# Social, Formal, and Political Determinants of Trade Under Weak Rule of Law: Experimental Evidence from Senegalese Firms[*]

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## Abstract

How do firms ensure secure exchange when the rule of law is weak and contracting institutions privilege the politically connected? In developing countries, firms may use social, formal, or political heuristics when selecting business partners, but how these factors jointly impact exchange remains understudied. In this article, I develop these theoretical mechanisms and test their impact with a conjoint experiment administered to 2,389 formal and informal firms in Senegal. I find evidence in support of all three theories: To varying degrees, social, state, and political factors simultaneously impact firms' sense of deal security and likelihood of exchange. The results demonstrate the substantial influence of formal predictors of exchange even in an overwhelmingly informal business environment, and also establish the countervailing effects of political connections on trade. These findings suggest that firms in developing countries must contend with an intricate political calculus to ensure their growth.

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# 1 Introduction

In developing countries, informal influences coexist with formal institutions to critically shape markets (North 1991). How do firms navigate the complex interplay of formal and informal influences to ensure secure exchange when the rule of law is weak? Existing research tends to test in isolation the influence of social factors like ethnic and religious ties, formal factors such as state-backed contracts, and political factors such as connections to the state (e.g. Grimard 1997; Fisman 2001). But the reality is more complex, and firms in developing contexts must often consider a confluence of social, formal, and political factors to ensure secure exchange. These tensions are increasingly salient as emerging markets develop at breakneck speed, pitting traditional, informal forms of doing business against formal, state-backed regulations.

In this article, I develop a theory for how these seemingly competing influences jointly affect firms' decisions to do business. I argue that ethnic and religious networks increase the likelihood of contract enforcement, and that state-backed contracts similarly inspire confidence in trade by decreasing the perceived probability of contract breach. By contrast, the impact of political connections on exchange is theoretically vaguer. 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? I argue that politically connected business partners pose significant risks under selectively enforced rule of law, as connections enable the subversion of state institutions during contract disputes. Because politically connected trading partners are able to break contracts with relative impunity, firms avoid trading with them unless the political advantages outweigh the heightened risks of defection.

To test the joint impact of these theoretical claims, I administered a survey with an embedded conjoint experiment to 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—firms that have registered and not

registered with the state, respectively—in order to gain theoretical leverage from the different enforcement and recourse options available by sector.[1] From each firm, I surveyed the employee responsible for the firm's deals and contracts, which was most often firm owners themselves. In contrast to studies relying on rank-and-file employee responses, my sample is thus composed of respondents who actually hold decision-making power for their firms when considering new business opportunities. The conjoint experimental framework enabled simultaneous testing of this paper's multiple theoretical implications by presenting respondents hypothetical deals with randomized social, formal, and political profile attributes. These attributes were selected based on extensive interviews with firm owners in Senegal conducted over several years. 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 confirm that social, formal, and political considerations all motivate firms' decisions to engage in business, to varying extents. While ethnic group and religious affiliation affected respondents' willingness to trade in the aggregate, only co-religiosity—and not co-ethnicity—increased the likelihood of deal acceptance. This is likely due to the business networks that form in Senegal around religious brotherhood membership, where the costs of defecting on in-group members are high both financially and socially. 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; in such scenarios, respondents were *more* likely to trade.

The results also show that firm owners rationally chose deals with partners they believed were less likely to break contracts. Again an exception, however, were the most highly connected business partners. Although these partners were perceived as significant risks of contract breach, respondents nevertheless sought deals with them due to the potential rewards: access to lucrative

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[1]This definition follows existing research on the informal economy (see, e.g., De Mel, McKenzie and Woodruff 2013).

state markets and contracts. This suggests that there exists a threshold of political influence at which one's political connections become purely an asset rather than a liability.

By testing the impact of the varied determinants of trade, I make several contributions to the literatures on political connections, economic development, and the formal and informal institutions underpinning 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, I demonstrate that there may be an unintended *negative* consequence to possessing connections: stifled exchange. The results also suggest, however, that there is a tipping point at which a firm's connections become so powerful that they dominate the private sector—other firms seek their partnership in spite of the increased risks of contract breach. In contrast to Bhandari (2021), these results demonstrate that firms in countries with weak rule of law face a different, more complex calculus than consumers when considering political connections in exchange.

Second, the results 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 (e.g. Polanyi 1944; Granovetter 1985), the findings in this article suggest that formal institutions may still offset social and political risks, including for firms operating in the informal economy. These results thus complicate arguments from international actors positing that formalization is essential for unlocking the protective benefits of formal institutions.

Finally, this project reached an important sample of formal and informal firm owners at a substantial scale, building the descriptive evidence base for how firms operate in contexts with uneven rule of law. In establishing the joint impact of social, formal, and political determinants of trade for both formal and informal firms, these findings show how formal firms must rely on informal heuristics—and similarly how informal firms rely on formal signals of deal security—when choosing business partners. Overall, these findings improve our understanding of the interplay between formal and informal institutions in developing countries' private sectors, and can help to inform policy to mitigate trade losses stemming from politically induced risk.

## 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). Institutions—both formal and informal—that protect against defection can solve commitment problems in exchange, thereby facilitating trade and growth (North and Weingast 1989; North 1990; 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 article's empirical design.

### 2.1 Social mechanisms for secure exchange

A "dense social network of informal constraints" can lower transaction costs, boost confidence in exchange, and ensure a sustained enforcement equilibrium outside of the state (North 1991, 99). For example, historical evidence demonstrates how lasting enforcement equilibria in trading markets emerged via reputational mechanisms based on honoring contracts and punishing defectors (Greif 1989, 1993; Milgrom, North and Weingast 1990). But there are many modern markets where such self-enforcing institutions are weak or non-existent, which may be partly 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).

Repeated interactions also play a vital role for secure exchange via social mechanisms. Folk theorem results show how repeated play over long time horizons facilitates multiple equilibria (e.g. Fudenberg and Maskin 2009), even in the absence of third-party enforcement. Related work on in-

complete contracts demonstrates how contract enforcement can arise via relational contracts based on repeated interactions (e.g. Baker, Gibbons and Murphy 2002). However, modern, urban markets increasingly involve one-shot exchanges—with partners for whom reputational information is scarce or too costly to gather—in which a sustained equilibrium based on repeated interaction is inherently impossible.

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, matching tastes and preferences, shared enforcement technologies, and common behavioral patterns (Wintrobe et al. 1995; 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 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 Africa confirms that even in environments with weak rule of law, co-ethnicity smooths trade and decreases contract defection (Sanchez de la Sierra 2018). I thus predict that members of shared social groups are less likely to fear defection without recourse and are 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 1990; 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

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of a deal, and clarify recourse options in the case of breach (e.g. Williamson 1985; Hart 1995). These considerations may be particularly applicable to legal environments which are legacies of the French statist model, like Senegal's. The concept of legal command—a consequence of juridical sovereignty conferred by the international community—might also help to explain the impact of formal, legal institutions for structuring exchange even in weak states (Englebert 2009). 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 may signal something about their type (e.g. Bohnet, Frey and Huck 2001).[2] Existing empirical evidence confirms that even in environments with weak contracting institutions, formal contracts can boost levels of trade (Li, Poppo and Zhou 2010; Sanchez de la Sierra 2018; Bhandari 2021). 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 markets where the social and 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; Post 2018). These connections can be invaluable in states that have limited capacity to serve the whole population or in states where ad-

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[2]It 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 2021).

ministrative procedures are prohibitively difficult or expensive.[3] As a result, politically connected firms enjoy significant advantages in private-sector exchanges. 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). Because politically connected firms are able to break contracts with relative impunity, unconnected firms have incentives to avoid conducting business with connected ones. In this way, political connections may stifle trade.

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 increase in the level of connectivity, with presidential connections being the most lucrative, particularly in hyper-presidential regimes (Bratton 2007). In environments where governmental hierarchy dictates access to state resources—and, critically, the share of resources that can be extracted—top-level political connections grant firms the largest benefits (e.g. Joseph 1987). For the firms that have them, these connections magnify 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, partnering with politically connected firms can serve as a launching pad for developing valuable political connections for one's own firm. Political connections can thus serve contradictory roles—at once a trade risk and liability.

I argue that when the advantages are sufficiently high, 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? Stronger and more influential political connections serve to multiply the existing benefits of political connections. Conducting business with firms whose owners are extremely well connected may appeal to businesses who hope to access

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[3]Political connections may thus be particularly valuable in autocratic settings (see, e.g., Fisman 2001). Formal contracts, by contrast, may hold less predictive power for exchange in autocratic environments if legal institutions cannot be relied upon to function at least somewhat impartially.

these rewards, despite these partners' ability to break contracts with relative impunity. Doing business with, for example, a firm connected to the president may be risky, but because such firms can accrue outsized benefits in terms of capital, procurement, and market share, these risks may be palatable to ambitious firms seeking to expand their operations. When partners' political connections are less powerful, in contrast, 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 moderating role 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 along several key dimensions.[4] 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 (Frye 2004). Due to legal requirements, informal businesses are often unable to use state institutions, including police and courts, to enforce their contracts. In the absence 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

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[4]In this article, I consider formal firms to be those that have registered with the state and thus possess an official state registration number. Of course, in practice many formal firms still operate informally in several respects, but they differ from unregistered firms in their visibility to the state. I use "(in)formal firms" and "firms in the (in)formal sector/economy" interchangeably.

