the means to enforce contracts using the institutions they were designed for.

Second, firms in the informal sector, vis-à-vis formal-sector firms, may view the risk of dealing with politically connected firms differently. The primary potential benefits of doing business with politically connected firms are access to lucrative state markets and preferential capital. But informal firms are unlikely to benefit from these rewards; state contracts typically set formalization as a requirement for firms' involvement, and formal lenders often restrict their capital to firms in the formal sector. Thus, informal firms are less likely to value high levels of political connections in their business partners. In fact, political connections in general could be a larger risk to informal firms, because firms in the informal sector are directly violating the law by their very existence. Especially during recent crackdowns on informal firms spurred by international finance institutions, these risks are particularly pronounced. This puts them at an extreme disadvantage during contract disputes with politically connected firms, especially firms that are connected to local officials who exert control over informal businesses and possess the authority to remove them. I thus hypothesize that firms in the informal sector are more likely than formal firms to resist deals with politically connected partners.

3 Context

For its stable yet biased institutional environment, its rapidly modernizing markets, and the nature of social networks in the country, Senegal is well suited for testing the competing roles of formal, social, and political determinants of modern, private-sector exchange. Given the relative strength of its rule of law institutions compared to much of sub-Saharan Africa, it constitutes a relatively hard test of the influence of political factors in the business environment.

3.1 Contracting institutions and political connections

Senegal represents a stable, multi-party democratic environment in an otherwise turbulent region. Nevertheless, there are persistent issues in Senegal's legal institutions, which have been plagued by recurrent problems of low capacity and executive overreach (Thomas and Sissokho 2005; Bingham 2009; Kondylis and Stein 2018). The World Bank ranks Senegal poorly in terms of contract enforcement, and its legal institutions are based in French civil law, which in Africa is typically associated with high degrees of formalism, low efficiency, and weak rule of law (Joireman 2001; Djankov et al. 2003). As a result, enforcing contracts in Senegal can be prohibitively difficult.

Political connections help circumnavigate the high financial and time costs of accessing legal institutions and enforcing contracts in Senegal. Knowing a well-placed person within government helps to avoid the red tape associated with contract enforcement by enabling firms to get their feet in the door of relevant bureaucratic institutions. This in turn becomes a useful tool in the business environment. The survey data from this project reflects this reality. Approximately 60% of firm owners said that political connections are useful for business, and 53% believe that it is easier to break a contract if you are well connected. Only 21% of respondents report having complete confidence in the courts, with 29% reporting partial confidence. While low, Appendix Figure A1 shows that Senegalese citizens have higher confidence in courts compared to citizens of most other African countries, where the influence of political connections in the business environment is likely to be even higher.

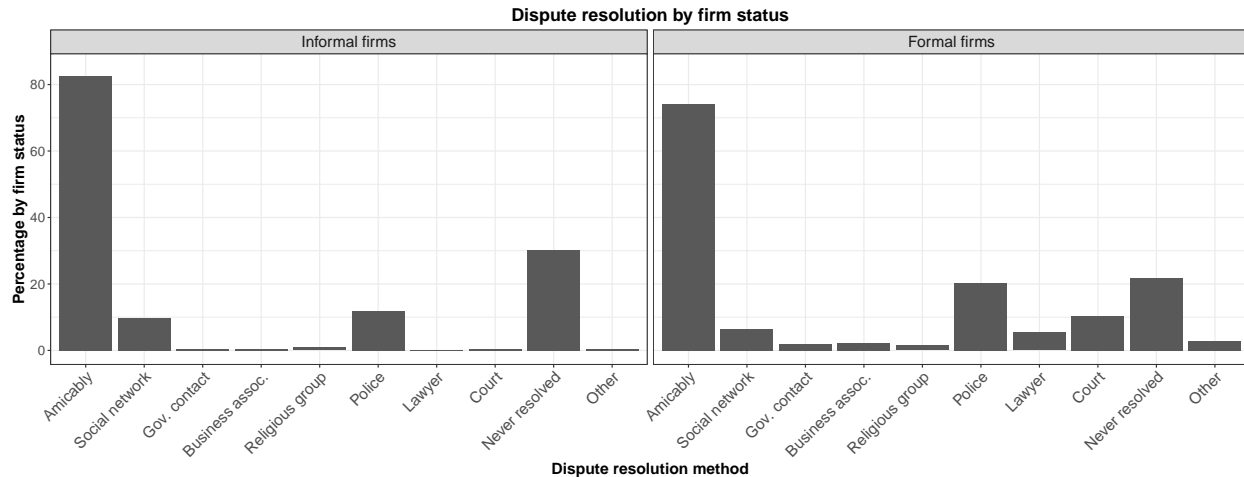
3.2 Business environment and disputes

Informal influences epitomize the business environment in Senegal. The Government of Senegal estimates that as much as 97% of the country's economic units are informal, and that the informal sector accounts for half of job-seekers and 31.7% of all GDP activity. Even for formal firms, informalities often dictate business operations. Approximately 83% of the formal firms in my sample report using informal, verbal contracts as part of their regular business dealings, with 31% identifying them as the contract type they use most often—despite only 5% stating that this is their preference.

Yet markets in Senegal are rapidly modernizing. After decades of low growth, the Government of Senegal implemented broad reforms in 2013 to develop its private sector. Driven by a simplified formalization processes and a technological boom that has inspired a new generation of entrepreneurs, there has been a surge in firm formalization in recent years. In many markets, firms are increasingly conducting exchange with newly entering businesses—businesses that have not yet established reputations, nor developed repeated trading relationships with existing firms. One-shot exchanges have increased in frequency as well, as specialized firms have grown in number as the economy has modernized. The result is that firms must increasingly rely on mechanisms outside of reputational considerations and repeated interactions to ensure secure operations.

Classic hold-up problems typify many deals that Senegalese firms make. While the precise nature of the modal deal differs by industry and sector, a typical deal involves purchasing goods or services without full knowledge of whether products are of promised quality—or whether they will be delivered at all.² Conversely, firms often provide goods and services and never receive the agreed-upon payments from their business partners. Disputes among firms are common in this context. Of this project's sample, 35% of formal firms and 30% percent of informal firms reported involvement in contract disputes. The most common causes were lack of payment by another company and the provision of substandard services or products by another company, at 74% and

²Depending on the sector, payments can be made at least in part upfront or after goods or services are provided. Moral hazard problems exist even when payment is made after delivery, however, as the quality of goods and services is often not apparent until much later.



Notes: Of firms that have experienced a contract dispute (N=785), this figure plots the percentage that reported ever using the dispute resolution method indicated on the horizontal axis.

Figure 1: Methods of contract dispute resolution for Senegalese firms

19%, respectively. Figure 1 shows how sample firms, grouped by their formality status, resolved their contract disputes when faced with these holdup problems. Given the difficulty and expense of more serious forms of enforcement, most firms reported solving contract disputes amicably. However, informal firms relied more heavily than formal firms on social means of enforcement, including attempts to resolve disputes amicably or via the defector’s social network. Although informal firms used the police to resolve some disputes—still at a rate lower than formal firms—virtually none used other means of formal enforcement such as lawyers or courts.³ Informal firms were also more likely to never resolve their contract disputes. Uncertain contract enforcement in a fraught business environment makes Senegal an apt context for examining the impact of formal and social determinants of exchange.

3.3 Social institutions in Senegal

Scholars of Senegal have focused extensively on identity-based social networks and their role in structuring daily life in the country. Senegal is an ethnically diverse country, and ranks near the median in sub-Saharan Africa according to most ethno-linguistic fractionalization rankings

³This is true even for the wealthiest informal firms in the sample, whose profits rival those of the largest formal firms.

(e.g. Roeder 2001; Alesina et al. 2003; Fearon 2003). The dominant ethnic group are the Wolof, comprising some 43% of the population, followed by the Fula at 24%,⁴ Serer at 15%, and Diola and Mandingue at 4% (Bass and Sow 2006). However, ethnicity is not as politically salient in Senegal relative to other African countries (Posner 2004), and state institutions, particularly in Dakar, are not organized by ethnicity (Koter 2013). Even in rural Senegal, the importance of ethnic dynamics has recently been challenged (Wilfahrt 2018).

Religious affiliation is a more politically and economically salient identity in Senegal. More than 90% of the population identifies as Muslim, and the majority belong to Sufi brotherhoods that structure daily life in the country (Mbacké 2005). The largest brotherhoods, in descending order of membership, are the Tidjane, the Mouride, the Qadiriyya,⁵ and the Layenne. The Mouride brotherhood in particular is deeply entrenched in the state and society, and for many serves as the dominant source of local authority (Cruise O'Brien 1971; Villalón 1995; Gottlieb 2017). There is a high degree of deference to Mouride religious leaders (*marabouts*), who serve as strong enforcers of social order (Beck 2008). This deference to authority and high degree of centralization diffuses into the private sector; many Mouride entrepreneurs are linked in informal business networks in Senegal and throughout the world (Ebin 1993; Golub and Hensen-Lewis 2012). In this trading environment, breaking a contract with another member of one's religious brotherhood carries large social costs, and thus co-religiosity, perhaps even more than co-ethnicity, serves as a meaningful predictor of secure trade.

4 Research design

To test the impact of social, formal, and political influences on private-sector exchange, I designed and implemented a survey with a conjoint experiment in Senegal in early 2018.

⁴Fula, Peul, and Toucouleur are considered members of the same ethnic group.

⁵The Qadiriyya are located mostly in Eastern Senegal, and are less prevalent in Dakar, where I implemented this project. The conjoint design thus excluded this religious group. Indeed, only 21 of the 2,389 respondents reported membership in the Qadiriyya brotherhood.

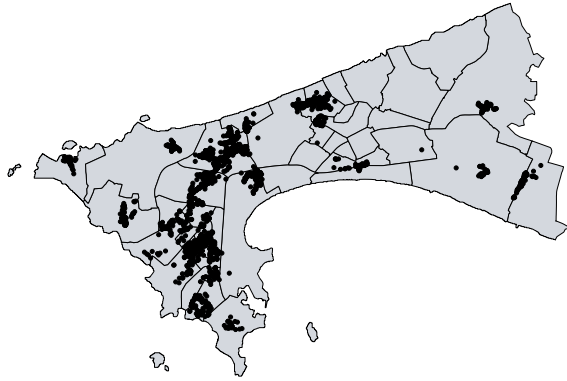


Figure 2: Dakar peninsula with district borders, and locations of sample firms

4.1 Sample

I conducted the survey in nearly all districts of Dakar, the capital of Senegal where the vast majority of economic activity in the country is concentrated, and its surrounding suburbs. I targeted firms in both the formal and informal economies. These are populations that are difficult to reach: large firms in the formal sector are often difficult to access, and informal-sector firm owners face incentives to keep low profiles and not participate in surveys. To ensure access and reduce perceptions of state affiliation, enumerators approached businesses with a letter of research approval from a well-known local research institution. I subdivided each district into sub-neighborhood zones, and enumerators followed a pre-determined sampling step that varied by sub-neighborhood. The sampling step was chosen to ensure sufficient distance between firms to minimize spillovers.

