Managing Multiculturalism: Polarization and Organizational Design*

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Abstract

This paper investigates how the internal structure of organizations reflects multiculturalism and how shocks that amplify polarization affect their organizational design. We develop a theoretical model of how polarization affects organizational design by increasing communication and information acquisition costs. To test the model's predictions, we construct a novel dataset on the internal organization and management practices of Ethiopian banks and their branches, as well as on the ethnic connotations of banks, managers, and cities. Combining this with data on civil conflict, we examine how conflict-induced polarization between ethnic groups influences the internal organization of these banks. Our findings reveal that greater exposure to conflict at the bank level leads branches to hire managers who share the ethnicity of the city in which they operate rather than that of the parent bank. Moreover, these branches mitigate potential adverse effects of these changes by adopting management practices related to incentivizing good performance, implementing steeper internal hierarchies, and exerting more intense screening. This results in fewer but larger loans without an increase in default rates.

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1 Introduction

A key role of organizations is to gather and communicate information to make decisions. As Garicano (2000) points out, internal communication between the units of an organization enables the specialized acquisition and use of knowledge. This creates a natural trade-off between communication costs and knowledge acquisition: adding hierarchical layers within an organization improves the utilization of specialized knowledge but raises internal communication and coordination costs. As a result, the optimal hierarchy within an organization can vary depending on supply factors (e.g., elements shaping the organization's ability to process and communicate information) and demand aggregates (e.g., variables affecting the need for local-specific information). The role of these elements can be exacerbated by increased polarization and the presence of diverse groups within an organization or country, which may introduce frictions in the hierarchy and alter the optimal organizational structure. We examine these issues in the context of the banking sector, an ideal setting given its reliance on information and its comparative advantage in gathering and processing data to screen and monitor customers.

Over the last decade, we have been collecting a novel dataset to study this issue adapting the methodology of Bloom and Van Reenen (2007) to measure the management practices and organizational structure of bank branches in Ethiopia, and create a panel over a long horizon. Additionally, we collect data highlighting a distinctive feature of banking in Ethiopia: banks are strongly associated with individual ethnic groups, as reflected in their leadership and dominant language (Regasa, Fielding, & Roberts, 2022). In such contexts, banks operating in areas populated by other ethnic groups must choose between hiring better-informed local managers (aligning with demand factors) and less-informed coethnic managers who facilitate better information within the bank (aligning with supply factors). To formalize this intuition, we develop a theoretical model inspired by Garicano (2000) that captures the trade-offs banks face when determining a branch's organizational structure in this setting.

The empirical identification of how banks respond to changes in these demand and supply factors is challenging, as it requires variation that is exogenous to both bank-level and local conditions. To address this, we focus on a source of variation that affects the costs of information acquisition and communication within banks, without directly influencing local conditions. Specifically, we study the causal effect of ethnic conflict in Ethiopia. To isolate the impact from the local effects of conflict, we examine changes in

bank-level exposure to conflict over time and its polarizing effects (Korovkin & Makarin, 2023; Rohner, Thoenig, & Zilibotti, 2013). Using our panel data, we track 16 banks operating 998 branches over time, spanning the period before and after the onset of conflict. This approach allows us to analyze within-branch variations over time, examining how changes in bank-level exposure to conflict influence branch-level organization and lending outcomes. Furthermore, our data allows us to control for city-time fixed effects, enabling comparisons of the effects of conflict on branches of different banks within the same city, or alternatively directly control for local conflict intensity.

To further validate our findings, we exploit the sudden historic migration of the Beta Israel (Ethiopian Jews) to Israel as a source of quasi-exogenous variation. Prompted by political instability, famine, and Israel's Law of Return, this migration triggered significant demographic shifts in northern Ethiopia, heightening resource competition among the remaining groups. These tensions, exacerbated by the contentious Amhara-Tigray border drawn in 1992 in the same area one year later, contributed to the recent Tigray conflict and subsequent disputes (Nyssen & Demissie, 2023). This quasi-experimental event induced an exogenous rise in local conflict in the recent civil war, which we leverage to estimate the effect of bank-level exposure to conflict on branch-level outcomes.