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 economy may view the risk of dealing with politically connected firms differently than formal firms. The primary 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, and formal lenders often restrict their capital to firms in the formal economy. In fact, political connections in general could pose a larger risk to informal firms because such firms are violating the law by their very existence. This puts them at an extreme disadvantage during contract disputes with politically connected firms, especially firms that are connected to local officials who possess the authority to shut down informal businesses. Firms in the informal economy are therefore more likely than formal firms to resist deals with politically connected partners.

## 3 Context

### 3.1 Contracting institutions and political connections

In spite of recent political turmoil, Senegal is a relatively stable, multi-party democracy in a politically turbulent region of the world. 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 procedural 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. Amid growing concerns that Senegal's president

has been consolidating executive power in recent years, connections to the president are particularly valuable in the business environment. In general 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.[5] 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 pervade Senegal's business environment. As much as 97% of Senegalese companies are informal, and the informal economy accounts for half of job-seekers and around 30% of all GDP activity (International Labour Organization 2020).[6] Though formal and informal firms in Senegal tend to vary significantly along important dimensions such as size and wealth,[7] they may operate within relatively similar industries and markets. For example, a kiosk selling office supplies may be informal while the kiosk across the street has chosen to formalize. However, the typical informal business has fewer employees, a lower volume of business, and is less likely to be housed within a permanent physical structure relative to the median formal firm. Still, even for formal firms, informalities often dictate business operations. Approximately 83% of the formal

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[5]Breaking these figures down by the formal vs. informal sector, 64% of formal firms and 50% of informal firms believe political connections are useful; 53% of formal firms and 52% of informal firms think connections enable contract breach; 22% of formal firms and 21% of informal firms have complete confidence in courts; and 31% of formal firms and 27% of informal firms have partial confidence in courts.

[6]Firms in Senegal are considered formal if they have registered with the state and received a registration number called the NINEA. While there are formal firms that behave informally—for example, failing to register with tax authorities and using primarily social enforcement tactics—they differ from informal firms in this key measure of their visibility to the Senegalese state.

[7]See, for example, Figure 2, described in greater detail in Section 4.

firms in my sample report using informal, verbal contracts as part of their regular business dealings, with 31% identifying them as the contract 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, particularly in Dakar, firms are increasingly conducting exchange with newly entering businesses—businesses that have not yet established reputations, nor developed repeated trading relationships with existing firms. As one logistics manager of a large manufacturing firm put it, the explosion of businesses has made it more difficult to identify trustworthy business partners, absent other signals.[8] 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 in Dakar must increasingly rely on mechanisms outside of reputational considerations and repeated interactions to ensure secure operations. In rural Senegal, by contrast, mechanisms historically associated with smaller-scale trading equilibria (e.g. Greif 1989; Fafchamps and Minten 2001) continue to structure markets.

Classic hold-up problems characterize many of the 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.[9] 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 ever being involved in prolonged 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 19%, respectively.

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[8]Author interview conducted in Dakar, July 28, 2015.

[9]Depending 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 immediately apparent.
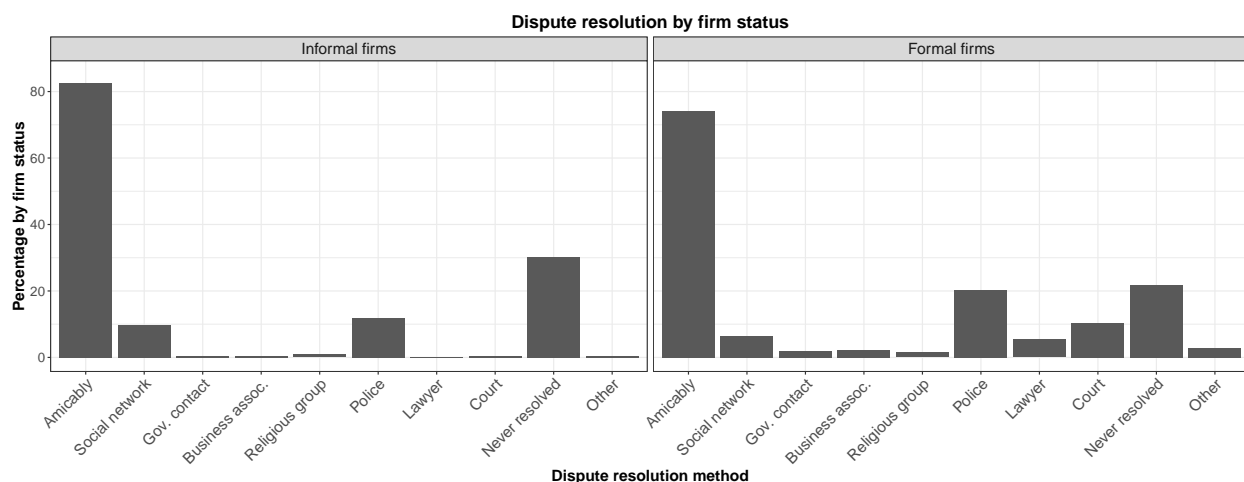
Figure 1: How firms in sample resolved contract disputes

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 rely 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 use the police to resolve some disputes—still at a rate lower than formal firms—virtually none use other means of formal enforcement such as lawyers or courts.[10] As the owner of an informal general store in Dakar stated: "We're not legally even supposed to exist, so it's not worth the effort [to seek formal enforcement]."[11] Informal firms are also more likely to never resolve their contract disputes. Unlike other places in West Africa where membership in business associations is common (e.g. Grossman 2020), membership in market associations was rare in this sample; only 17% of respondents belonged to a business association, and, as Figure 1 shows, almost no one reported a dispute resolution via a business association. Overall, the uncertainty surrounding contract enforcement in its fraught business environment makes Senegal an apt case for examining the impact of formal and informal determinants of exchange.

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[10]This is true even for the wealthiest informal firms in the sample, whose profits rivaled those of the largest formal firms.

[11]Translated author interview conducted in Dakar, July 12, 2016.

## 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 (e.g. Roeder 2001; Alesina et al. 2003; Fearon 2003). 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 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 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 can serve 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 implemented a survey with a conjoint experiment in Senegal in 2018.

## 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. I targeted firm owners in both the formal and informal economies, populations that have historically been difficult to survey in Senegal due to incentives to keep low profiles. 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 with which I have a longstanding affiliation. 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.[12]

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.[13] I targeted a larger number of formal firms because there is greater variance in both industry and scale of operations for formal firms compared to informal ones. The final sample totaled 2,389 businesses, with 1,582 formal firms and 807 informal firms. The distributions of firm wealth and size by formality status are presented in Figure 2. Sample firms in the formal economy were wealthier and larger overall than informal firms. Though the 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 B1 presents additional summary statistics for the sample.

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[12]The sampling step also varied by sub-neighborhood to ensure that businesses that tend to spatially cluster in certain neighborhoods were not overlooked. Though the sampling step and thus the distance between these geographically clustered firms in the sample is lower, spillovers are unlikely due to the number of non-sampled businesses in between sampled respondents. The consecutive enumeration of firms in a sub-neighborhood unit also helps to mitigate spillover concerns.

[13]When not the owner, this was typically the managing director or the director of administration and finance.
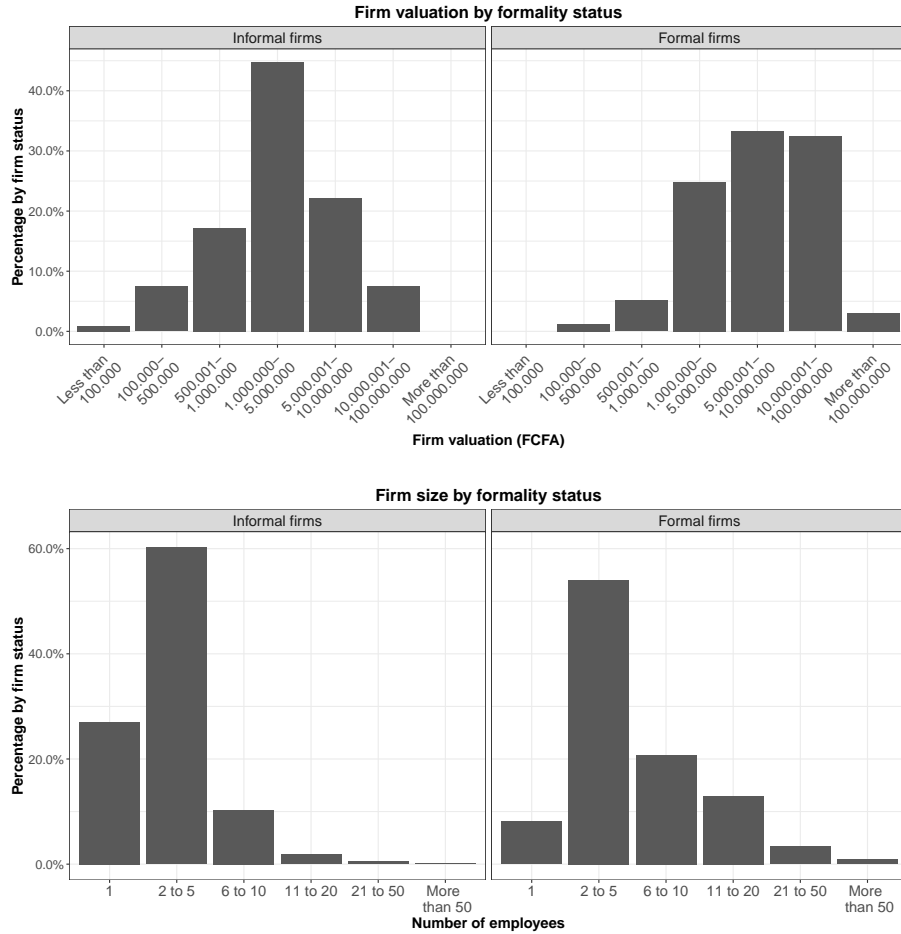
Figure 2: Distributions of firm size and valuation by formality status