At each firm, enumerators requested to speak with the firm owner or the employee who had decision-making power for their firm's contracts and business deals.⁶ I intentionally over-sampled formal firms, for which there is wider variance in both industry and scale of operations compared to informal firms. The final sample totaled 2,389 businesses, with 1,582 formal firms and 807 informal firms. Figure 2 shows the location of sample firms in Dakar and its suburbs.

The distributions of firm wealth and size by formality status are presented in Figure 3. Sample firms in the formal economy were wealthier and larger overall than informal firms. Though the

⁶When not the owner, this was typically the managing director, or the director of administration and finance.

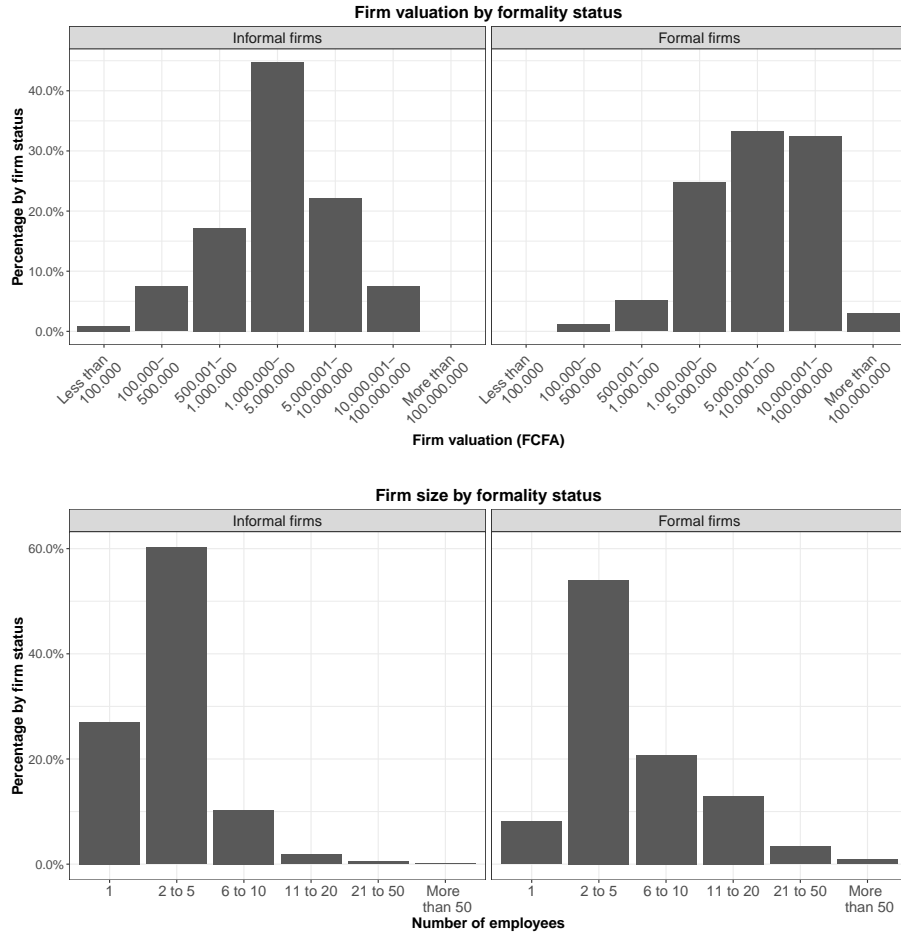


Figure 3: Distributions of firm size and valuation by formality status

majority of economic units in Senegal are informal, they tend to be much smaller in scale—many are individually operated—relative to formal firms. This in part due to a threshold at which, due to scale, firms become more visible to the state and are compelled to formalize. Indeed, 46% of formal firms in the sample began as informal businesses. Appendix Table A1 presents additional summary statistics for the sample, which generally skews young, educated, and male.

4.2 Conjoint experimental design

Among this sample of respondents who control their firms’ business deals, I implemented a choice-based conjoint experiment. Conjoint analysis offers several advantages for this project. First, it enables the non-parametric estimation of multiple treatment components simultaneously and is thus well suited to test this paper’s multi-faceted theory (Hainmueller, Hopkins and Yamamoto 2014).

Second, as opposed to survey experiments that randomize a single dimension, conjoint experiments enable the manipulation of multiple mechanisms, and thus more realistically mimic actual decision-making environments. Finally, conjoint experiments mitigate social desirability concerns as they give respondents plausible deniability via the multiple ways to justify their choices. The conjoint design tests the claims outlined in Section 2, and answers how the varied formal, social, and political aspects of trade affect respondents' decisions to conduct business with new partners.

Respondents were presented with two hypothetical profiles of business deals. Each profile consisted of six attributes: the religion of the firm manager, the ethnicity of the firm manager, the type of contract to be used in the deal, the personal political connections of the firm manager, the political party of the firm manager, and the size of the business. Based on extensive qualitative interviews with formal and informal firms, I selected these attributes to capture the most important formal, social, and political determinants of business in Senegal, as well as to avoid conflicting interpretations of variables. For example, the conjoint design included the size of the business to prevent respondents from falsely assuming that a politically connected firm must be large and wealthy. The full list of attributes and their associated values are listed in Table 1. The order of appearance of these attributes was randomized, and each value within an attribute had an equal probability of assignment.⁷

When administering the conjoint experiment, enumerators read instructions aloud—encouraging respondents to keep in mind their modal type of deal—and then handed respondents the enumeration tablets.⁸ The tablets presented respondents with two side-by-side profiles of potential business deals, each with randomized attribute values. Appendix Figure A2 shows an example of how the profiles appeared to respondents. For each profile pairing, respondents answered two questions that serve as the primary outcomes of the conjoint experiment: (1) “Which deal are you more likely to accept?” (I refer to this as the *accept* outcome) and (2) “Which deal is more likely to end in con-

⁷There were no restricted combinations of profile attributes. While some combinations are less common than others (e.g. a firm manager who is friends with an MP but has no political affiliation), none are impossible in both theory and practice.

⁸For illiterate respondents, enumerators read the profiles aloud, and turned away when respondents clicked on the tablet to make their choices.

Attribute	Randomized traits
Religion of firm manager	Tidjane, Mouride, Layenne, Muslim (no brotherhood)*, Christian
Ethnicity of firm manager	Wolof*, Serer, Peul, Mandingue, Diola
Contract to be used	Formal written contract, Verbal agreement (no written contract)*
Personal political connections of firm manager	Friend of local mayor, friend of MP, friend of president, no personal political connections*
Political party of firm manager	Ruling party member, opposition party member, no political affiliation*
Size of business	Large business, medium business*, small business

Notes: Asterisks indicate the pre-specified reference traits used for estimating treatment effects.

Table 1: Attributes and their trait values

tract breach?” (the *breach* outcome). As a forced choice between two potential business partners would be incongruous with the real-world decision-making process, respondents also had the ability to select “both firms” or “neither firm” in order to proximate reality (Hainmueller, Hangartner and Yamamoto 2015).⁹ Each respondent performed four rounds of choice tasks, and then returned the tablet to the enumerator. Enumerators administered the survey’s questions about formal and informal contracts, past legal disputes, and political affiliation after the conjoint experiment, to minimize priming effects in the conjoint analysis.

4.3 Estimation

The principal quantity of interest in this project is the average marginal component effect (AMCE), which is the marginal effect of an individual treatment component in Table 1 averaged over the joint distribution of all other attributes (Hainmueller, Hopkins and Yamamoto 2014). Under a certain set of assumptions, which are met here (see Section 4.4), AMCEs can be non-parametrically estimated and are unbiased. I estimate these treatment effects by linear regression. The choice outcome is regressed on a vector of indicator variables for treatment components, excluding baseline attribute levels. Treatment coefficients can thus be interpreted as the probability that the deal is chosen when

⁹Respondents could also choose “I prefer not to respond” or “I don’t know.”

it contains that particular attribute trait, relative to the baseline trait.¹⁰ To analyze how these causal effects interact with background characteristics (i.e. formality status of the respondent’s firm, ethnicity and religion of the respondent), I estimate heterogeneous treatment effects by interacting the treatment groups with the relevant covariate of interest.

In all analyses, standard errors are clustered at the respondent level. As there were 2,389 respondents, each of whom performed four choice tasks that contained two profiles, there are a total of 19,112 observations. However, due to some cases of refusal and “don’t know” responses, there are 18,794 observations for the *accept* outcome and 17,596 observations for the *breach* outcome. I address these missing observations in the following subsection.