Our theoretical model analyzes the optimal organizational design of a bank branch evaluating prospective loans. In cities where the local population is not coethnic with the bank, the branch faces a trade-off in its choice of manager. It can hire a bank-coethnic manager, who communicates without ethnic biases about loan quality but be worse at assessing loan quality, or a city-coethnic manager, who excels at assessing local borrowers but may provide biased information favoring members of his ethnic group. The second component of the model examines the internal hierarchy of the branch, predicting that as a manager's ability to accurately gather and convey information declines, the bank compensates by adding more loan officers and hierarchical layers to improve the quality of loan assessments. In our empirical analysis, we interpret changes in manager ethnicity and hierarchical structures as responses to conflict-induced polarization, which shifts the relative importance of local information gathering and unbiased communication, thereby altering the branch's optimal organizational design.

To test the predictions of the theoretical model, we examine the effect of conflict on branches operating in cities that are not coethnic with the bank, i.e. locations where hiring a manager coethnic with both the bank and the city is not possible. For branches in these non-bank-coethnic cities, we first document

a striking empirical fact: before the conflict, the vast majority of managers were coethnic with the bank, while only a small minority were coethnic with the city. After the conflict, however, a minority were coethnic with the bank, while the majority were coethnic with the city in which they operated. According to our model, this shift suggests that, prior to the conflict, biased communication within the bank was the primary concern, whereas after the conflict, the importance of local information increased relative to unbiased communication.

Our empirical methodology focuses on bank-level exposure to conflict, allowing us to account for local conflict and incorporate city-time fixed effects. Our definition of conflict specifically emphasizes ethnic conflict involving the bank's own ethnic group. This measure is chosen because it directly impacts interethnic trust between the bank's ethnic group and other groups while isolating the analysis from the local effects of conflict driven by changes in economic activity or migration.

Empirically, we report three main findings. First, branches operating in cities not coethnic with the bank respond to bank-level conflict by shifting from bank-coethnic to city-coethnic managers. Specifically, they are 19% more likely to employ a city-coethnic manager and 27% less likely to employ a bank-coethnic manager when moving from the 25th to the 75th percentile of the change conflict exposure over time. This shift suggests that the relative advantage of city-coethnic managers in assessing the quality of local loans outweighs any bias in their communication with the bank's headquarters. In contrast, in bank-coethnic cities, we find a tight null result, indicating that conflict exposure does not significantly affect managerial ethnicity choices when the bank's and city's ethnicities are aligned.

Next, regarding organizational structure, we find that branches in non-bank-coethnic cities increase the number of layers in their internal hierarchy by 8%, compared to an unconditional mean of 3.8 in response to an equivalent increase in conflict exposure. This finding suggests that, in the presence of city-coethnic managers who may provide biased information, banks rely on additional layers of loan officers to enhance the quality of screening and monitoring. By contrast, in bank-coethnic cities, we observe a small, statistically insignificant reduction in the number of hierarchical levels. Crucially, these changes are not driven by branches simply becoming larger, as both bank-coethnic and non-bank-coethnic branches reduce their employee counts in response to conflict.

Finally, we provide novel evidence of organizations adapting the combination of management practices they employ to specific features of their environment. We find that while all branches in more conflict-

exposed banks strengthen lean management and target-setting practices, only those in non-bank-coethnic cities adopt improved practices monitoring and rewarding good performance. These results suggest that banks use management practices to address the incentive and communication challenges posed by city-coethnic managers–individuals who may better identify good loans, but may also bias their communication with the bank by favoring their own ethnic groups.

Additionally, we study the effect of conflict on lending activities in these branches. We find that banks adjust their lending strategies in both bank-coethnic and non-bank-coethnic cities, but in distinct ways. In coethnic cities, banks exposed to higher conflict shift towards safer loans, characterized by larger average loan sizes, stricter collateral requirements, and lower default rates. In non-coethnic cities, banks reduce lending volumes, increase loan sizes, and place less emphasis on collateral, potentially indicating enhanced borrower screening efforts. Taken together, these patterns suggest that banks respond to conflict by emphasizing collateral in coethnic cities and enhancing borrower screening in non-coethnic cities.