## 4.2 Conjoint experimental design

Conjoint analysis offers several advantages for this project. First, it enables the non-parametric estimation of multiple treatment components simultaneously, which is well suited for 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 the multitude of attributes give respondents many ways to justify their choices (Horiuchi, Markovich and Yamamoto 2021).

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,

| 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-registered reference trait of the attribute, used for estimating treatment effects.

Table 1: Attributes and their trait values

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. I selected these attributes following extensive interviews—and in consultation—with firm managers in Senegal, who listed these traits as factors they take into account with potential business partners. Firm managers also advised on which factors to include in order to mitigate conflicting interpretations. 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.[14]

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.[15] The tablets presented respondents with two side-by-side profiles of potential business deals, each with randomized attribute values.[16] For each profile pairing, respondents an-

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

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

[16]Appendix Figure D2 shows an example of how the profiles appeared to respondents.

swered 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 *exchange* outcome) and (2) "Which deal is more likely to end in contract 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 approximate reality (Hainmueller, Hangartner and Yamamoto 2015).[17] 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 avoid 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 are non-parametric and 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.[18] Treatment coefficients can thus be interpreted as the probability that the deal is chosen when it contains that particular attribute trait, relative to the baseline trait. To analyze how these effects are moderated by background characteristics such as firms' formality status, I estimate conditional AMCEs by interacting the treatment groups with the relevant covariate of interest. In all analyses, standard errors are clustered at the respondent level, in line with Hainmueller, Hopkins and Yamamoto (2014).[19] 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.

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[17]Respondents could also choose "I prefer not to respond" or "I don't know."

[18]The full specification is presented in Appendix Section E.

[19]Clustering standard errors at the district level yields similar results (see Appendix Section J).

## 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 F.1 shows, effects are similar across all rounds. 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 F.2). Third, I demonstrate in Appendix F.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 F.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—less than 2% of total observations for the primary outcome of interest (*accept*)—and was not driven by treatment assignment (see Appendix F.5). Furthermore, including these observations with interpolated means does not change the substance or significance of results throughout.

## 5 Results

I first estimate results for the entire experimental sample to probe how firms in Senegal are moved by varied social, formal, and political forces on the whole. What is the relative importance of these traits when firm leaders choose their business partners? I present these full-sample results for the *exchange* outcome in Figure 3. The baseline traits are listed at the top of each attribute grouping, with the AMCEs and their 95% and 90% confidence intervals below. I examine and extend these results in the following subsections.

AMCEs for Full Sample: Exchange Outcome
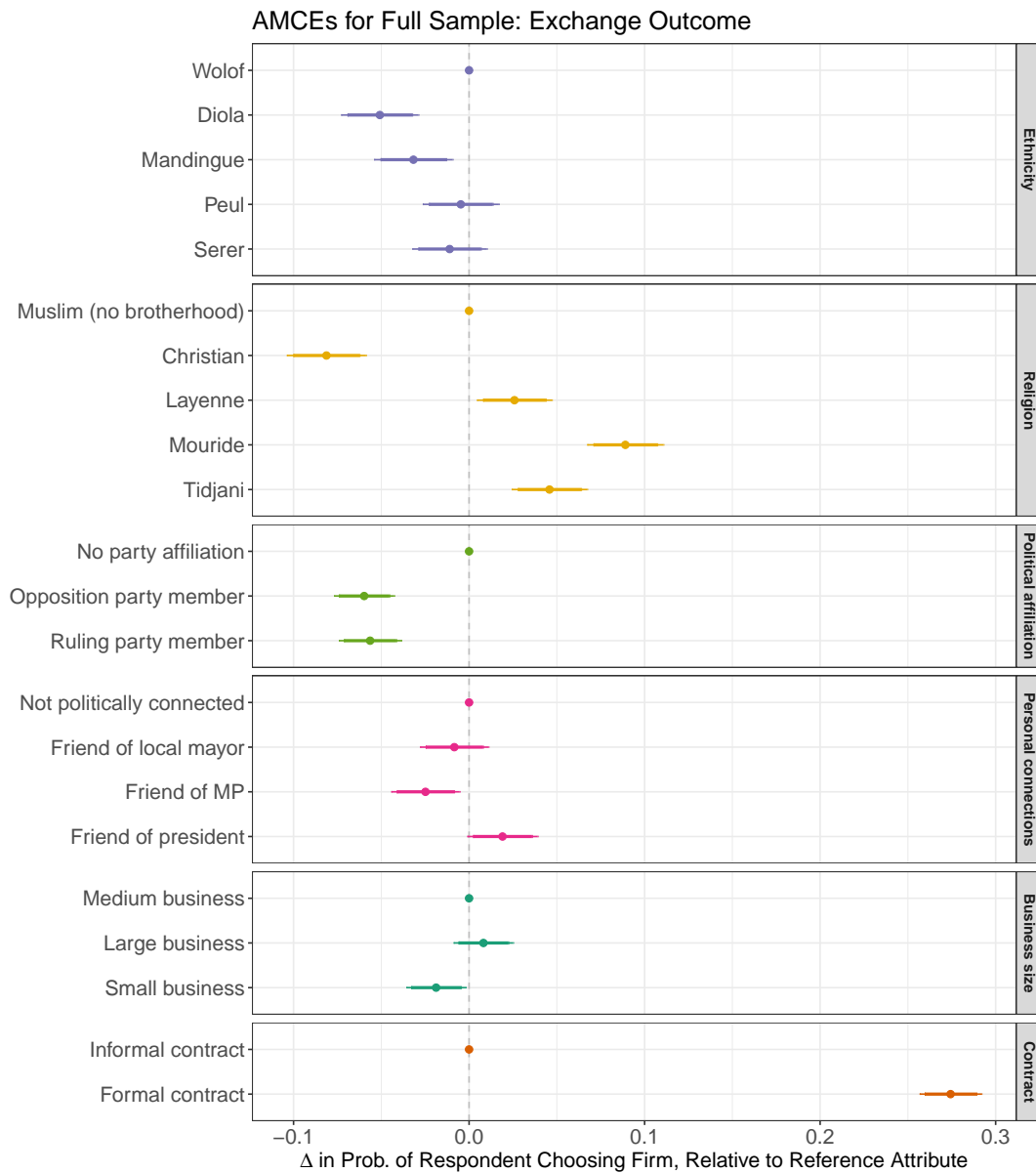
*Notes:* The outcome is based on the question: "Which deal are you more likely to accept?" The change in probability of a deal being chosen, relative to the baseline attribute trait, is on the horizontal axis. The corresponding table results are in Appendix Table G5.

Figure 3: 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 3, 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 (a reduced probability of as much as 0.05) 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 modal firm owner in Senegal and in the sample—a member of a Muslim religious brotherhood—to seek recourse via social sanctioning. The Diola people also originate in the Casamance, far from Dakar, and are not as ingrained in the country's cousinage networks, which may also partly explain this result.