4.4 Diagnostics and threats to inference

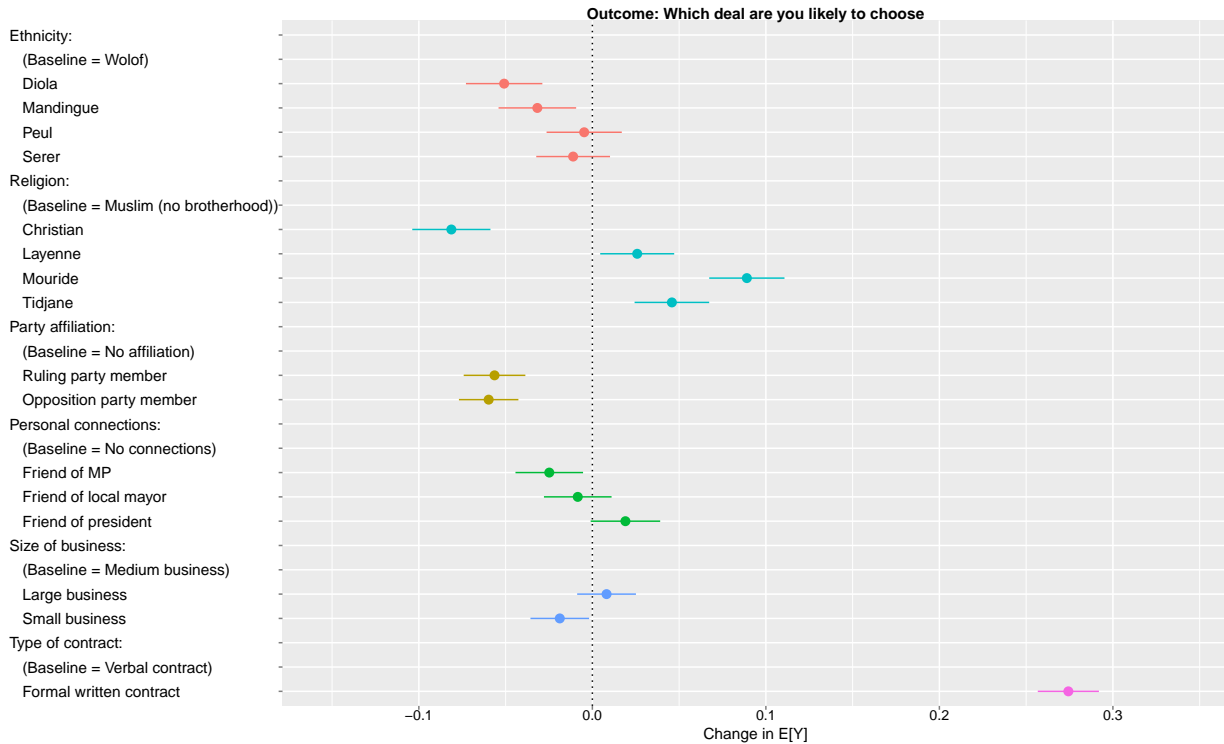
I first rule out the presence of carryover effects by estimating treatment effects separately for each of the four rounds of the experiment, as suggested by Hainmueller, Hopkins and Yamamoto (2014). As Appendix A.6.1 shows, effects are similar across all rounds, and F-tests are unable to reject the null of equality. Second, I ensure that there are no profile-order effects, by confirming that effects are similar regardless of the profile position (left or right) in a given task round (Appendix A.6.2). Third, I demonstrate in Appendix A.6.3 that randomization was successful by verifying balance across the sample and across a variety of background characteristics of firms and respondents. Finally, I test and confirm that treatment effects were consistent regardless of the randomized vertical position of attributes within profiles (Appendix A.6.4), thus ruling out primacy effects.

Attrition, caused by refusals to respond and “I don’t know” responses in the conjoint experiment, poses a potential threat to inference. However, this missingness is rare—only 1.66% of total observations for the primary outcome of interest (*accept*)—and I also verify that missingness was not driven by treatment assignment (Appendix A.6.5). Furthermore, including these observations with interpolated means does not change the substance or significance of results throughout.

¹⁰The full specification is presented in Appendix Section A.5.

5 Results

Estimating results for the entire experimental sample—both formal and informal businesses—is important for considering how firms in Senegal are, on the whole, moved by varied social, formal, and political forces. What is the relative importance of these salient factors when choosing business partners? I estimate treatment effects for the *accept* outcome, and present these full-sample results in Figure 4. The baseline traits are listed at the top of each attribute grouping in parentheses, with the other traits’ AMCEs and their 95% confidence intervals below. I examine and extend these results in the following subsections.



Notes: The outcome is based on the question: “Which deal are you more likely to accept?” The change in probability of a deal being chosen, relative to the baseline attribute trait, is on the horizontal axis. The corresponding table results are in Appendix Table A6.

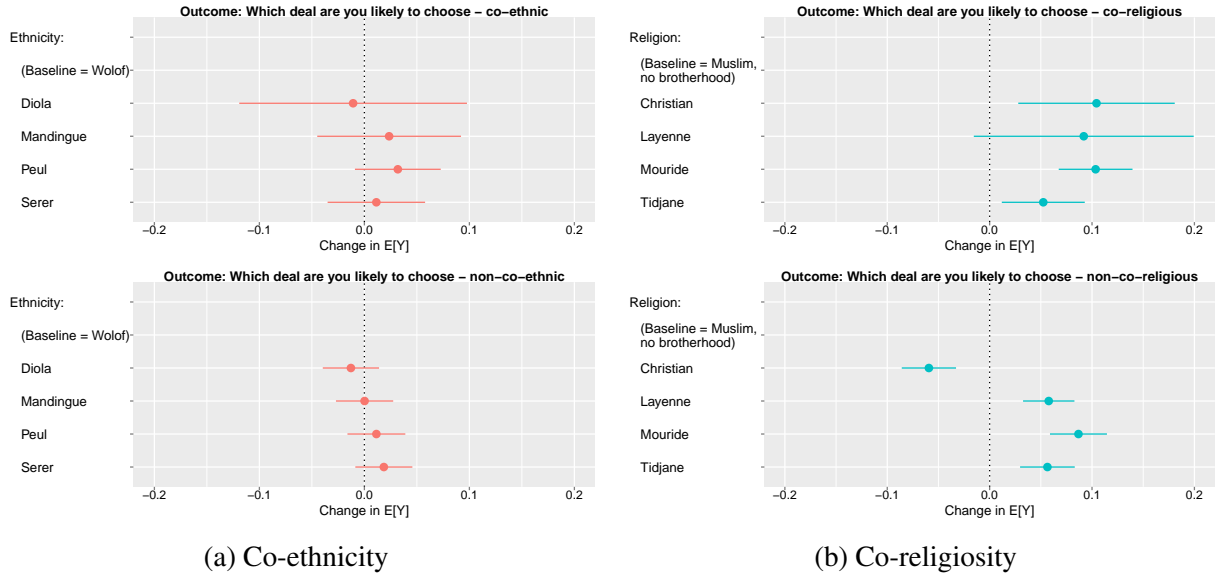
Figure 4: Main result: Influences of firms’ likelihood to exchange

5.1 The importance of social features for trade

Focusing first on ethnicity, the top attribute grouping in Figure 4, the results reflect the importance of ascriptive ethnic features in the private sector in Senegal. Relative to the baseline ethnic group of Wolof, which is the largest ethnic group in Senegal, respondents were significantly less likely to accept a business deal when the opposing firm manager was Diola or Mandingue. Overlapping ethnic and religious cleavages may explain the Diola result: Diola are disproportionately Christian relative to other ethnicities in Senegal, which may reduce the ability of the median firm owner in the sample—a member of a Muslim religious brotherhood—to seek recourse via social sanctioning.

Indeed, in line with the politicization of religion in Senegal, religion appears to be the more salient identity-based factor for determining the likelihood of trade. In contrast to the results for ethnicity, all religious identities significantly affected the likelihood of trade, and these effects were also larger in magnitude. Respondents avoided deals with Christian firm managers and sought deals with firm managers affiliated with Muslim brotherhoods. Perhaps reflecting the density, structure, and authority of Mouride networks in particular, as well as their reputation for secure exchange, deals were much more likely to be chosen when the hypothetical firm manager belonged to the Mouride brotherhood. Of all ascriptive identity features included in the experiment, Mouride membership moved respondents the most, increasing the probability of deal acceptance by 0.09. Membership in the Layenne or Tidjane brotherhoods also increased the likelihood of deal acceptance, though at around half the magnitude. Overall, these results confirm that informal features can shape how business occurs in places where such features are correlated with perceptions of enforcement.

The results in Figure 4 represent the sample's *overall* perception of various ascriptive groups in Senegal, rather than specific mechanisms of in-group enforcement. I re-estimate the results with stratified data by in-group and out-group status, i.e. whether the hypothetical business partner in the conjoint experiment was of the same ethnicity or religion as the respondent. In total, 17.6% of deals occurred with co-ethnics, and 20.4% of deals with co-religious firms managers. Figure 5 shows the conditional treatment effects. The coefficients can be interpreted as the change in



Notes: The outcomes are based on the question: “Which deal are you more likely to accept?” Changes in probability of a deal being chosen, relative to the baseline attribute trait, are on the horizontal axes. The corresponding table results are in Appendix A.7.3.

Figure 5: Results conditional on co-ethnicity and co-religiosity

probability that the respondent chose to trade with someone from the same ethnic or religious group as their own, holding all other traits constant.

There were no significant effects along ethnic lines. This may be partly due to the weakness of ethnic factors in the urban environment of Dakar (Koter 2013), or due to the lack of explicit ethnic networks for conducting business. Religious networks are stronger, however, as the results in Figure 5 reflect. Respondents who were co-religious to a hypothetical business partner were much more likely to select that partner. Interestingly, among non-co-religious respondents, decisions to trade were still affected by religious factors—respondents avoided trade with Christians, though sought trade with members of the three primary Muslim brotherhoods. This reflects the trading discrimination against certain identity groups that is common to many developing contexts (e.g. Michelitch 2015), and also reflects the majority Muslim population and sample; only 3.5% of respondents were not Muslim. Overall, these results suggest that in-group membership boosts the likelihood of trade, which highlights the importance of social mechanisms underpinning trade when rule of law is weak.

5.2 The value of formal protections in an informal business environment

While informal features heavily moderated firm owners' choices, formal factors also played a surprisingly large role. As Figure 4 shows, the largest result came not from ascriptive features, but from the type of contract used in the deal. When a formal, state-backed contract was part of the deal instead of a verbal contract—how the majority of trade is conducted in Senegal—the probability that a respondent chose the deal increased by a staggering 0.27. Firm managers had much greater confidence in deals that used state-backed contracts. This result is somewhat surprising given the rampant inefficiencies that plague Senegal's legal institutions. I attempt to distinguish the mechanisms supporting this result later in the paper by testing differences across the formal and informal sectors, using the fact—supported by Figure 1—that informal firms have a smaller set of recourse options available to them relative to formal firms.

The size of the hypothetical firm was primarily included to control for alternate interpretations of other attribute traits (e.g. conflating political connections for size/wealth). Still, firm size affected business owners' calculus, though at a smaller magnitude than identity-based features and formal contracts. Relative to medium-sized businesses, respondents resisted trade with small firms. This might be due to the lack of accountability for small businesses, which can slip through the cracks in terms of enforcement or are unconstrained by the institutional structures that larger businesses develop over time. It could also be the case that respondents reacted to the lack of potential rewards that comes from trading with smaller, non-lucrative businesses.