The first contribution of this paper is to the literature on organizational hierarchies, providing evidence on how polarization influences optimal organizational design. We demonstrate that the negative effects of conflict on cooperation between individuals of different ethnic groups (Fisman, Sarkar, Skrastins, & Vig, 2020; Hjort, 2014; Marx, Stoker, & Suri, 2019) manifest as changes in banks' internal organization. Interpreting these findings through the lens of our theoretical model, we show that banks address the resulting incentive problems by adding hierarchical layers (Skrastins & Vig, 2019) and adjusting their reward structures. These insights complement studies that explore how trust and communication within firms shape organizational outcomes (Bloom, Garicano, Sadun, & Van Reenen, 2014; Bloom, Genakos, Sadun, & Van Reenen, 2012), specificity of contracts (D'Acunto, Xie, & Yao, 2022) and the transfer of knowledge (Guillouet, Khandelwal, Macchiavello, Malhotra, & Teachout, 2024).

Secondly, this paper contributes to a broader literature on the costs of increased polarization (Desmet, Ortuno-Ortın, & Wacziarg, 2024). First, we provide evidence of a channel through which firms are motivated to employ out-group rather then ingroup employees, contributing to the literature on alignment of beliefs (e.g., Espinosa & Delfino, 2024; Spenkuch, Teso, & Xu, 2023) and political views (e.g., Colonnelli, Neto, & Teso, 2022). In this vein, the results also contribute to the broader literature on the impact of ethnic conflict and polarization on firm performance. For example, Hjort (2014) and Korovkin and Makarin (2023) highlight the detrimental effects of ethnic divisions on respectively firms' output and trade. Finally,

our results also contribute to research on the effects of ethnic fragmentation (e.g., Alesina, Spolaore, & Wacziarg, 2000; Easterly & Levine, 1997; Ferrara, 2003; Miguel & Gugerty, 2005) and the role of ethnic backgrounds in team collaboration (e.g., Lang, 1986; Lazear, 1999) by exploring a new dimension through which these concerns matter.

The third contribution of this paper is to extend the World Management Survey (WMS) framework by Bloom and Van Reenen (2007) to measure management practices in banks. Building on the WMS project, several empirical studies have investigated the relationship between management practices and organizational outcomes (Bloom, Eifert, Mahajan, McKenzie, & Roberts, 2013; Bloom, Mahajan, McKenzie, & Roberts, 2020). The WMS has also been extended to other contexts, such as education (Bloom, Lemos, Sadun, & Van Reenen, 2015), civil service (Rasul & Rogger, 2018), health care (Bloom, Lemos, Sadun, & Van Reenen, 2020; Bloom, Propper, Seiler, & Van Reenen, 2015), and private equity firms (Bloom, Sadun, & Van Reenen, 2015), among others. Nonetheless, this is the first application to the banking sector. Beyond this, a limited literature has focused on the choice of the combination of management practices a firm employs (Bloom, Sadun, & Van Reenen, 2016; Lemos & Scur, 2019). This project contributes novel insights to the literature on management by design versus technology (Bloom et al., 2016) by demonstrating how banks use specific management practices to cope with polarization and changes to incentives within their organization.

The remainder of this paper is structured as follows. Section 2 presents the theoretical framework and outlines the institutional context. In Section 3, we describe the data, our empirical testing strategy for the theoretical predictions, and the quasi-experimental variation in conflict stemming from the Beta Israel migration. Section 4 then details the empirical model and the main results. Finally, we discuss and interpret our findings in Section 5.

2 Theory and Institutional Setting

In this section, we first present a theoretical model of organizational design in a multi-ethnic society, in which an increase in polarization due to conflict results in changes to the optimal organizational design. We then discuss the institutional setting including the Ethiopian banking sector, and the recent conflict in Ethiopia.

2.1 A Theoretical Model of Organizational Design

We present a model of banks' organizational design in the presence of ethnic polarization. Let us consider a bank headquarters (HQ) which operates branches both in cities coethnic with the bank, and in cities that are not coethnic with the bank. As we will show, the solution is trivial in case the bank and city are coethnic, so we focus on the latter case. The HQ has two strategic choices: the hierarchical structure and the ethnicity of subordinates. Regarding the hierarchy, the branch can feature either a *flat hierarchy*, in which the branch manager (BM) is in charge of collecting relevant information about investment opportunities and recommending whether to finance projects of uncertain quality or a *steep hierarchy* in which there is one additional hierarchical layer, a loan officer (LO) who implements this task instead of the branch manager.