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 nearly double in magnitude than ethnicity for certain traits. 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 demonstrate how social factors can shape business when rule of law is weak.[20]

The above results represent the sample's reaction to various social groups in the aggregate. To test for in-group mechanisms specifically, I re-estimate the results with data stratified 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 4 shows the conditional

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[20]These findings might also suggest that the supposed harmony between social groups in Senegal might be overstated by some observers. Indeed, these results chime with growing evidence of politically salient ethnic identity in Senegal, which has flared in recent debates between Senegal's ruling party and opposition.
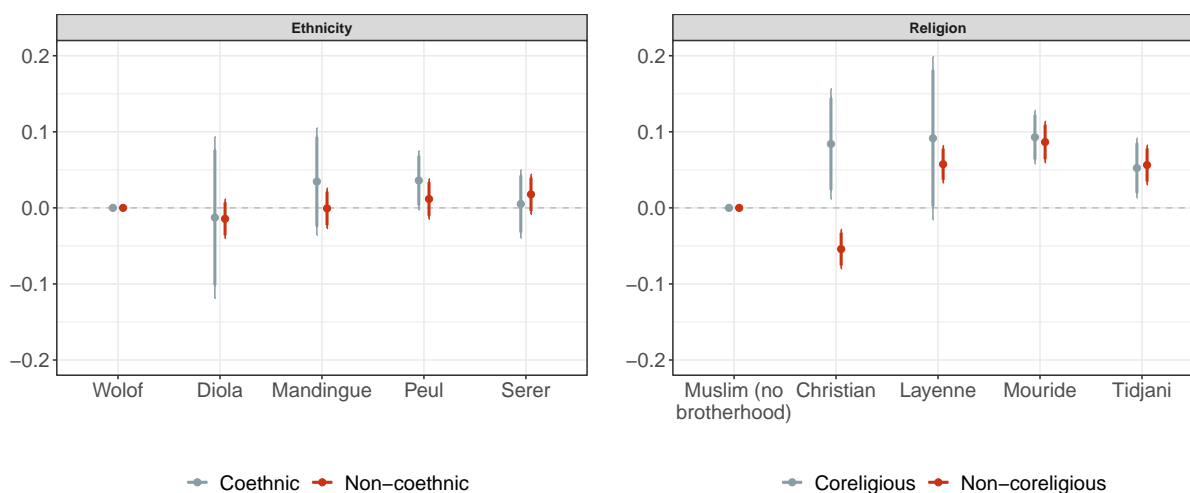
*Notes:* The outcomes are based on the question: "Which deal are you more likely to accept?" Changes in probability of a deal being chosen, relative to the baseline attribute trait, are on the vertical axes. The corresponding table results are in Appendix G.3.

Figure 4: Results conditional on co-ethnicity and co-religiosity

treatment effects. Surprisingly, there were no significant effects along ethnic lines for any ethnic group. 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. By contrast, respondents who were co-religious to a hypothetical business partner were more likely to select that partner. Among non-co-religious respondents, decisions to trade were still affected by religious factors—respondents avoided trade with Christians and 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 moderated firm owners' choices, formal factors also played a large role. As Figure 3 shows, the largest result came not from ascriptive features, but from the type of contract

used in the deal. In contrast to verbal contracts—which structure the majority of trade in Senegal—formal, state-backed contracts increased the probability that respondents chose the deal by 0.27. 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 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 from trading with smaller, non-lucrative businesses.

## 5.3 The "value" of political connections

Figure 3 also shows that political variables factored in firm owners' decisions to do business. Respondents avoided deals with politically connected 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, slightly larger in magnitude relative to the substantive impact of ethnicity, by comparison. In Appendix H, 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.

More indirect political connections also affected firm managers' decisions. In the full sample, there was a small but statistically significant decline in exchange (a reduced probability of 0.03) 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 (increased probability of 0.02) when connected to the president. Though smaller in magnitude relative to direct political connections or social traits, these effects still represent a substantial decrease in exchange when extrapolated to the broader economy. Moreover, these findings suggest that the effects of personal political connections are not universally negative, and confirm 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 3, except in cases where the advantages of risky deals outweigh the negatives. Figure 5 reproduces the *exchange* outcome presented in in Figure 3, and also plots the *breach* outcome. The results in Figure 5 show that, in general, the traits that businesses valued when selecting a deal were indeed inversely correlated with the traits that businesses associated with higher risk of contract breach. 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, however, for when the opposing business partner had the highest type of personal political connection. As Figure 5 shows, 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 dissociate from it. From the perspective of the most 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 resis-

AMCEs for Full Sample: Exchange and Breach Outcomes
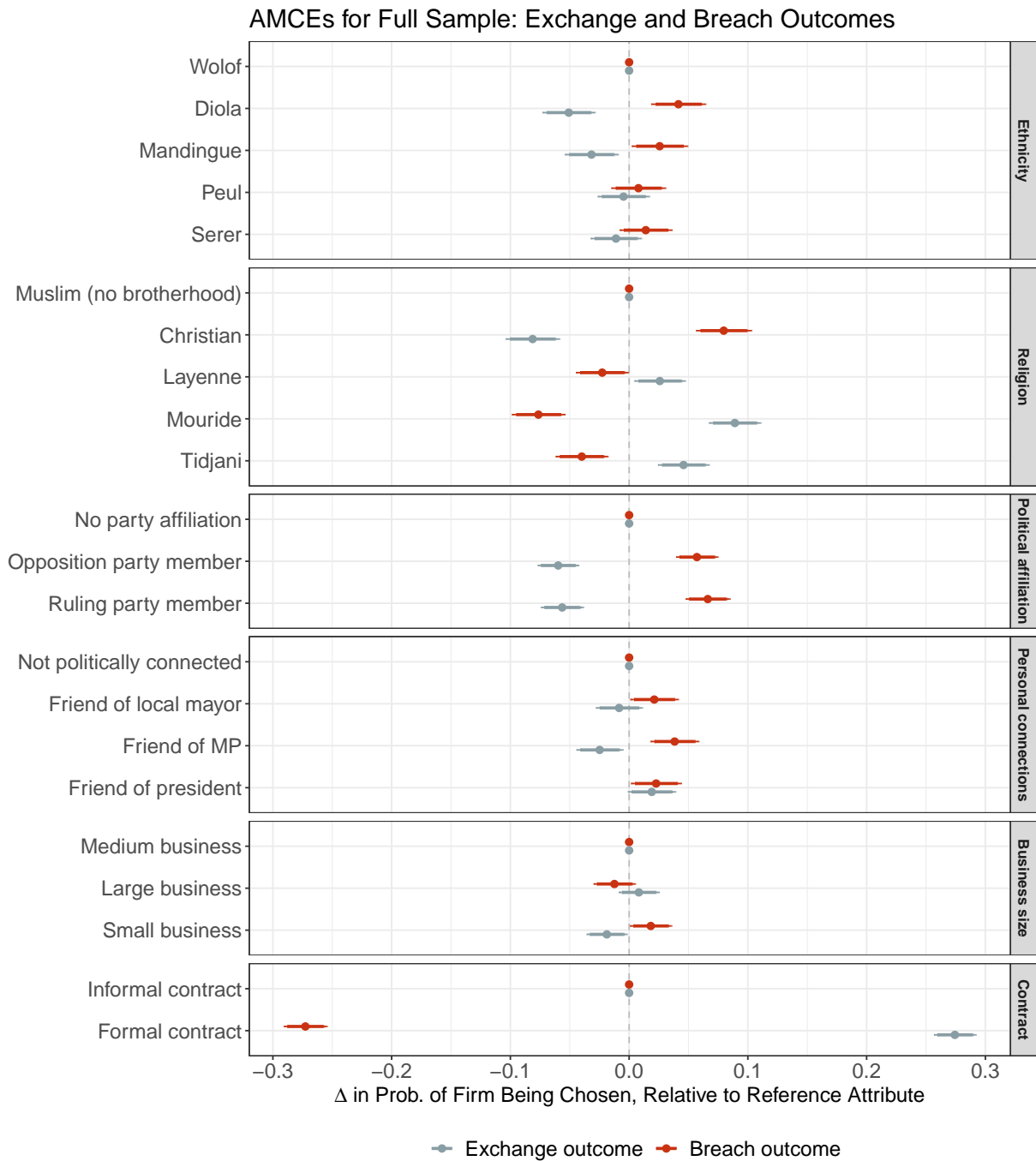
*Notes:* This figure reproduces the results in Figure 3 and adds the *breach* outcome for comparison. The *breach* outcome is based on the question: "Which deal is more likely to end in contract breach?" The change in probability of a deal being chosen, relative to the baseline attribute trait, is on the horizontal axis. The corresponding table results are in Appendix Table G6.

Figure 5: Perceptions of likelihood of contract breach

tance nor reluctance from potential business partners. These results chime with evidence collected in qualitative interviews with firms employees in Dakar. For example, a supply-chain manager at a moderately-connected formal firm in Dakar said that while another firms' political connections can cause "huge headaches" in terms of delays and unfulfilled promises, the opportunity to gain access to lucrative contracts is often too enticing to pass up.[21] 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 doing 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 modal 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, how does the formality status of firms moderate the effects of social, formal, and political factors underpinning trade? I stratify the sample by formality status and re-estimate results. Figure 6 presents conditional treatment effects by firm formality status. As hypothesized, social heuristics were a larger