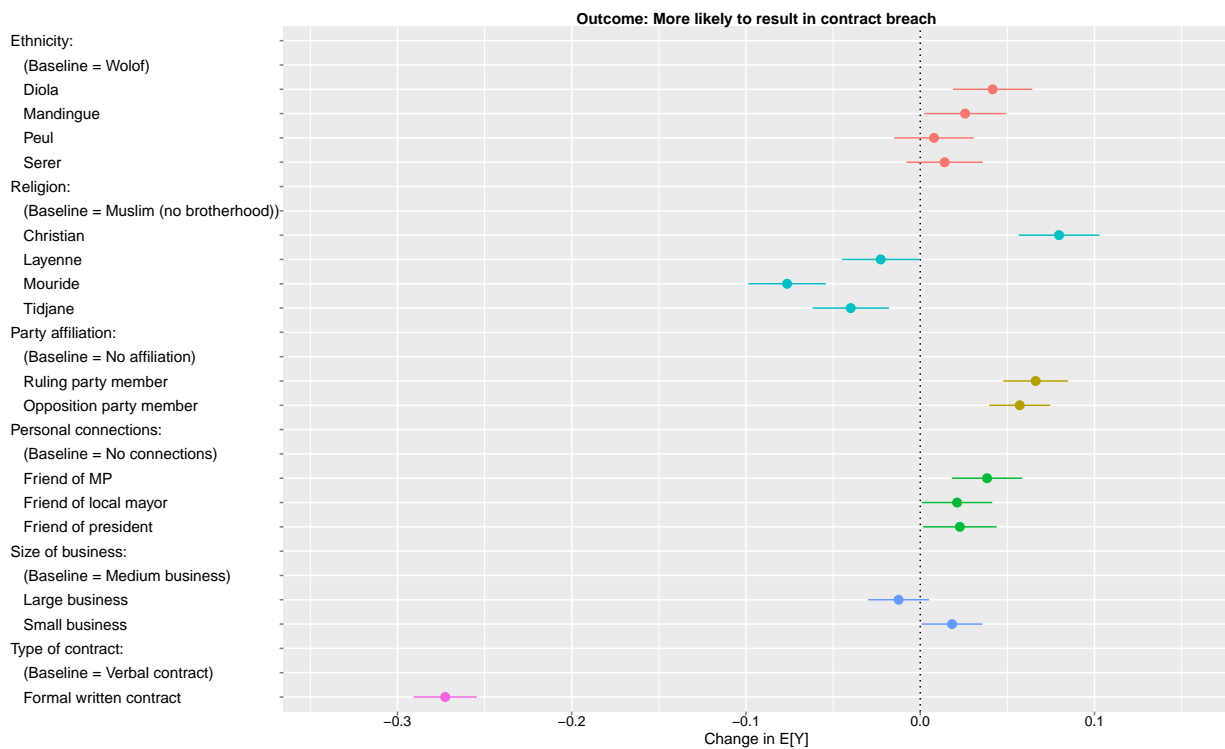
5.3 The “value” of political connections

Figure 4 also shows that political variables can factor in firm owners' decisions to do business under weak rule of law. Respondents avoided deals with politically affiliated firms: potential firm managers associated with either the ruling party or opposition parties decreased the likelihood that a deal would be selected by a probability of approximately 0.06, relative to firm managers who did not have a political affiliation. In Appendix A.8, I show that these results are not driven by a general distaste for politics, but rather, as I argue in this section, weakened perceptions of enforcement.

Beyond direct political affiliations, personal connections to those in political power also affected firm managers' decisions. In the full sample, there was a small but statistically significant decline in trade probability when the opposing firm manager was connected to an MP. In contrast, there was no detectable effect when the opposing firm manager was connected to a local mayor, and a *positive* effect when connected to the president. This suggests that the effects of personal political connections are not universally negative, and confirms the hypothesis that firm owners gain value from doing business with the most politically influential business partners. Why are firms entering these potentially risky deals, or could it be the case that firm owners do not view deals with highly politically connected partners as risky in the first place?

To rule out the possibility that respondents viewed highly connected partners as “good types”, I examine respondents' answers to the second outcome question: “Which deal is more likely to end in contract breach?” Because firms tend to avoid deals that they believe are more likely to result in contract breach, we should expect to observe a mirror image of the results in Figure 4, *except* for cases where the advantages of risky deals outweigh the negatives. Figure 6 presents the treatment effects for the contract rupture outcome, and plots how the various traits influenced respondents' beliefs that the deal was likely to end in contract breach. These findings show that, in general, the traits that businesses valued when selecting a deal (Figure 4) were indeed inversely correlated with the traits that businesses associated with higher risk of contract breach (Figure 6). This intuitive result suggests that firms chose to do business with partners they thought were likely to uphold their side of the bargain.

There was an important exception to this trend of inverse correlation, however, for when the opposing business partner had the highest type of personal political connection (i.e. to the president). Respondents preferred deals with these highly connected trading partners *despite* believing they were more likely to renege on contracts. These are cases where the potential rewards of doing business outweigh the higher risks of defection. In contexts where rule of law is selectively enforced and politically connected firms receive outsized benefits, firms face incentives to engage in the rent-seeking system rather than disassociate from it. From the perspective of the most highly



Notes: The outcome is based on the question: “Which deal is more likely to end in contract breach?” The change in probability of a deal being chosen, relative to the baseline attribute trait, is on the horizontal axis. The corresponding table results are in Appendix Table A7.

Figure 6: Perceptions of likelihood of contract breach

politically connected firms, it seems that there are no downsides to possessing these political connections; they are able to both benefit from the bias of the state when it comes to enforcement (or the lack thereof), *and* they are met with neither resistance nor reluctance from potential business partners. In line with presidentially connected firms elsewhere in the developing world (e.g. Fisman 2001), these highly connected businesses reap immense value from their connections and seemingly face few repercussions.

To add nuance to how firms view politically connected partners, I included open-ended questions in the survey that asked why respondents solicit or avoid business with politically connected firms. The most common explanations for conducting business with politically connected firms were financial in nature, including access to lucrative state contracts—the most common response—and better access to state sources of financing. The reasons for avoiding these firms

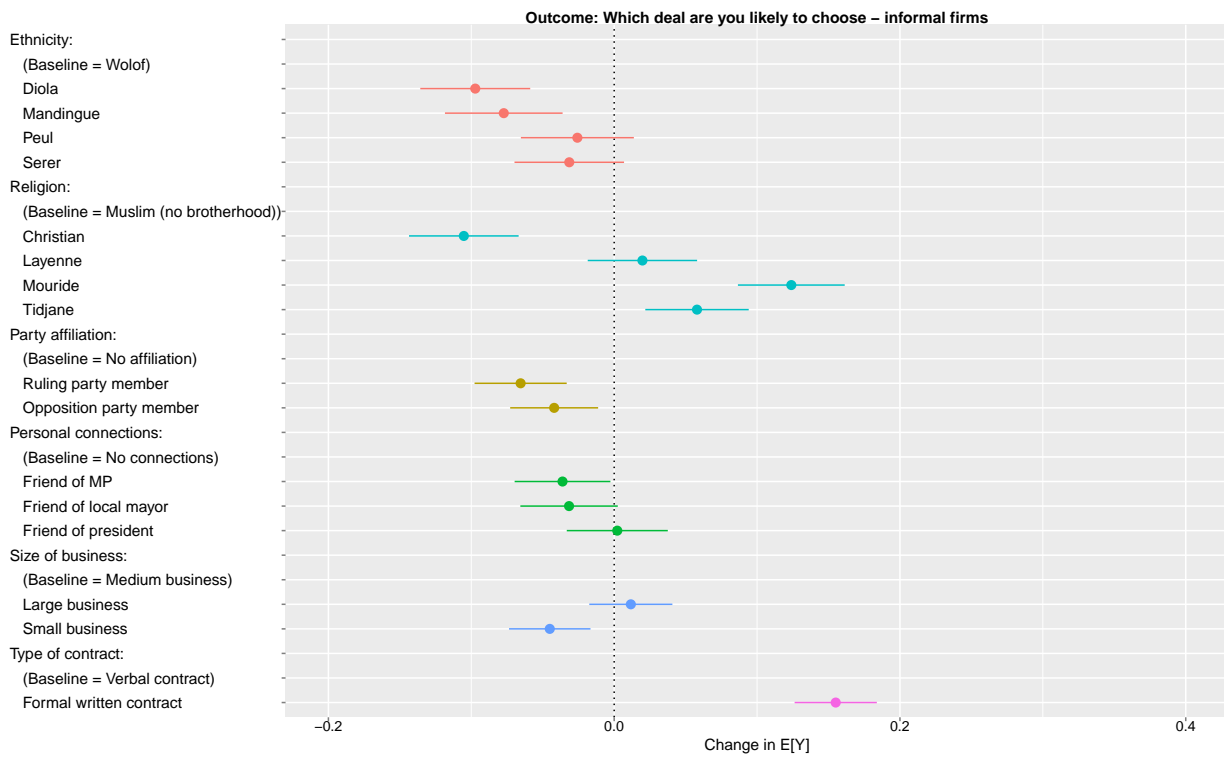
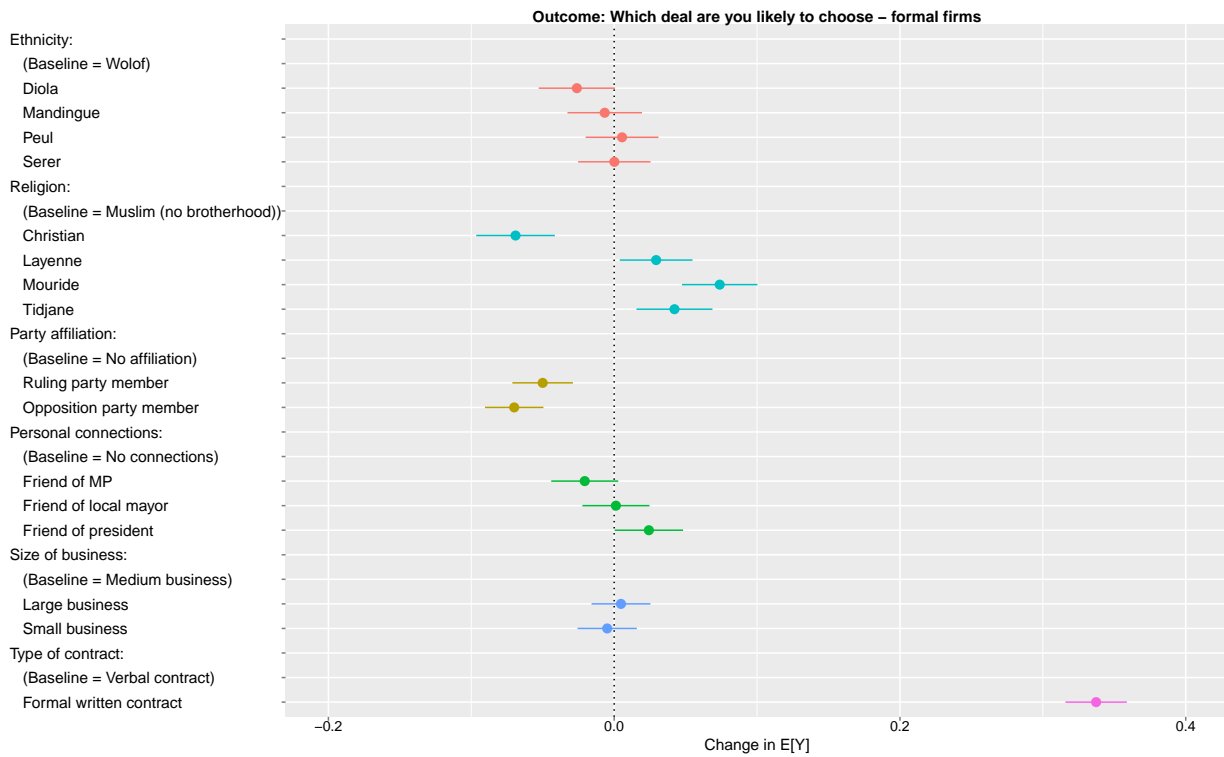
were related to enforcement and instability: politically connected firms benefit from impunity, greater ability to get out of contracts, and favoritism from powerful institutions. Interestingly, respondents also reported that politically connected firms are especially dangerous when the political connections “run out”; in these cases, the political advantages that previously sustained firms expire, which can cause major disruptions to business operations. Along with the results of the conjoint experiment, the evidence suggests that firms must contend with a complicated political calculus when conducting their affairs.