The timeline of the model includes three stages. At $t = 1$, the HQ chooses the hierarchical structure of the branch and whom to appoint as BM and LO (in case the hierarchy is steep). At $t = 2$, the BM or the LO observe a signal about the quality of an investment project available on the market and report it to the HQ which decides whether to finance the project. At $t = 3$, if the project is funded it is executed and yields returns.

Specifically, the bank branch can finance an investment project of uncertain quality $\tilde{x}$. The project quality is $q = \{H; L\}$, i.e. high or low. A H project yields $x \geq 1$, whereas a L project yields $-x$. The types of projects are equally likely, so that $Pr(q = H) = Pr(q = L) = \frac{1}{2}$. Note that if the HQ were not to acquire further information about the project, it would not finance the project, as the project's ex-ante expected return would be zero.

When setting up the branch, the HQ chooses a hierarchical design $\mathcal{H} = \{flat\,,\, steep\}$. If $\mathcal{H} = flat$, the BM acquires information about the quality of the investment projects and passes such information up to the HQ, which decides whether to finance it. If $\mathcal{H} = steep$, a LO underneath the BM will collect information about the quality of the project and pass it up to the HQ.[1] We assume that adding one layer to the organizational hierarchy has a cost $\kappa \in (0, x)$ which could reflect, for instance, an increase in the wages to be paid to employees or adjustment costs due to the restructuring of the organization.

The HQ also chooses whom to appoint as a BM and LO, and can either choose to hire a manager

[1] The branch manager then devotes her effort and time to running other tasks in the branch.

coethnic with the city or bank. Subordinates' ethnicity can be $\mathcal{E} = \{city; bank\}$ where the first entry represents the case in which subordinates are *city coethnic* while the second entry represents the case in which subordinates are *bank coethnic*. We assume that LO and BM have the same ethnicity when the hierarchy is steep.[2]

When evaluating a project, BM or LO observes a signal $\sigma = \{h; l\}$ referring to q. We let different hierarchical structures and subordinates' ethnicities affect the quality of the observed information as well as incentives to correctly report the signal observed. We assume that the LO has a more precise signal technology than the BM.[3] In our model, ethnic conflict has two effects: on the one hand, it reduces the informativeness of signals for bank coethnic subordinates; on the other hand it generates perverse incentives for city coethnic subordinates to misreport the signal they observe to inflate the chances of project financing. In general, a subordinate observes a signal from an information structure described by a Markovian matrix such as

$$\begin{bmatrix} Pr(\sigma = h|q = H) & Pr(\sigma = h|q = L) \\ Pr(\sigma = l|q = H) & Pr(\sigma = l|q = L) \end{bmatrix}.$$

Let us first consider the case of bank coethnic subordinates. If the hierarchy is flat, the BM has the following information structure

$$\begin{bmatrix} 1-\gamma_1 & \gamma_1 \\ \gamma_1 & 1-\gamma_1 \end{bmatrix},$$

In a steep hierarchy, instead, a bank coethnic LO's information structure is

$$\begin{bmatrix} 1-\gamma_2 & \gamma_2 \\ \gamma_2 & 1-\gamma_2 \end{bmatrix}.$$

We let $\gamma_2 < \gamma_1$ so that the LO's signal is more precise than the BM's.[4]

[2] This is equivalent to saying that the LO may either report information directly to the HQ or that the BM may not manipulate the information provided by the LO to be reported to the HQ.

[3] This assumption can be motivated by the fact that a branch manager is not specialized in evaluating investment projects

[4] This is equivalent to assuming that bank coethnic BM and LO have the same information structures but the former's is more garbled.

If subordinates are city coethnic, in a flat hierarchy, the BM has information structure

$$\begin{bmatrix} 1-\varepsilon & \varepsilon \\ \varepsilon & 1-\varepsilon \end{bmatrix},$$

with $0 \leq \varepsilon \leq \gamma_1$. In a steep hierarchy, the LO perfectly observes the quality of the project, so that her information structure is

$$\begin{bmatrix} 1 & 0 \\ 0 & 1 \end{bmatrix},$$

These information structures reflect the fact that city coethnic subordinates can obtain more precise information than bank coethnic ones. Moreover, the LO's signal is always more informative than the BM's. Let us assume that $\gamma_1 \leq \frac{1}{2}$, so that all signals are informative.