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[21]Author interview conducted in Dakar, July 6, 2015. On the other side of the equation, in an interview conducted at a lucrative and highly connected firm on July 28, 2015, the logistics manager discussed the firm's deep-rooted political connections as a valuable negotiating tool. Their access to high levels of government, he stated, was why other firms attempt to do business with them.
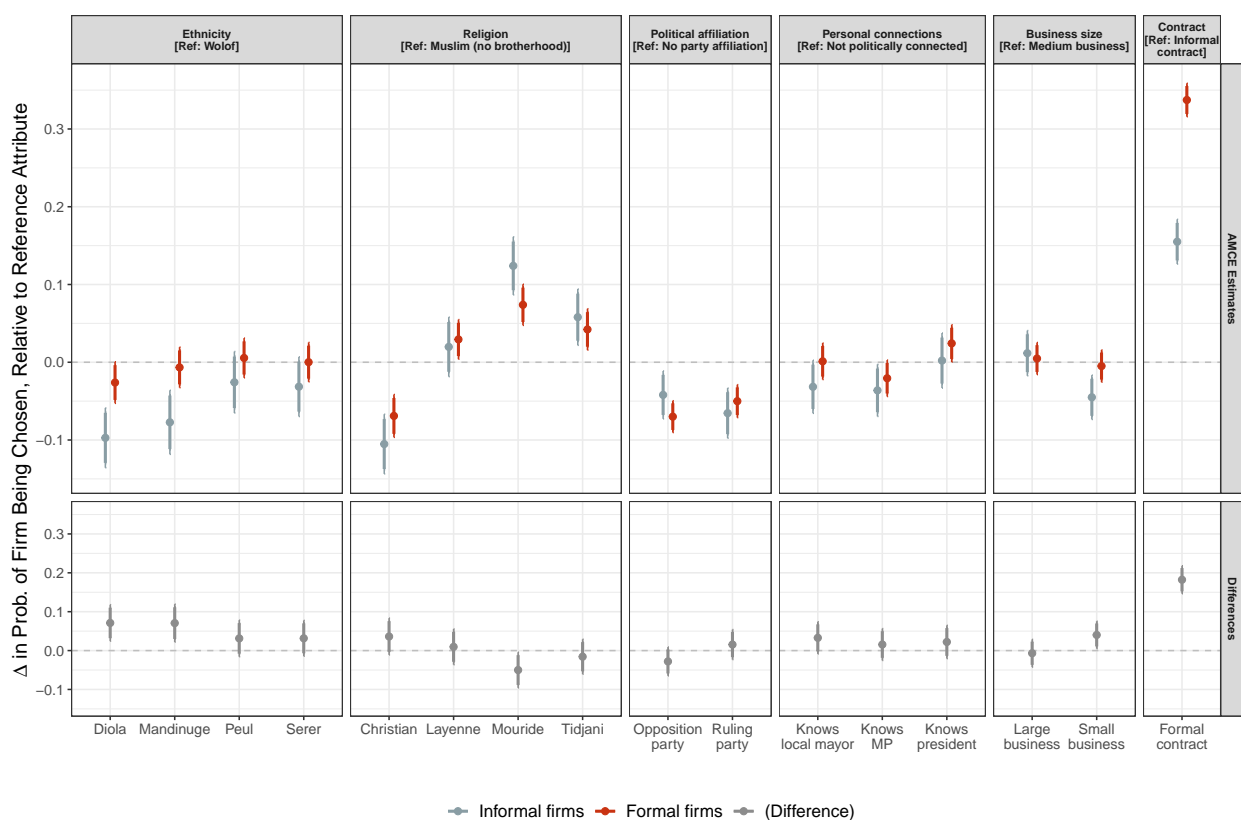
*Notes:* The top panel presents conditional AMCEs by firm formality status, and the bottom panel presents the differences (formal firms − informal firms). The outcome is based on the question: "Which deal are you more likely to accept?" The corresponding table results are in Appendix Table G7.

Figure 6: Results conditional on firm formality status (formal vs. informal firms)

influence for informal firms compared to formal firms. While ethnicity motivated trade for informal firm owners, it had no effect for formal firm owners. By contrast, both formal and informal firm managers made decisions to exchange based on religious affiliation, although the magnitudes of these effects were somewhat larger for informal firms. These results confirm that informal firms rely more on social heuristic devices to ensure smooth trade, but also show that even formal firms place value on social cues of enforcement in business environments characterized by weak rule of law and rampant informalities.

Turning to the 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 of recourse,

as formal firms 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 economies avoided politically affiliated partners, they differed somewhat in the extent to which they sought deals with indirectly connected firms. Local connections did not have an impact on formal firms, but national-level political connections significantly affected their decisions to trade—in opposing directions. They avoided trade with weakly connected partners and sought deals with highly connected partners. This suggests that formal firms are willing to take on the risks of dealing with politically connected firms only when when the potential benefits as a function of those connections are sufficiently high. For informal firms, weak political connections decreased their likelihood of exchange while higher-level connections had no effect. This reflects how lower-level connections are more relevant to informal firms' recourse options and how local politicians exert considerable influence over informal firms' very existence.

# 6   Conclusion

Social, formal, and political factors can all motivate private-sector exchange when the rule of law is weak or selectively enforced. My 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 demonstrate the negative impacts of political connections, stifling trade for all but the most highly connected partners.

Though I show how formal and informal factors shape exchange in developing countries, future research should examine how these influences eventually affect enforcement and dispute resolution. Additionally, future work could more closely examine the interactive impacts of these variables, particularly as there are strong theoretical reasons to believe that formal contracting

may mitigate some of the distrust stemming from social traits in developing contexts.[22] Further research is likewise needed to test whether the determinants of trade lead to broader inequalities and distributive consequences in poor societies. For example, that certain ethnicities or religions are more favored in trade might lead to other negative outcomes for excluded groups. In Senegal and elsewhere, work that investigates group-level inequalities as a function of social-group embeddedness in markets would be a fruitful avenue for research, especially to shed light on whether certain groups fall into an "exchange trap" of sorts. Understanding how private-sector exchange shapes broader societal inequalities—and whether state institutions such as formal contracts may attenuate these inequalities—is important for designing policies that ensure equal growth in rapidly shifting economies. The results of this paper suggest that trade could be segregated along social or political lines at the expense of both sustained growth and societal equality. This also has implications for efforts from international organizations to formalize economies: If social and political determinants remain important even in the formal sector, formalization may not solve fundamental obstacles to developing economies' expansion.

Moreover, while this paper was an initial, experimental attempt to simultaneously examine the varied determinants of exchange under weak rule of law, future work on this topic would be well served to examine exchange data to verify the precise mechanisms by which connections shape exchange. Where available, procurement data, combined with measures of social characteristics and political connectivity, would be particularly well suited for this purpose. Examining industry-based differences would similarly nuance and advance this line of research.

The findings in this paper suggest that policies addressing the economic or institutional constraints to private growth should be expanded to take account of political risk. Particularly because one-shot deals, new 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, perhaps more promisingly, that formal contracts can inspire exchange even in markets

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[22]Though conjoint experiments are often statistically underpowered to detect such interactions, I include estimates of average component interaction effects (ACIEs) in Appendix Section I.

where informal influences abound. Increasing access to formal contracts—while breaking the link between political connections and enforcement—may thus help to spur private-sector development even when underlying state institutions lack capacity or independence.

The theory and findings of this paper are likely to apply to contexts where a mixture of formal and informal mechanisms combine to characterize the business environment, and where rule of law, albeit weak and selectively enforced, still exists to the extent that there are penalties for contract breach.[23] Given that Senegal ranks squarely among African, East Asian, and Latin American countries in terms of its informal business environment and weak contract enforcement institutions, these findings may carry to contexts beyond Senegal. Indeed, effects might be more substantial in institutionally weaker states where political and informal influences in the private sector are even more rampant. The findings regarding in-group preferences are likewise to be stronger in societies where ethnic, religious, and other ascriptive distinctions are more politically salient than in Senegal, of which there are many examples (e.g. Posner 2004). Overall, the results presented in this paper may help to illuminate private-sector inefficiencies and stalled growth in contexts where social and formal influences compete in the marketplace.

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[23]Similarly, a base level of public trust in judicial institutions would be needed for the mechanisms discussed in this article to hold explanatory power. Given this constraint, the theory may apply beyond democracies to authoritarian contexts. For example, Appendix Figure A1 shows that some autocratic countries in Africa rank above Senegal in terms of trust in courts.

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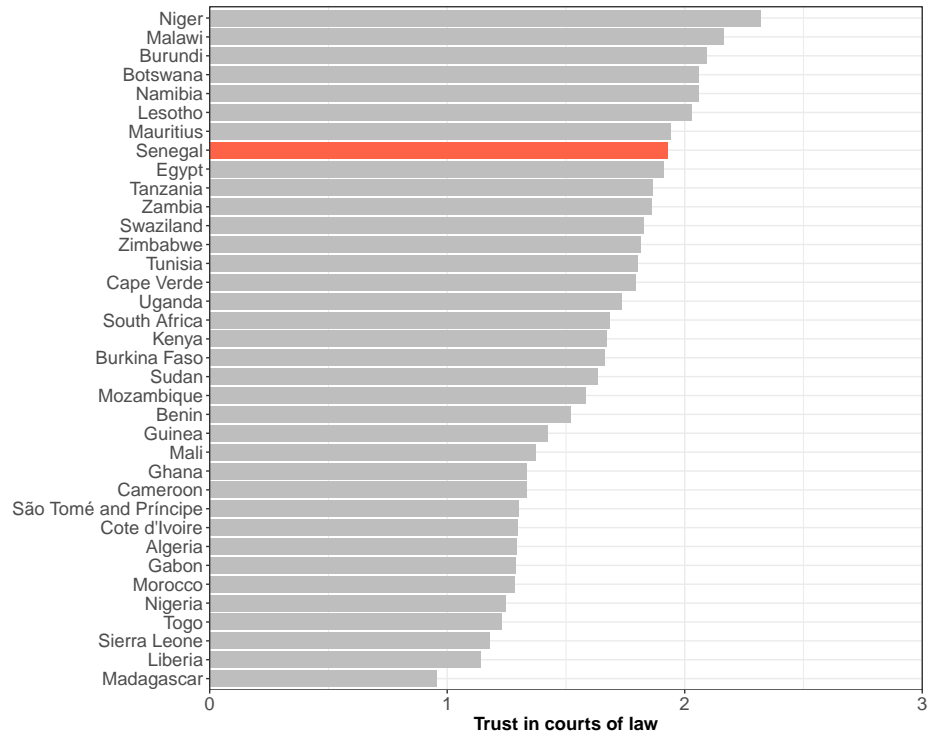# Online Appendix