5.4 Firm formality drives decision-making

Given that legal recourse options differ across the formal and informal sectors (see Figure 1), how does the formality status of firms moderate the effects of social, formal, and political factors underpinning trade? The theory proposed in this paper suggests that formal firms are more likely to value formal heuristics for the likelihood of contract enforcement, while informal firms disproportionately value social heuristics. Furthermore, informal firms are more likely to resist politically connected partners, particularly when these partners have local influence. To test these claims, I stratify the sample by formality status and re-estimate results.

Figure 7 presents conditional treatment effects by firm formality status. As hypothesized, social heuristics were a larger influence for informal firms compared to formal firms. While ethnicity motivated trade for informal firm owners, it had no effect for formal firm owners. In contrast, both formal and informal firm managers made decisions to exchange based on religious affiliation, and in generally similar patterns, although the magnitudes of these effects were larger for informal firms. These results not only confirm that informal firms rely more on social heuristic devices to ensure smooth trade, but also that, in business environments where informalities and institutional weaknesses are common and social cues are meaningful predictors of secure trade, formal firms place value on these social influences as well.

Turning to formal motivations of trade, informal firms were half as likely to trade due to formal contracts relative to firms in the formal sector. This is in line with expectations over enforcement



Notes: The outcome is based on the question: “Which deal are you more likely to accept?” The corresponding table results are in Appendix Table A8.

Figure 7: Results conditional on firm formality status (formal vs. informal firms)

recourse options, as formal firms are more likely to possess the ability to access institutions for state-backed contract enforcement. Still, the fact that informal firms were significantly and substantially moved to choose deals that involved formal contracts suggests that contracts can be of use even in informal economies where state institutions for enforcing contracts are unavailable.

Formality status also moderated the risk of doing business with politically connected firms. While managers in both the formal and informal sectors avoided politically *affiliated* partners, they differed in the extent to which they sought deals with politically *connected* firms. Formal firms were unperturbed by partners' connections to local mayors. In contrast, national-level political connections significantly affected formal firms' decisions to trade—but in opposing directions. Formal firms avoided trade with partners connected to MPs (low-level connections) and sought deals with those connected to the president (high-level connections). Thus, formal firms seem willing to take on the risk of dealing with politically connected firms only when the potential benefits as a function of those connections are sufficiently high. For informal firm respondents, weaker types of political connections negatively affected their propensities to trade while connections to the president had no effect. This aligns with the reality that lower-level connections are more applicable to the social enforcement mechanisms available to informal firms, and also that local politicians—particularly mayors—exert considerable control over the operations and existence of informal firms.

6 Conclusion

This paper examined the relative importance of social, formal, and political factors for private-sector exchange in contexts with selectively enforced rule of law. The findings demonstrate that social and in-group identity features affect propensities to trade, and that state-backed contracts substantially boost confidence in exchange. The results also show that political connections increase the risks of exchange, stifling trade for all but the most highly connected partners. The risks of trade—and how firms respond to them—differ by formality status. Informal firms avoid business partners who have political connections, while formal firms face incentives to seek out highly

connected partners.

In an environment where political connections translate to imbalanced influence in both the marketplace and the institutions girding secure exchange, these results suggest that firms rationally resist conducting trade with politically connected parties. Thus, an unintended consequence of the value of political connections in weak institutional environments is an overall loss of trade. These findings suggest that existing policies for addressing the economic or institutional constraints to private growth should be expanded to take account of political risk. Particularly as one-shot deals, newly proliferating firms, and low-information marketplaces increasingly characterize emerging markets, considering underlying political inequalities and their effects on private-sector development is essential for ensuring efficient and equitable growth. The results of this project also suggest, promisingly, that formal contracts can increase confidence in exchange and enable deals to occur that may not otherwise, even in markets where informal influences abound. Increasing access to formal contracts—while breaking the link between political connections and enforcement—may thus help spur private-sector development even when the underlying state institutions lack capacity or independence.

While the competing influences of social, formal, and political factors affect with whom firms conduct business, future research is still needed to understand how these influences manifest in eventual enforcement outcomes. How firm owners resolve disputes has important implications for the function of the private sector amidst informal influences, and may help to understand why informal firms remain informal despite the risks. Additional research is likewise needed to test whether these factors driving trade lead to broader distributive consequences in poor societies. That certain ethnicities or religions are more favored in trade might lead to negative distributive outcomes overall for excluded groups. Understanding how private-sector exchange may shape broader societal inequalities is important for ensuring equal growth in rapidly shifting economies. Finally, while the purpose of this paper was to establish the relationship between the influences of trade and ultimate trade decisions, we still know little about the precise mechanisms by which these influences operate. Future work should more directly dissect these mechanisms.

Given that Senegal ranks squarely among African, East Asian, and Latin American countries in terms of its contract enforcement institutions—and given that many of these countries are characterized by a similar hybrid democratic environment as Senegal—I expect the theory and results presented in this project to carry beyond Senegal. Indeed, these effects may be considerably stronger in contexts that are institutionally weaker than Senegal, where political and informal influences in the private sector are even more rampant. The results presented in this paper may help to illuminate private-sector inefficiencies and stalled growth in other contexts where social and formal influences compete in the marketplace.

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A Online Appendix

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A.1 Trust in courts in Africa

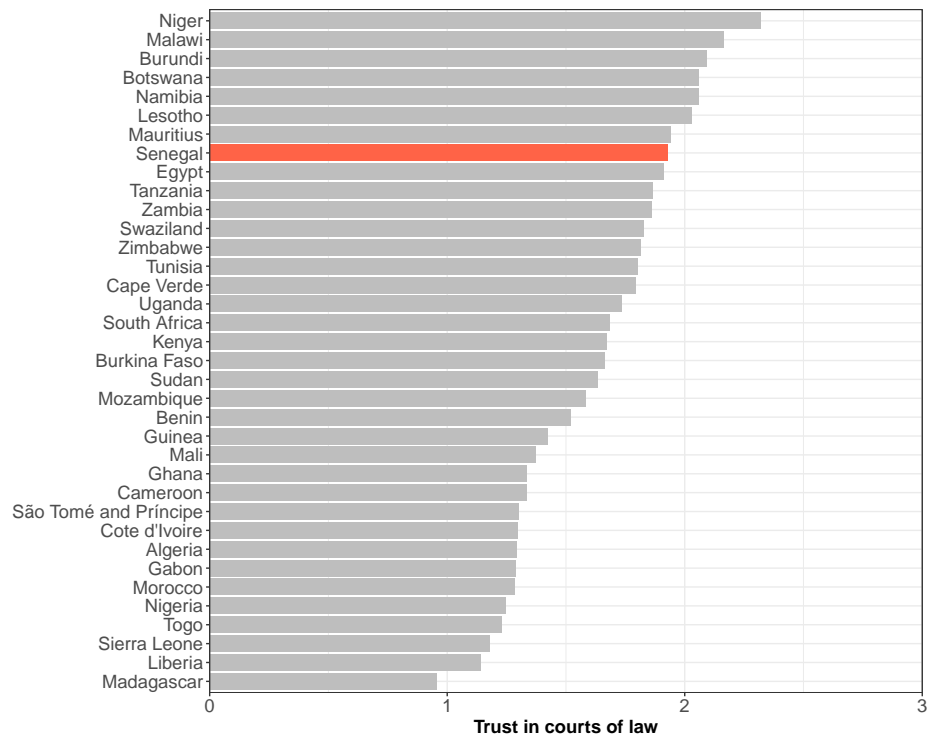


Figure A1: Confidence in courts of law in Africa. Source: Afrobarometer (2016).

A.2 Summary statistics of sample

Variable	Mean	Std. Dev.	Min	Median	Max	Other	Refuse	Don't know
Gender	0.220	0.414	0	0	1	0	0	0
Age	34.346	9.468	17	33	76	0	0	1
Education	1.569	1.067	0	2	3	20	0	0
Formal firm	0.662	0.473	0	1	1	0	0	0
Belong to business association	0.170	0.376	0	0	1	0	0	0
Meetings with other businesses	0.456	0.498	0	0	1	0	0	0
Access to credit	1.915	0.980	1	2	4	0	1	8
Declared revenue for taxes	0.478	0.500	0	0	1	0	3	1
Negotiated tax payment	0.345	0.476	0	0	1	0	3	1
Amount of tax paid	2.584	1.552	0	2	9	0	6	2
Confidence in courts	1.534	1.032	0	2	3	0	1	0
Experienced contract dispute	0.329	0.470	0	0	1	0	0	0
Frequency of business with formal firms	3.248	1.491	1	3	7	0	0	1
Previously worked for the state	0.036	0.186	0	0	1	0	0	0
Political connections useful	0.594	0.491	0	1	1	0	0	1
Political connections help break contracts	0.527	0.499	0	1	1	0	2	5
Member of political party	0.201	0.401	0	0	1	0	4	0
Member of civil association	0.490	0.500	0	0	1	0	0	0
Contacted politician in past	0.030	0.171	0	0	1	0	0	0

Notes: N=2,389 for all variables. The final three columns list the number of respondents who responded “other,” “refuse to respond,” and “I don’t know” to the survey item. The reported statistics elsewhere in the table do not include these respondents.