Although they obtain better information, city coethnic subordinates also have an incentive to misreport their signals. Specifically, we assume that when observing $\sigma = l$, a city-coethnic subordinate will report that the signal was instead h with probability $\beta \in (0, 1-2\varepsilon)$. This reflects the bias a city coethnic subordinate may have in reporting information about investment projects held by borrowers belonging to her same ethnic group to an HQ with a different ethnicity. In this case, we assume that the subordinate gets non-monetary private benefits from misreporting information about the project quality, thus sometimes funding low quality projects proposed by coethnic borrowers.

2.2 Model propositions

We solve the model for the case the city and bank are not coethnic, and provide a short argument why polarization has no effect on the organizational structure if they are at the end of this section.

The HQ finances the project after receiving feedback from the branch if its expected value is positive.

Lemma 1. *The HQ finances all projects for which it receives a report $\sigma = h$.*

Despite the possibility for mistakes (γ_1 and γ_2) and the ethnic bias (β), the signal provided by subordinates in the branch is informative. Therefore, when they report that the project is good, this information increases the expected return of the project thus inducing the HQ to finance it.

For clarity of exposition, we provide two propositions based on our model. The first focuses on the choice of the branch managers' ethnicity conditional on the choice of hierarchy. The second focuses on the choice of the optimal structure of the hierarchy and the subordinates' ethnicities jointly.

Proposition 1. *The optimal choice of the ethnicity of a branch manager in a non bank-coethnic city is:*

(i). In a flat hierarchy, the branch manager is coethnic with the city if

$$\gamma_1 \geq \gamma^* \equiv \frac{1-(1-2\varepsilon)(1-\beta)}{2},$$

(ii). In a steep hierarchy, the manager is coethnic with the city if

$$\gamma_2 \geq \frac{\beta}{2},$$

Proposition 1 intuitively shows that the choice of branch manager and loan officer ethnicity depends on the relative importance of the noise generated in information extraction by a bank-coethnic subordinate (i.e. γ_1 and γ_2) relative to the bias of a city coethnic subordinate would have in reporting the project's true quality when observing $\sigma = l$ (i.e. β).This finding can be interpreted in the framework of Garicano (2000), as hiring a bank-coethnic manager is similar to improving an information technology at the expense of a worse communication technology.

Let us now analyze the equilibrium structure and appointment. Note that $\gamma^* \geq \frac{\beta}{2}$ since $2(1-\beta)\varepsilon \geq 0$.

Proposition 2. *The optimal hierarchy structure and subordinates' ethnicities in a non bank coethnic city are:*

(i). If $\gamma_2 < \frac{\beta}{2}$ and $\gamma_1 < \gamma^*$, flat hierarchy with a bank coethnic BM if

$$\gamma_1 < \gamma_2 + \frac{\kappa}{x}$$

,otherwise, the hierarchy is optimally steep and the subordinates are bank coethnic.

(ii). If $\gamma_2 \geq \frac{\beta}{2}$ and $\gamma_1 < \gamma^*$, flat hierarchy with a bank coethnic BM if

$$\gamma_1 < \frac{\beta}{2} + \frac{\kappa}{x},$$

otherwise, the hierarchy is optimally steep and the subordinates are city coethnic.

(iii). If $\gamma_2 \geq \frac{\beta}{2}$ and $\gamma_1 \geq \gamma^*$, the subordinates are city coethnic and the optimal hierarchy is steep if