# A    Trust in courts in Africa



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

# B  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 B1: Sample summary statistics

# C  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.

# D  Conjoint experiment appearance on tablet

Figure D2 shows the conjoint experiment as it appeared to respondents on tablets.
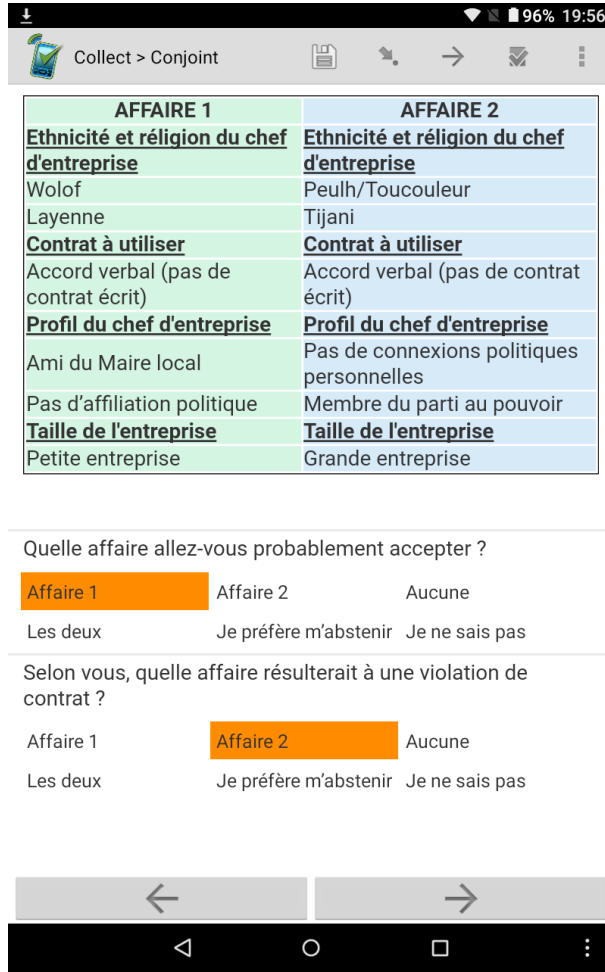
Figure D2: Screenshot of conjoint experiment as it appeared to respondents

# E   Full specification

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

$$
\begin{aligned}
\text{deal\_chosen}_{ijk} =\ & \theta_0 + \theta_1[\text{party}_{ijk} = \text{ruling}] + \theta_2[\text{party}_{ijk} = \text{opposition}] \qquad\qquad\text{(E1)}\\
& + \gamma_0 + \gamma_1[\text{friend}_{ijk} = \text{mayor}] + \gamma_2[\text{friend}_{ijk} = \text{MP}] + \gamma_3[\text{friend}_{ijk} = \text{president}]\\
& + \zeta_0 + \zeta_1[\text{ethnicity}_{ijk} = \text{Serer}] + \zeta_2[\text{ethnicity}_{ijk} = \text{Peul}] + \zeta_3[\text{ethnicity}_{ijk} = \text{Mandingue}] +\\
& \quad \zeta_4[\text{ethnicity}_{ijk} = \text{Diola}]\\
& + \beta_0 + \beta_1[\text{religion}_{ijk} = \text{Tidjane}] + \beta_2[\text{religion}_{ijk} = \text{Layenne}] +\\
& \quad \beta_3[\text{religion}_{ijk} = \text{Mouride}] + \beta_4[\text{religion}_{ijk} = \text{Christian}]\\
& + \alpha_0 + \alpha_1[\text{Size}_{ijk} = \text{large}] + \alpha_2[\text{Size}_{ijk} = \text{small}]\\
& + \upsilon_0 + \upsilon_1[\text{Contract}_{ijk} = \text{formal}] + \varepsilon_i
\end{aligned}
$$

# F Diagnostic tests

## F.1 No carryover effects

Figure F3 presents the main results by choice task, and shows that responses did not substantially change by round.
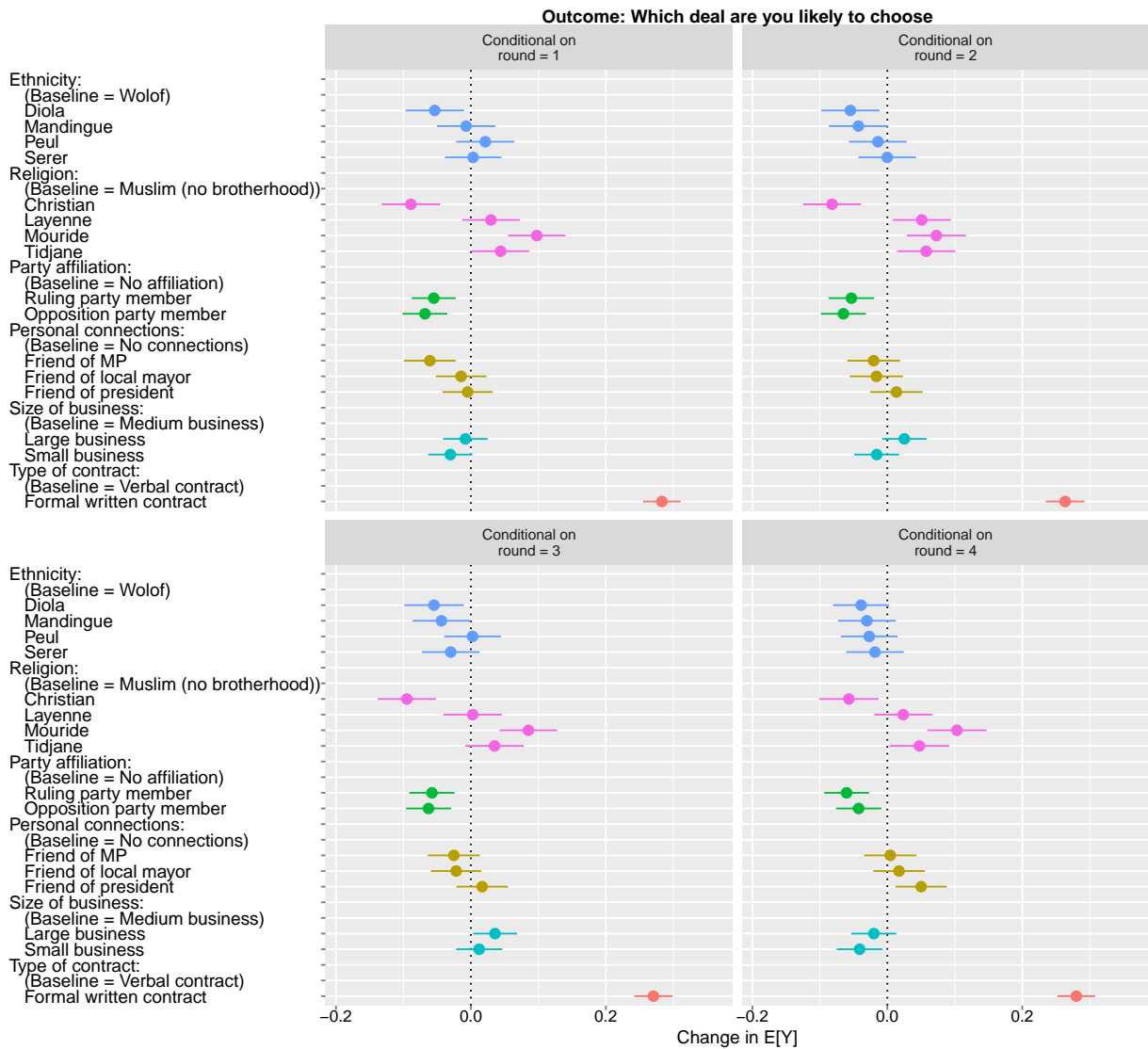


*Notes:* This figure shows the average marginal component effects (AMCEs) based on the round of the survey.