Table A1: Sample summary statistics

A.3 Deviations from pre-analysis plan

There were no deviations from the pre-analysis plan (PAP) with regard to data collection. The analysis presented in the main body of the paper also adheres to the PAP, though is not fully comprehensive due to space constraints. However, all results indicated in the PAP as “primary results of the project” are included in the main body. The other deviations are summarized below:

- Section 3 of the PAP referred to an interaction with the formality status of the firm as an ACIE, though it is a conditional ACME. I correct this mistake in the paper.
- For certain subgroup analyses (e.g. in-group identity), I opted to present graphical representations in the main body and the table representations in the appendix, instead of the converse as the PAP indicated. This decision was made for ease of interpreting results.

A.4 Conjoint experiment appearance on tablet

Figure A2 shows the conjoint experiment as it appeared to respondents on tablets.

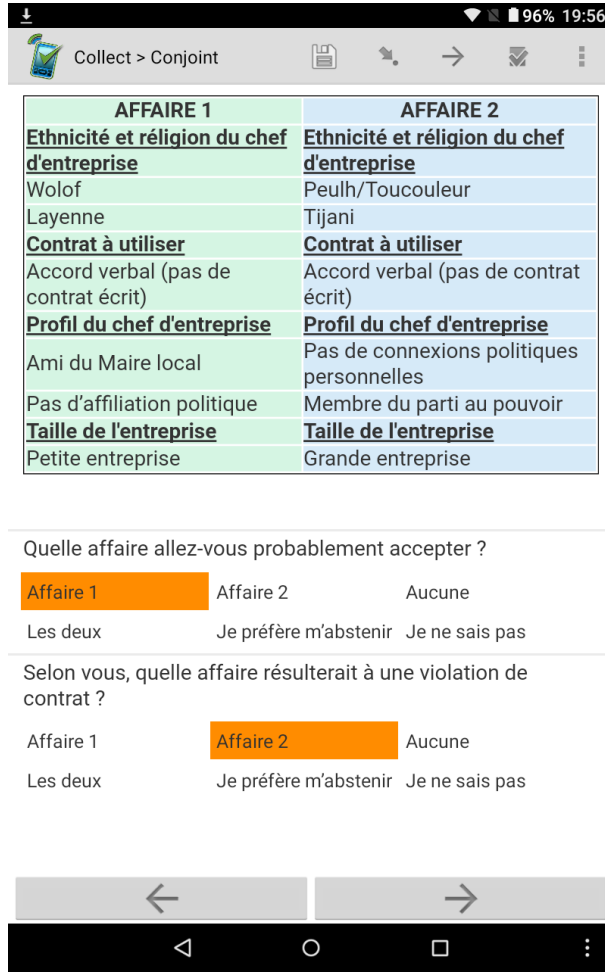


Figure A2: Screenshot of conjoint experiment as it appeared to respondents

A.5 Full specification

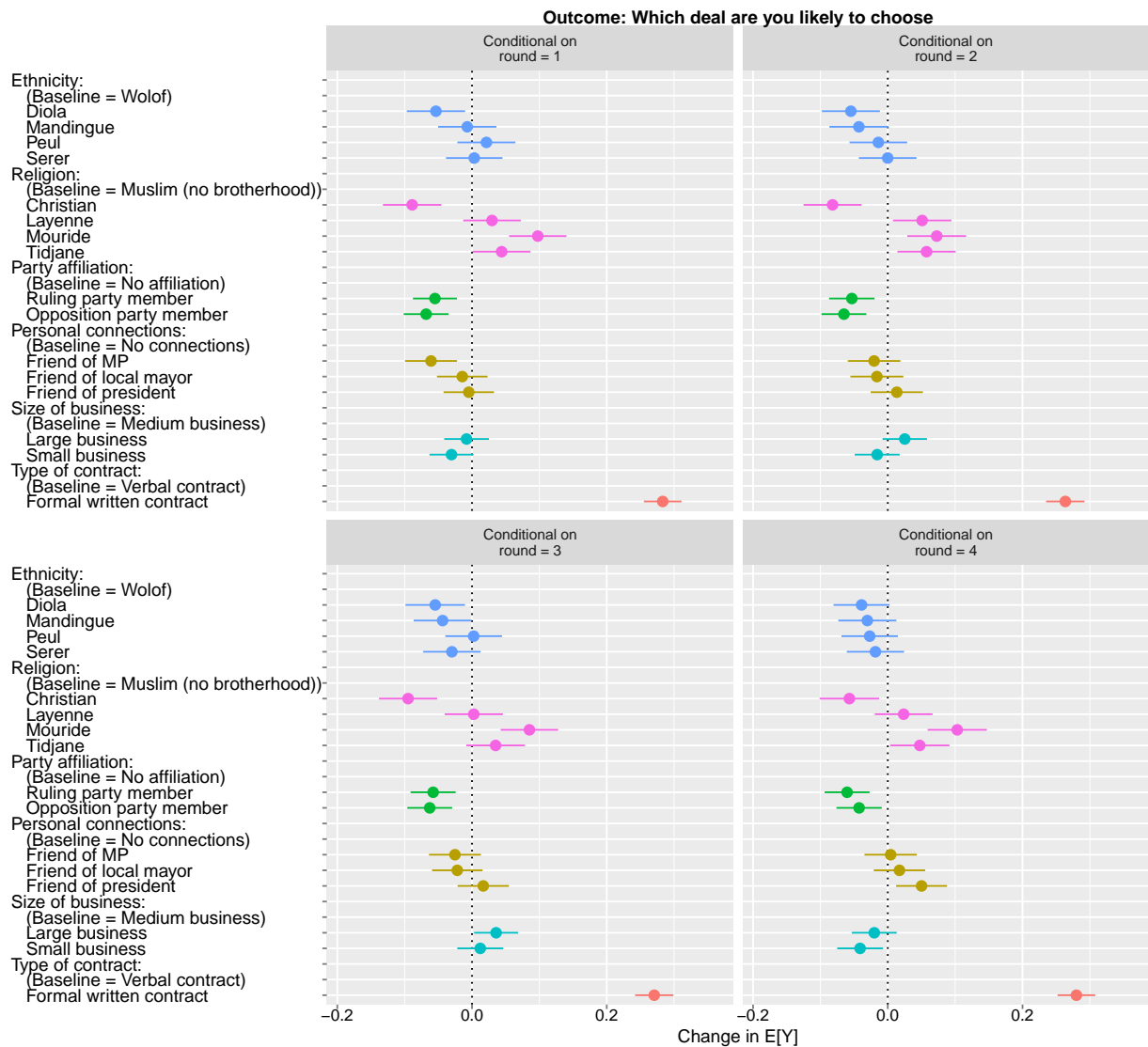
For respondent i for the j th profile in choice round k :

$$\begin{aligned}
 \text{deal_chosen}_{ijk} = & \theta_0 + \theta_1[\text{party}_{ijk} = \text{ruling}] + \theta_2[\text{party}_{ijk} = \text{opposition}] & (A1) \\
 & + \gamma_0 + \gamma_1[\text{friend}_{ijk} = \text{mayor}] + \gamma_2[\text{friend}_{ijk} = \text{MP}] + \gamma_3[\text{friend}_{ijk} = \text{president}] \\
 & + \zeta_0 + \zeta_1[\text{ethnicity}_{ijk} = \text{Serer}] + \zeta_2[\text{ethnicity}_{ijk} = \text{Peul}] + \zeta_3[\text{ethnicity}_{ijk} = \text{Mandingue}] + \\
 & \zeta_4[\text{ethnicity}_{ijk} = \text{Diola}] \\
 & + \beta_0 + \beta_1[\text{religion}_{ijk} = \text{Tidjane}] + \beta_2[\text{religion}_{ijk} = \text{Layenne}] + \\
 & \beta_3[\text{religion}_{ijk} = \text{Mouride}] + \beta_4[\text{religion}_{ijk} = \text{Christian}] \\
 & + \alpha_0 + \alpha_1[\text{Size}_{ijk} = \text{large}] + \alpha_2[\text{Size}_{ijk} = \text{small}] \\
 & + \nu_0 + \nu_1[\text{Contract}_{ijk} = \text{informal}] + \nu_2[\text{Contract}_{ijk} = \text{formal}] + \varepsilon_i
 \end{aligned}$$

A.6 Diagnostic tests

A.6.1 No carryover effects

Figure A3 presents the main results by choice task, and shows that responses did not substantially change by round. To formally test this claim, Table A2 presents the p-values from an F-test of joint significance of the interaction terms in a regression that interacts attribute traits and choice task indicators. For all attributes, I fail to reject the null hypothesis that the effects are identical across rounds.



Notes: This figure shows the average marginal component effects (AMCEs) based on the round of the survey.

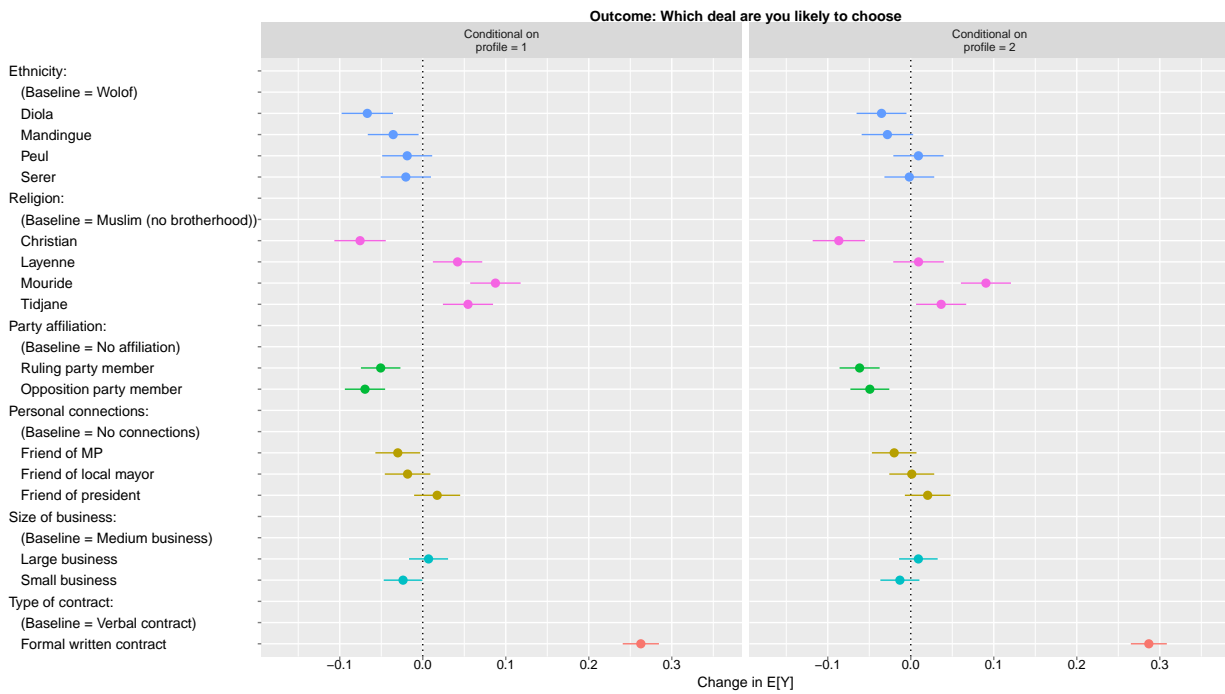
Figure A3

Attribute	p-value from F-test
Religion of firm manager	0.8213
Ethnicity of firm manager	0.7123
Contract to be used	0.9634
Size of business	0.7901
Political party of firm manager	0.195
Personal political connections	0.389

Notes: Two-sided p-values from an F-test of joint significance of interaction terms between attribute traits and choice tasks indicators.