$$\varepsilon \geq \frac{\kappa}{x(1-\beta)},$$

This proposition shows the leading trade off the HQ faces when designing the optimal organizational structure and appointing BM and LO: greater polarization can generate less informative reports by bank coethnic subordinates, but it can also increase the bias of a city-coethnic manager. This is more pronounced in the case of a BM who is not specialized in investment project evaluation and thus acquires noisier information than a specialized LO. However, making the hierarchy steeper requires some operational costs, whereas appointing city coethnic BM and LO, though reducing noise in the information extraction process, introduces a bias that may induce subordinates to misreport the quality of the project when this turns out to be bad. As a result, the model predicts that when the bank HQ is situated in a city with a different ethnicity with respect to the one in the town where the new branch is located, as the degree of inter-ethnic polarization increases, the HQ has stronger incentives to design a steep hierarchy with city coethnic BM and LO. If the costs generated by the bias are smaller than those implied by the reduced informativeness of signals resulting from polarization, the HQ is eager to set up a steep organization with city coethnic subordinates. Notice that the cost of the bias could be translated into a wage cost since the HQ may implement incentive structures to encourage city coethnic subordinates to truthfully report the information they acquire to avoid financing bad projects.

Finally, observe that if the bank HQ is of the same ethnicity as the city where the branch is located, polarization no longer affects information structures or biases. Therefore, the optimal solution would consistently involve city- and bank-level coethnic subordinates, with the decision to adopt either a flat or steep hierarchy depending solely on the relative quality of the manager's and loan officer's signals.

2.3 Mapping the theory to empirical predictions

To map our theoretical predictions to our empirical results, we first study the changes in branches' internal organization over time. Specifically, we analyze how banks operating in cities that are coethnic with the bank differ from those operating in non-coethnic cities. We focus on three variables addressed by the theoretical model: indicators for the manager and bank being coethnic, the manager and city being coethnic, and the number of levels in the branches' internal hierarchy.

We analyze panel data over two time periods ($t = 1, 2$) for branches (i) located in cities (c), which are part of banks (b) and situated within regions (r). The dataset spans multiple dimensions, with branches distributed across various cities, banks, and regions, observed at two distinct time points.

To establish a set of empirical facts about changes in branch organization over time, we estimate the following regression model:

$$Y_{itbc} = \alpha + \beta_1 \texttt{I[t=2022]} + \beta_2 \texttt{non_BCC}_{bc} + \beta_3 \texttt{non_BCC}_{bc} \cdot \texttt{I[t=2022]} + \varepsilon_{itbc}$$

Here, Y_{itbc} is the dependent variable representing an outcome of interest related to branch organization. `I[t=2022]` is a dummy variable equal to 1 in the second time period ($t = 2022$) and 0 otherwise. $\texttt{non_BCC}_{bc}$ is an indicator variable equal to 1 if the branch's city is not coethnic with the bank and 0 if it is coethnic. The interaction term $\texttt{non_BCC}_{bc} \cdot \texttt{I[t=2022]}$ captures the differential effect of being in a non-bank-coethnic city during the second time period.

Figure 4 reports the results from this exercise. These findings suggest that a widespread shift from hiring bank-coethnic managers to city-coethnic managers has occurred. This shift is particularly pronounced in cities that are not coethnic with the bank. Examining the number of hierarchical levels, we observe an increase in both bank-coethnic and non-bank-coethnic cities.

Based on these results, we focus on empirically testing the following predictions:

Prediction 1. *Exposure to conflict increases the cost of acquiring local information (γ_1) more than it worsens the willingness of managers to communicate truthfully with a non-coethnic head quarters (β).*

Prediction 2. *Exposure to conflict reduces the ability for all branch managers to acquire information,*

resulting in an increase in the number of levels of the internal hierarchy.

In our model, β is plausibly determined endogenously as part of an incentive problem involving the manager and loan officer. The optimal value for β is determined both by any preference the manager might have to provide more loans than is optimal for the bank, as well as by the manager's incentives as an employee of an organization. Using our data, we can test whether branches adopt better management practices related to performance tracking and review, whether good performance is rewarded, and whether branches are able to deal with underperformers. Specifically, we test the following additional prediction:

Prediction 3. *If branches choose to hire non-bank-coethnic managers in response to exposure to conflict, they adopt better manager practices relating to tracking and rewarding performance.*

2.4 Banking in Ethiopia

Ethiopia is a diverse country, home to more than 90 distinct ethnic groups. The largest groups are Oromo (31%) and Amhara (30%), followed by Somali (6%) and Tigray (6%). Ethnicity is highly salient, discernible through outward appearance and naming conventions (Abbay, 2004). This ethnic diversity is mirrored in the country's federal structure, established in 1992 following the end of military rule. The states home to the largest ethnic groups—including Oromiya, Amhara, Somali, and Tigray—are characterized by significant ethnic homogeneity, with over 90% of the population within each region belonging to a single ethnic group. Figure 1 illustrates a map of Ethiopia, with regional names that often align with the predominant ethnicity.