Figure F3

## F.2 No profile order effects



**Outcome: Which deal are you likely to choose**
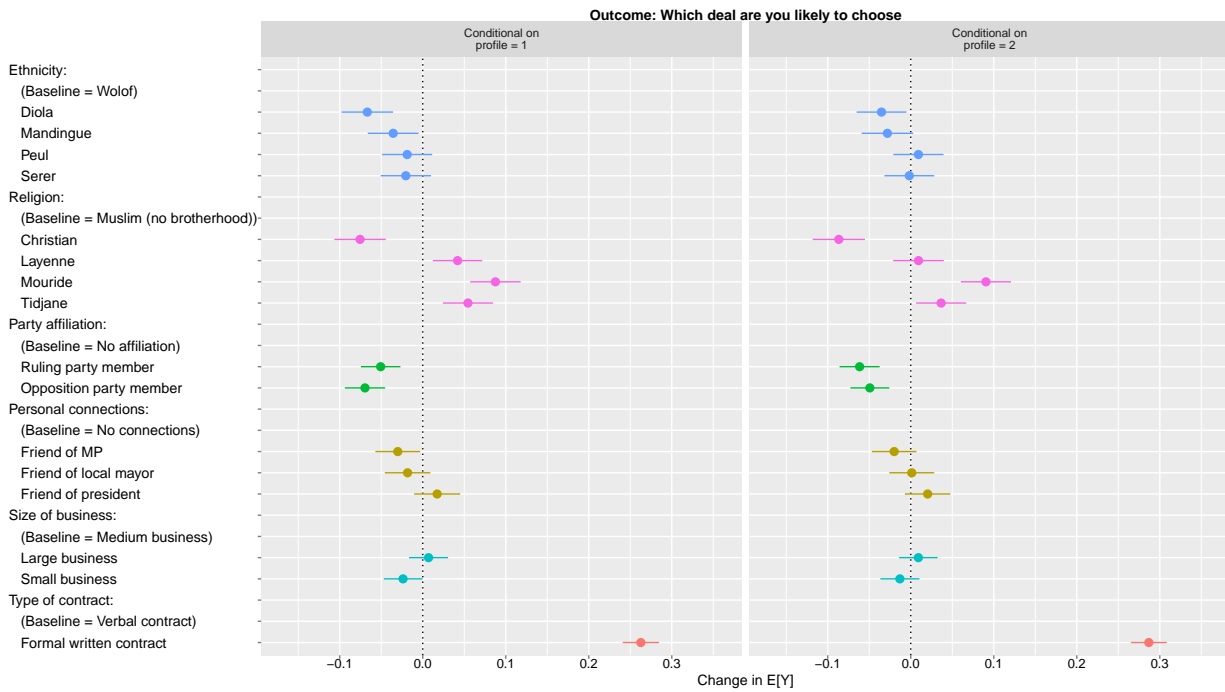
*Notes:* This figure shows the average marginal component effects (AMCEs) based on the profile position (left or right).

Figure F4

## F.3 Randomization validation and balance

### F.3.1 Across profile attributes

As Table F2 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 F2: Balance across the conjoint design's treatment groups

## F.3.2 Across respondent characteristics

| Treatment group | 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 |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | **Covariate:** | | | | | |
| 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 F3: Balance across respondent characteristics

## F.4 No attribute order effects
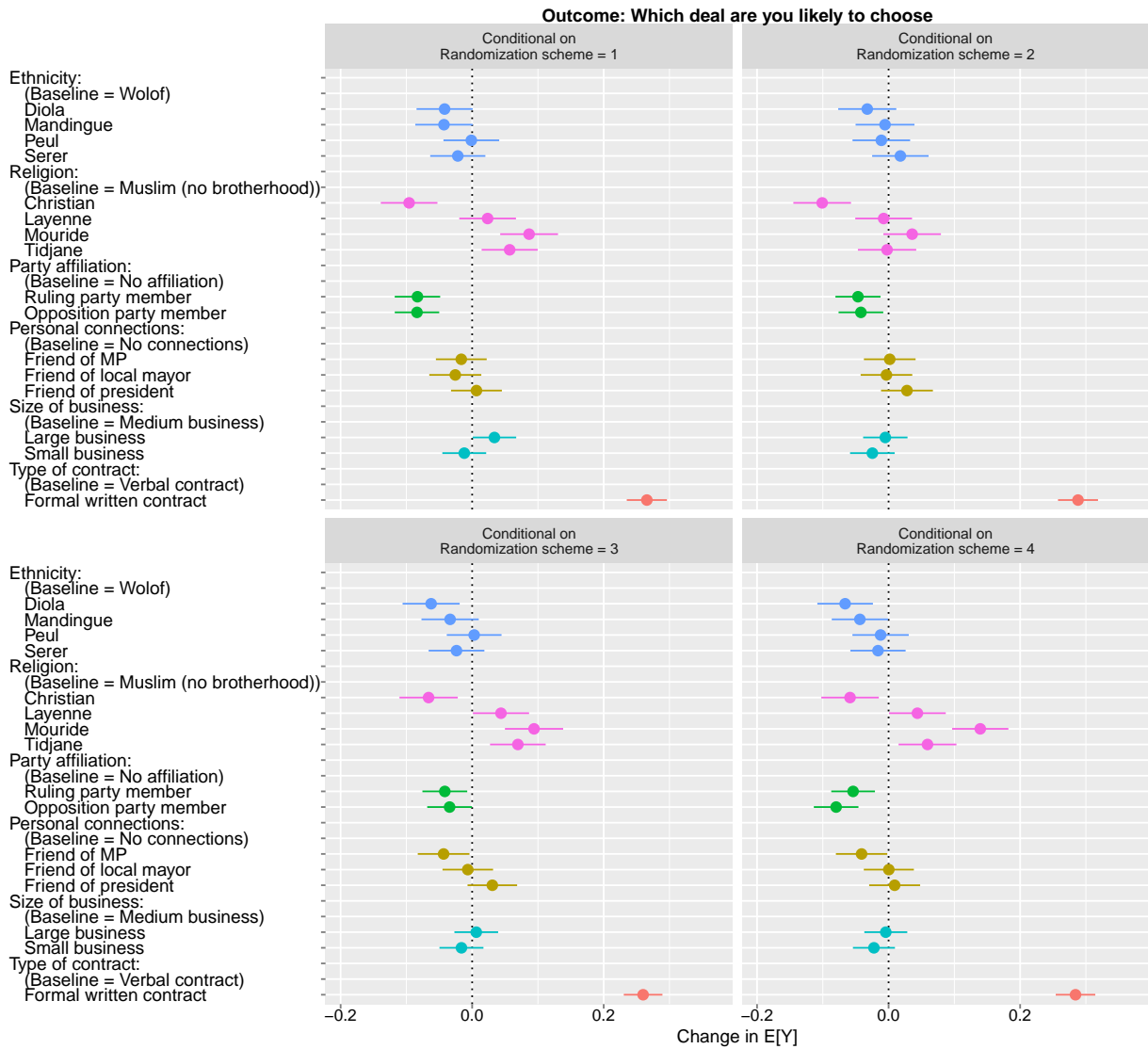


*Notes:* This figure presents the results by the four randomization schemes for attribute groupings. The specific attribute position orders are shown in Table F4. For example, the bottom-left graph corresponds to the third randomization scheme, for which the size of the business appeared first on the 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 F5: 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 F4: Position order of attributes per randomization scheme
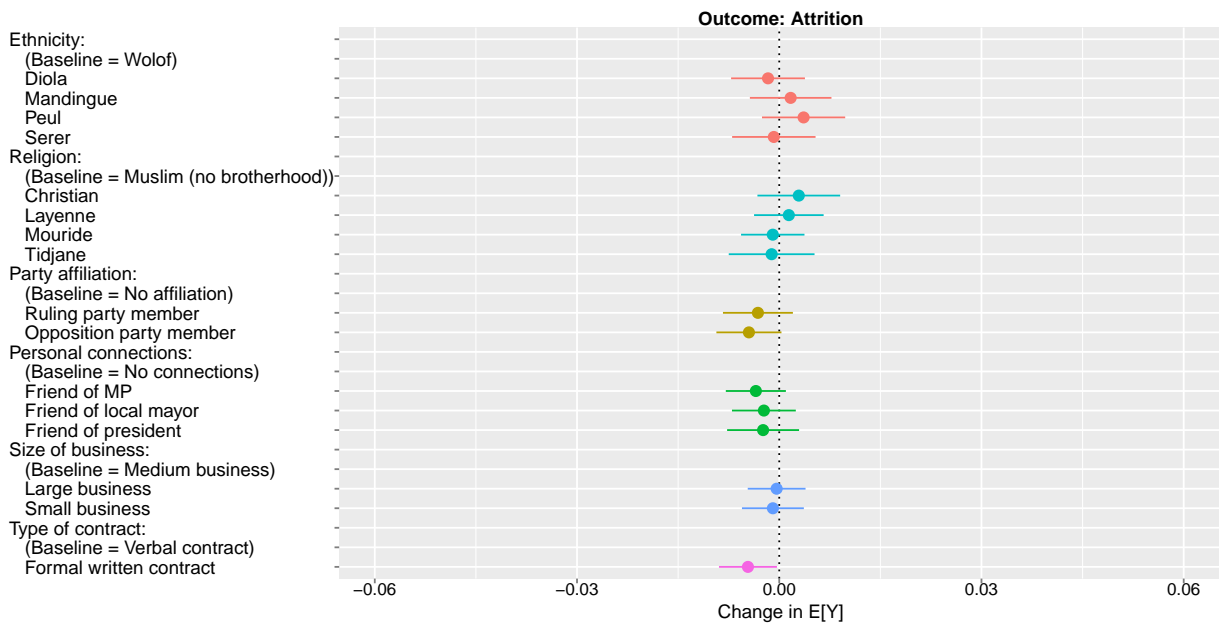
## F.5 Treatment does not predict attrition