Table A2: Attributes and F-test p-values

A.6.2 No profile order effects



Notes: This figure shows the average marginal component effects (AMCEs) based on the profile position (left or right).

Figure A4

A.6.3 Randomization validation and balance

A.6.3.1 Across profile attributes

As Table A3 confirms, the randomization generation procedure on the enumeration tablets was executed properly.

Attribute	Trait	Profile presence (%)
Religion of firm manager	Tidjane	19.8
	Mouride	20.1
	Layenne	20.3
	Muslim (no brotherhood)	20.0
	Christian	19.9
Ethnicity of firm manager	Wolof	19.9
	Serer	20.2
	Peul	20.0
	Mandingue	20.0
	Diola	20.0
Contract to be used	Formal written contract	49.4
	Verbal agreement (no written contract)	50.6
Personal political connections	Friend of local mayor	24.9
	Friend of MP	24.8
	Friend of president	25.0
	No personal political connections	25.2
Political party of firm manager	Ruling party member	34.0
	Opposition party member	32.9
	No political affiliation	33.0
Size of business	Large business	33.5
	Medium business	33.3
	Small business	33.1

Notes: This table presents the percentage of profiles containing the given attribute trait. N=19,112.

Table A3: Balance across the conjoint design's treatment groups

A.6.3.2 Across respondent characteristics

Treatment group	Covariate:									
	Confidence in court	Has worked for state	Gender	Formal firm status	Number of employees	Monthly revenue	Firm valuation	Formalized after start	Member of business assoc.	Experienced dispute
Diola	-0.005 (0.024)	0.012** (0.005)	-0.008 (0.010)	-0.016 (0.011)	-0.023 (0.022)	-0.012 (0.027)	-0.022 (0.026)	0.007 (0.010)	-0.007 (0.009)	-0.010 (0.011)
Mandingue	0.002 (0.024)	0.004 (0.004)	0.001 (0.010)	-0.009 (0.011)	-0.024 (0.023)	-0.020 (0.027)	-0.042* (0.025)	0.002 (0.009)	-0.012 (0.009)	-0.010 (0.011)
Peul	0.038 (0.023)	0.011** (0.004)	0.008 (0.009)	-0.009 (0.011)	-0.013 (0.022)	-0.009 (0.027)	-0.050** (0.025)	-0.007 (0.009)	-0.017* (0.009)	-0.008 (0.011)
Serer	-0.003 (0.024)	0.0003 (0.004)	-0.008 (0.009)	-0.021** (0.011)	-0.024 (0.022)	-0.045* (0.026)	-0.064*** (0.025)	-0.003 (0.009)	-0.023*** (0.009)	-0.020* (0.011)
Christian	0.001 (0.023)	0.002 (0.004)	-0.016* (0.009)	0.003 (0.011)	0.019 (0.022)	0.003 (0.027)	0.003 (0.026)	0.007 (0.009)	0.005 (0.009)	0.011 (0.011)
Layenne	0.037 (0.023)	0.005 (0.004)	-0.008 (0.010)	0.009 (0.011)	0.023 (0.021)	0.020 (0.026)	0.034 (0.025)	-0.001 (0.009)	-0.001 (0.008)	0.009 (0.011)
Mouride	0.010 (0.023)	0.010** (0.004)	-0.007 (0.009)	-0.007 (0.011)	0.025 (0.021)	0.015 (0.026)	0.015 (0.025)	-0.005 (0.009)	-0.010 (0.008)	0.018* (0.011)
Tijani	0.011 (0.023)	0.010** (0.004)	0.001 (0.009)	-0.002 (0.011)	0.014 (0.022)	-0.003 (0.026)	0.021 (0.025)	0.007 (0.009)	-0.006 (0.008)	0.021** (0.011)
Ruling party member	-0.009 (0.019)	0.001 (0.004)	0.002 (0.007)	0.006 (0.009)	-0.004 (0.017)	0.008 (0.021)	0.015 (0.020)	-0.003 (0.007)	-0.0001 (0.006)	0.006 (0.008)
Opposition party member	0.030 (0.019)	-0.001 (0.003)	0.001 (0.007)	-0.007 (0.009)	0.001 (0.017)	0.017 (0.021)	0.029 (0.020)	-0.001 (0.007)	-0.003 (0.007)	0.004 (0.008)
Friend of MP	0.036* (0.021)	-0.001 (0.004)	-0.006 (0.008)	0.008 (0.009)	0.022 (0.019)	0.052** (0.023)	0.036 (0.022)	-0.008 (0.008)	-0.003 (0.008)	-0.006 (0.009)
Friend of local mayor	0.015 (0.021)	-0.001 (0.004)	0.001 (0.008)	0.019* (0.010)	0.019 (0.019)	0.032 (0.024)	0.027 (0.024)	0.002 (0.008)	0.002 (0.008)	-0.010 (0.009)
Friend of president	-0.003 (0.022)	0.004 (0.004)	0.001 (0.009)	0.020** (0.010)	0.016 (0.020)	0.022 (0.023)	0.018 (0.022)	-0.003 (0.008)	0.007 (0.008)	-0.008 (0.010)
Large business	0.020 (0.018)	-0.002 (0.003)	-0.001 (0.007)	0.009 (0.008)	-0.006 (0.017)	0.015 (0.021)	0.010 (0.020)	-0.009 (0.007)	0.00002 (0.007)	0.014* (0.008)
Small business	0.013 (0.018)	0.003 (0.003)	0.003 (0.007)	0.001 (0.008)	-0.012 (0.016)	0.006 (0.020)	0.007 (0.019)	-0.004 (0.007)	0.0003 (0.006)	0.012 (0.008)
Formal written contract	-0.002 (0.015)	0.001 (0.003)	-0.006 (0.006)	-0.016** (0.007)	-0.008 (0.014)	-0.034** (0.017)	-0.028* (0.016)	0.001 (0.006)	-0.007 (0.005)	0.007 (0.007)
Two-sided p-value from F-test of joint significance	0.075*	0.086*	0.524	0.688	0.477	0.468	0.658	0.458	0.123	0.337

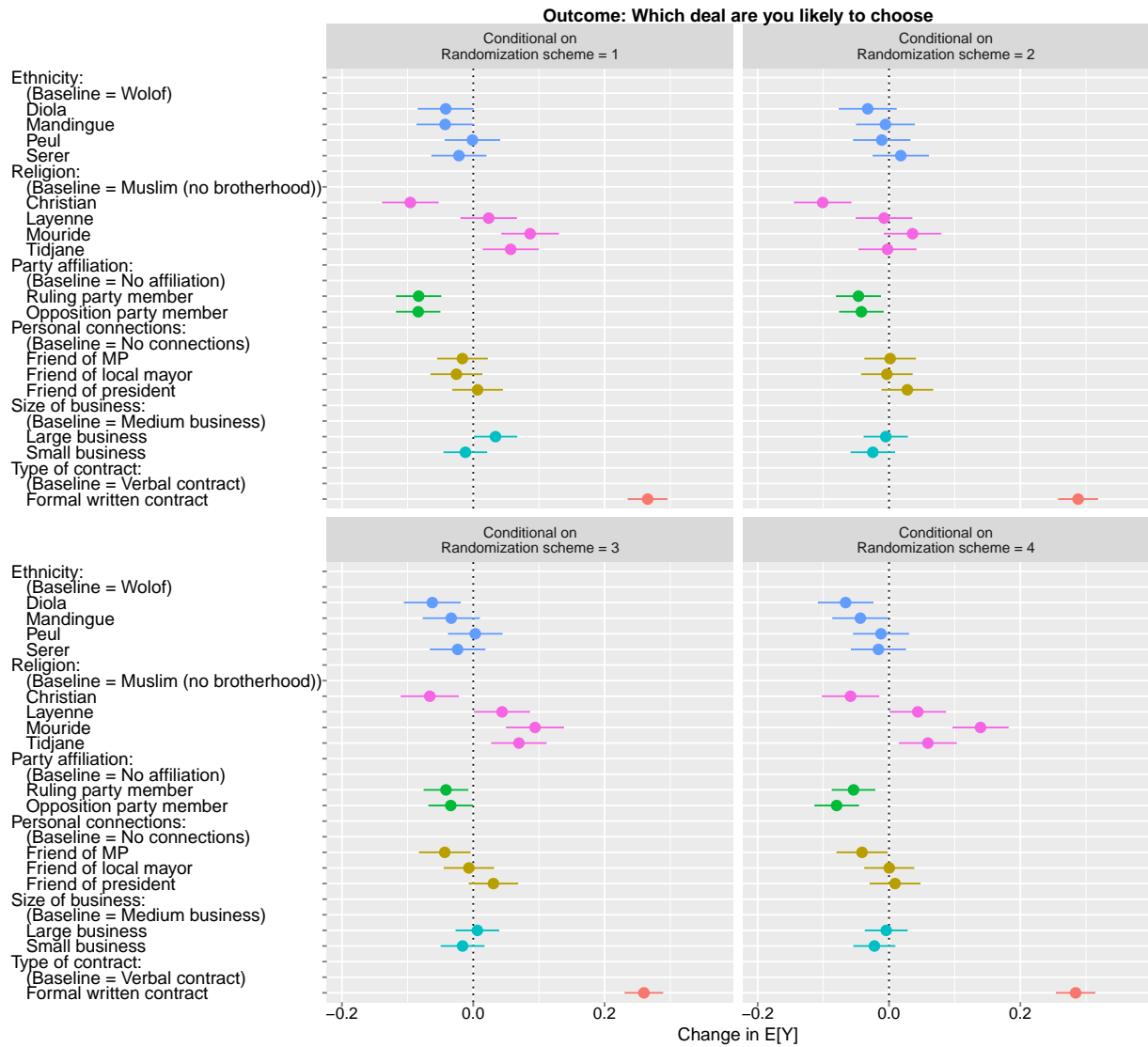
Note:

*p<0.1; **p<0.05; ***p<0.01

Notes: This table presents the results of regressing respondent characteristics on treatment group indicators, and also presents the two-sided p-values from F-tests of joint significance.