Figure F6: Attrition as predicted by treatment

# G Corresponding tables for figure results

## G.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 G5: 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 G6: AMCE results for breach outcome

## G.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 G7: AMCE results by firm formality

## G.3 Conditional AMCE table results: co-ethnicity and co-religiosity

### G.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 | |
| *Note:* | | $^{*}p<0.1$; $^{**}p<0.05$; $^{***}p<0.01$ | |

Table G8: AMCE results by co-ethnicity

### G.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 | |
| *Note:* | | $^{*}p<0.1$; $^{**}p<0.05$; $^{***}p<0.01$ | |

Table G9: AMCE results by co-religion

## H Ruling out general distaste for politics

As a check for whether a general distaste for politics drives the results presented in Figure 3, 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 H7 shows, these subgroups still produce significant effects. This suggests that there are alternate mechanisms at play in the results discussed in Section 5.3.
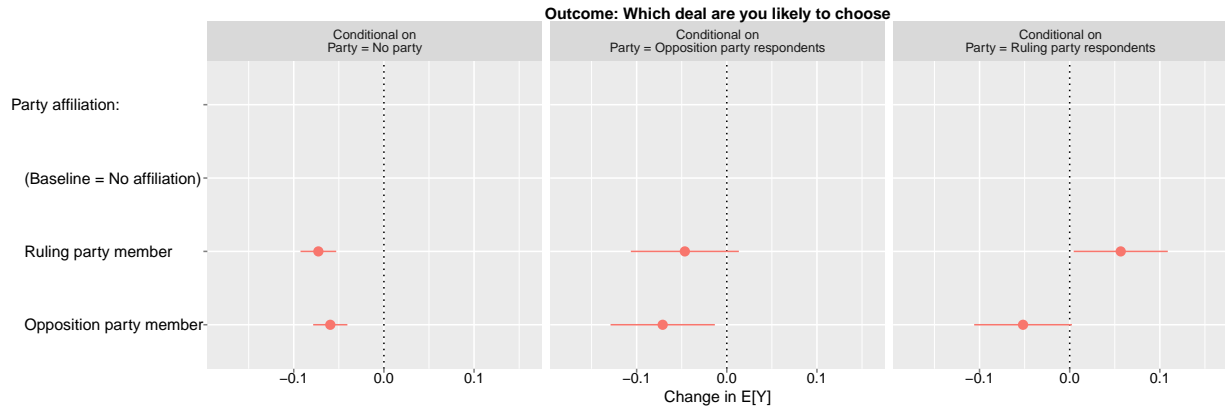
Figure H7: Effects by respondents' political affiliations

# I  Average Component Interaction Effects (ACIEs)

| Trait | Estimate | Std. Error | Significance |
|---|---|---|---|
| Formal contract | 0.255 | 0.028 | *** |
| Opposition party member | -0.075 | 0.020 | *** |
| Ruling party member | -0.061 | 0.020 | *** |
| Friend of local mayor | -0.020 | 0.020 | |
| Friend of MP | -0.033 | 0.020 | |
| Friend of president | 0.006 | 0.020 | |
| Large business | -0.001 | 0.013 | |
| Small business | -0.021 | 0.013 | * |
| Diola | -0.042 | 0.016 | *** |
| Mandingue | -0.016 | 0.016 | |
| Peul | -0.006 | 0.016 | |
| Serer | 0.001 | 0.016 | |
| Christian | -0.099 | 0.016 | *** |
| Layenne | 0.016 | 0.016 | |
| Mouride | 0.099 | 0.016 | *** |
| Tidjani | 0.048 | 0.016 | *** |
| Formal contract × Opposition party member | 0.019 | 0.017 | |
| Formal contract × Ruling party member | 0.005 | 0.017 | |
| Formal contract × Friend of local mayor | 0.020 | 0.020 | |
| Formal contract × Friend of MP | 0.0001 | 0.019 | |
| Formal contract × Friend of president | 0.022 | 0.020 | |
| Opposition party member × Friend of local mayor | 0.004 | 0.024 | |
| Ruling party member × Friend of local mayor | -0.0001 | 0.024 | |
| Opposition party member × Friend of MP | 0.019 | 0.024 | |
| Ruling party member × Friend of MP | 0.005 | 0.024 | |
| Opposition party member × Friend of president | -0.0002 | 0.024 | |
| Ruling party member × Friend of president | 0.006 | 0.024 | |
| Formal contract × Large business | 0.018 | 0.017 | |
| Formal contract × Small business | 0.005 | 0.017 | |
| Formal contract × Diola | -0.017 | 0.022 | |
| Formal contract × Mandingue | -0.032 | 0.022 | |
| Formal contract × Peul | 0.002 | 0.022 | |
| Formal contract × Serer | -0.025 | 0.022 | |
| Formal contract × Christian | 0.038 | 0.022 | * |
| Formal contract × Layenne | 0.019 | 0.022 | |
| Formal contract × Mouride | -0.018 | 0.022 | |
| Formal contract × Tidjani | -0.005 | 0.022 | |
| *Note:* | | | *p<0.1; **p<0.05; ***p<0.01 |

Table I10: ACIE results
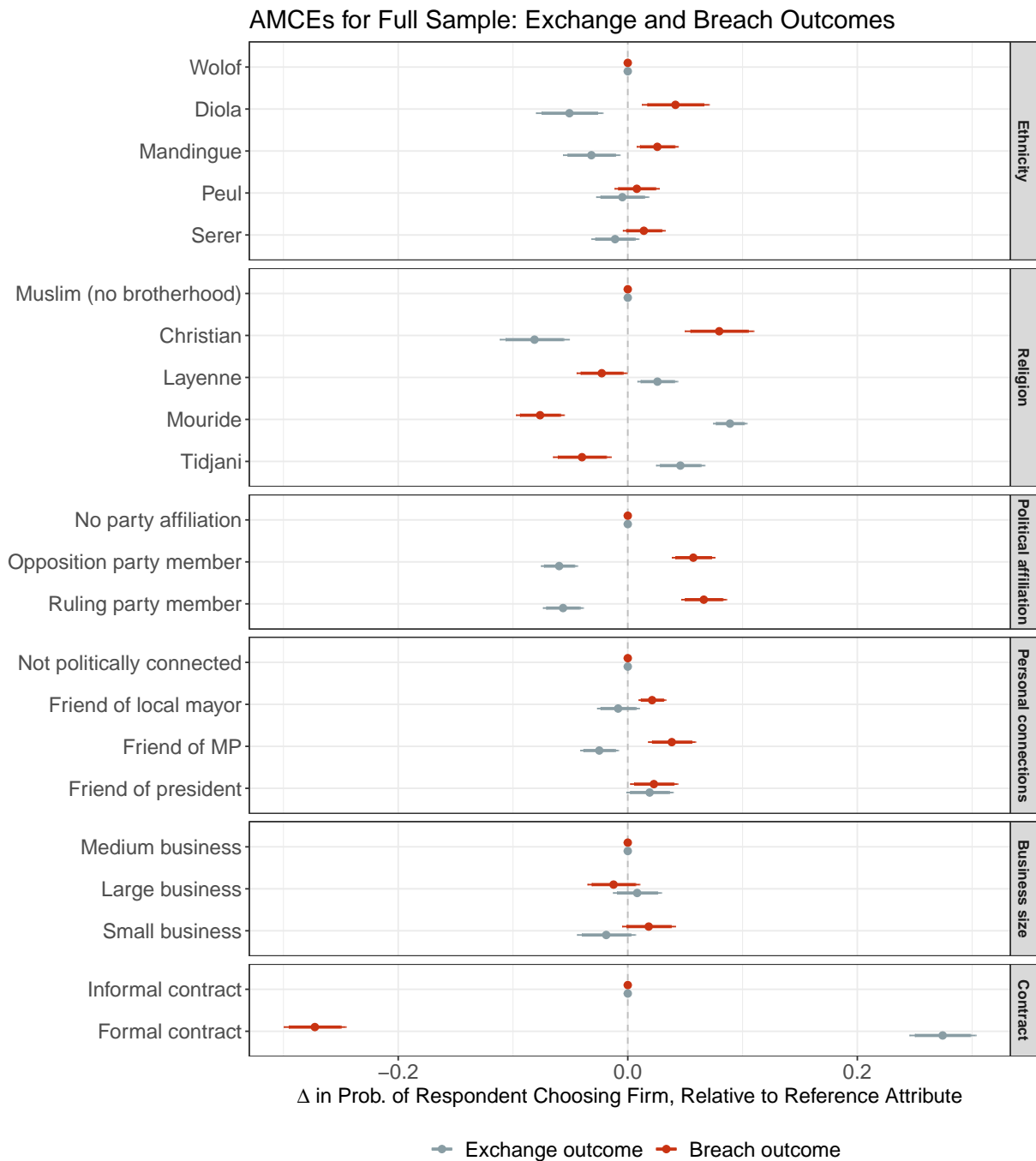
# J   Standard errors clustered by district



Figure J8: Effects with standard errors clustered by district