Table A4: Balance across respondent characteristics

A.6.4 No attribute order effects



Notes: This figure presents the results by the four randomization schemes for attribute groupings. The specific attribute position orders are shown in Table A5. For example, the bottom-left graph corresponds to the third randomization scheme, for which the size of the business appeared first on the profile, ethnicity and religion composed the second attribute grouping, the contract type appeared third, and the political connections of the firm manager appeared last.

Figure A5: Results by randomized vertical order of attributes

	Contract type	Political profile	Business size	Ethnicity and religion
Randomization scheme = 1	1	2	3	4
Randomization scheme = 2	4	1	2	3
Randomization scheme = 3	3	4	1	2
Randomization scheme = 4	2	3	4	1

Table A5: Position order of attributes per randomization scheme

A.6.5 Treatment does not predict attrition

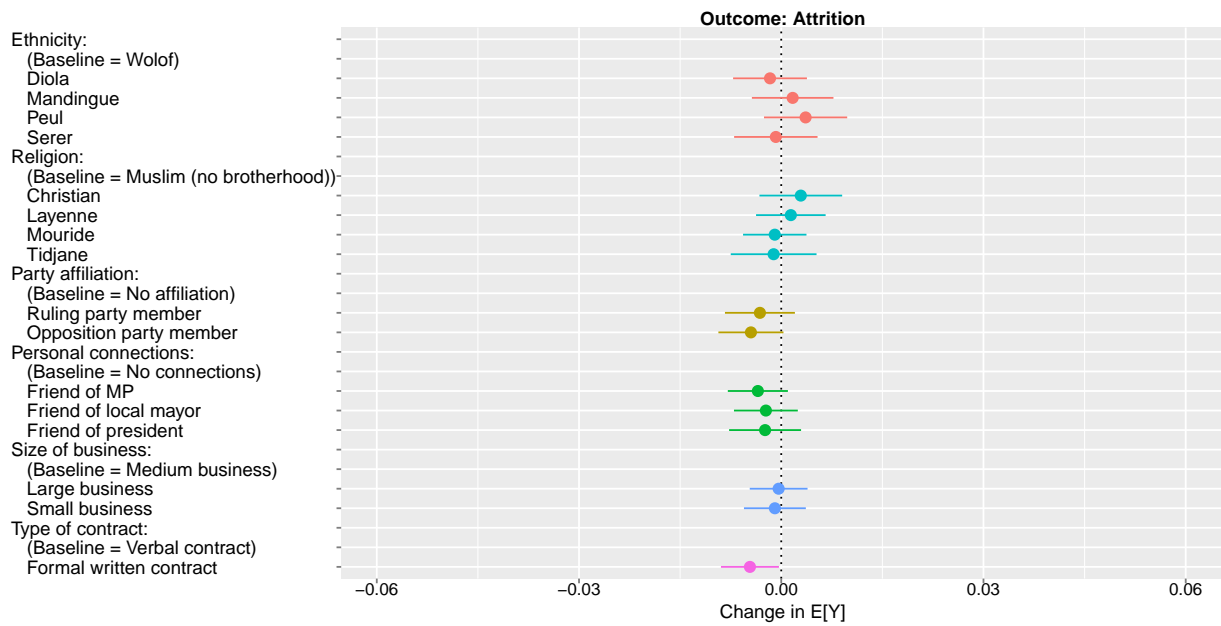


Figure A6: Attrition as predicted by treatment

A.7 Corresponding tables for figure results

A.7.1 AMCE table results: full sample

Attribute	Trait	AMCE	Std..Err	Significance
Ethnicity	Diola	-0.051	0.011	***
Ethnicity	Mandingue	-0.032	0.011	**
Ethnicity	Peul	-0.005	0.011	
Ethnicity	Serer	-0.011	0.011	
Party affiliation	Ruling party member	-0.056	0.009	***
Party affiliation	Opposition party member	-0.060	0.009	***
Personal connections	Friend of MP	-0.025	0.010	*
Personal connections	Friend of local mayor	-0.008	0.010	
Personal connections	Friend of president	0.019	0.010	
Religion	Christian	-0.081	0.011	***
Religion	Layenne	0.026	0.011	*
Religion	Mouride	0.089	0.011	***
Religion	Tijani	0.046	0.011	***
Size of business	Large business	0.008	0.009	
Size of business	Small business	-0.019	0.009	*
Type of contract	Formal written contract	0.274	0.009	***

Note: *p<0.1; **p<0.05; ***p<0.01

Table A6: AMCE results for prefer outcome

Attribute	Trait	AMCE	Std..Err	Significance
Ethnicity	Diola	0.042	0.012	***
Ethnicity	Mandingue	0.026	0.012	*
Ethnicity	Peul	0.008	0.012	
Ethnicity	Serer	0.014	0.011	
Party affiliation	Ruling party member	0.066	0.009	***
Party affiliation	Opposition party member	0.057	0.009	***
Personal connections	Friend of MP	0.038	0.010	***
Personal connections	Friend of local mayor	0.021	0.010	*
Personal connections	Friend of president	0.023	0.011	*
Religion	Christian	0.080	0.012	***
Religion	Layenne	-0.023	0.011	*
Religion	Mouride	-0.076	0.011	***
Religion	Tijani	-0.040	0.011	***
Size of business	Large business	-0.012	0.009	
Size of business	Small business	0.018	0.009	*
Type of contract	Formal written contract	-0.273	0.009	***

Note: *p<0.1; **p<0.05; ***p<0.01

Table A7: AMCE results for breach outcome

A.7.2 Conditional AMCE table results: formal vs. informal firms

Variables	Conditional Estimate	Std. Error	Significance
Diola	-0.097	0.020	***
Mandingue	-0.077	0.021	***
Peul	-0.026	0.020	
Serer	-0.031	0.020	
Formal firm	-0.104	0.032	***
Ruling party member	-0.065	0.016	***
Opposition party member	-0.042	0.016	***
Friend of MP	-0.036	0.017	**
Friend of local mayor	-0.032	0.017	*
Friend of president	0.002	0.018	
Christian	-0.105	0.020	***
Layenne	0.020	0.020	
Mouride	0.124	0.019	***
Tijani	0.058	0.018	***
Large business	0.012	0.015	
Small business	-0.045	0.015	***
Formal written contract	0.155	0.015	***
Formal firm × Formal written contract	0.182	0.018	***
Formal firm × Friend of MP	0.016	0.021	
Formal firm × Friend of local mayor	0.033	0.021	
Formal firm × Friend of president	0.022	0.022	
Formal firm × Ruling party member	0.015	0.020	
Formal firm × Opposition party member	-0.028	0.019	
Formal firm × Large business	-0.007	0.018	
Formal firm × Small business	0.040	0.018	**
Formal firm × Diola	0.071	0.024	***
Formal firm × Mandingue	0.071	0.025	***
Formal firm × Peul	0.031	0.024	
Formal firm × Serer	0.032	0.023	
Formal firm × Christian	0.036	0.024	
Formal firm × Layenne	0.010	0.023	
Formal firm × Mouride	-0.050	0.023	**
Formal firm × Tijani	-0.016	0.023	

Note: *p<0.1; **p<0.05; ***p<0.01

Table A8: AMCE results by firm formality

A.7.3 Conditional AMCE table results: co-ethnicity and co-religiosity

A.7.3.1 Co-ethnicity

Variables	Conditional Estimate	Std. Error	Significance
Coethnic	0.115	0.035	***
Diola	-0.014	0.013	
Mandingue	-0.001	0.013	
Peul	0.012	0.013	
Serer	0.018	0.013	
Coethnic × Diola	0.002	0.055	
Coethnic × Mandingue	0.035	0.038	
Coethnic × Peul	0.024	0.023	
Coethnic × Serer	-0.013	0.027	
<i>Note:</i>		*p<0.1; **p<0.05; ***p<0.01	

Table A9: AMCE results by co-ethnicity

A.7.3.2 Co-religiosity

Variables	Conditional Estimate	Std. Error	Significance
Co-religious	0.104	0.032	***
Christian	-0.054	0.013	***
Layenne	0.057	0.012	***
Mouride	0.087	0.014	***
Tijani	0.056	0.013	***
Co-religious × Christian	0.138	0.039	***
Co-religious × Layenne	0.034	0.055	
Co-religious × Mouride	0.006	0.023	
Co-religious × Tijani	-0.004	0.024	
<i>Note:</i>		*p<0.1; **p<0.05; ***p<0.01	

Table A10: AMCE results by co-religion

A.8 Ruling out general distaste for politics

As a check for whether a general distaste for politics drives the results presented in Figure 4, I subdivide the sample by respondents' political affiliations and re-estimate results. Members of political parties arguably do not have a distaste for politics, and as Figure A7 shows, these subgroups still produce significant effects. This suggests that there are alternate mechanisms at play in the results discussed in Section 5.3.

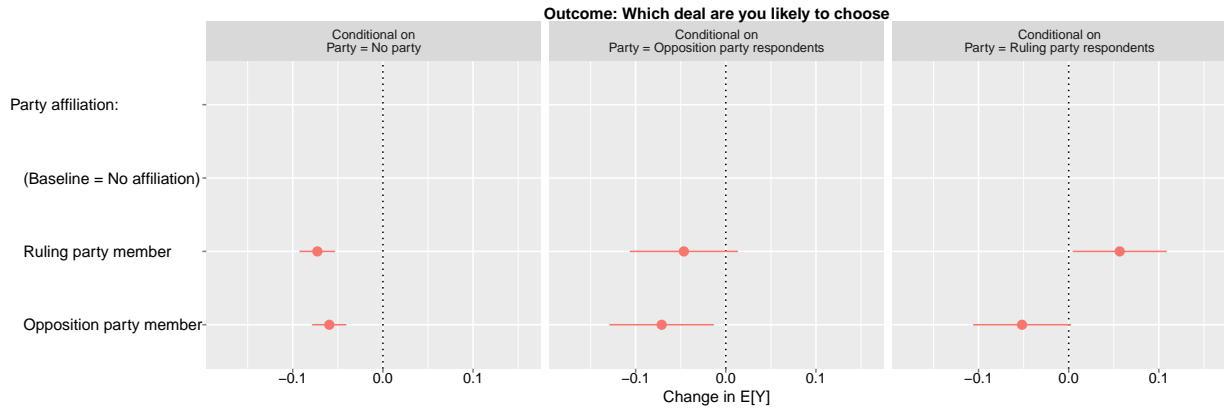


Figure A7: Effects by respondents' political affiliations