The Ethiopian banking sector was tightly regulated and dominated by state-owned institutions until the early 1990s, with the government exercising substantial control over credit allocation and the spatial distribution of branches. Under military rule, banking services were centralized, and financial inclusion was low, especially in rural areas. Following the military regime's collapse in 1991 and the subsequent economic reforms, the sector underwent gradual liberalization, allowing for the establishment of private banks. Although foreign entry was prohibited, a significant number of privately owned domestic banks emerged. Many of these banks initially operated within their home regions, serving ethnic constituencies or regions closely associated with their founding members. Over time, however, as competition increased and the banking sector expanded, these institutions began establishing branches outside their regions. This

growth has been especially pronounced in recent years, with the number of branches more than tripling from 3,300 in 2015 to 11,300 in 2024[5].

The banking sector in Ethiopia continues to reflect the country's multiculturalism, with strong associations between banks and specific regions or ethnic groups. This is evident in naming conventions, such as the "Commercial Bank of Oromiya," as well as in decisions about branch locations (Regasa et al., 2022), the ethnicity of C-suite executives and employees, and the predominant language used within banks. When operating in areas where different languages and cultures are predominant, this results in the trade-off our theoretical model formalizes: a bank can prioritize effective local information acquisition by hiring a city-coethnic manager, or it can emphasize better communication with headquarters by employing a bank-coethnic manager.

2.5 Conflict

After an extended period of relative peace and high economic growth rates between 2000 and 2020, ethnic clashes and political instability have become significant challenges for Ethiopia. The escalation of tensions in 2020, marked by the breakdown in relations between the federal government and the Tigray People's Liberation Front (TPLF), triggered the Tigray War. This severe conflict, which resulted in an estimated 300,000 to 800,000 fatalities, unfolded across multiple fronts, including battles between Addis Ababa and the Tigray region in northern Ethiopia, as well as within Tigray itself. Following the Tigray conflict, instability spread to other regions, particularly Oromiya, where violence involved the Oromo Liberation Front (OLF), and Amhara, where conflict involved Fano, an Amhara youth militia.

Figure E.1 illustrates the distribution of conflict across Ethiopia during this period. Between 2015 and 2019, the number of fatalities from ethnic conflict was relatively low and geographically dispersed. However, this pattern changed dramatically with the outbreak of the Tigray conflict in November 2020. Conflict intensity initially surged in northwestern Ethiopia, concentrated within Tigray. In 2021, the TPLF launched an offensive toward Addis Ababa, resulting in a high density of violence along the corridor between Mekele, the capital of the Tigray region, and Addis Ababa. The Tigray conflict largely subsided by the end of 2021, but new conflicts erupted in Oromiya, involving the OLF, and more recently in Amhara,

[5] https://nbe.gov.et/wp-content/uploads/2024/08/2023-24-Second-Quarter-Report-1.pdf

driven by Fano.

This conflict presents a suitable context for our analysis for several reasons. First, there is substantial variation in conflict intensity across both time and space, with some regions experiencing severe violence while others remained relatively insulated. Second, conflict involves a number of ethnic groups making it unlikely effects are driven by reorganization of banks associated to a specific ethnic group or operating in a specific region.

Importantly for our analysis, the outbreak of the conflict in 2020 was unexpected, especially at the time we finished our data collection in 2018. This strengthens the plausibility of exogeneity in the conditions of banks and branches relative to the conflict they experienced. The conflict was difficult to foresee due to the political transition preceding the conflict. The current prime minister assumed power in 2018 as part of a transitional government, signaling a policy shift from federalism to nationalism. This transition was marked by significant reforms, including the exclusion of the TPLF – the dominant political movement in Tigray – from the ruling coalition in late 2019. This resulted in a large mismatch between the TPLF's significant military and reduced political power creating conditions conducive to future conflict Morelli, Ogliari, and Hong (2024). These political developments transformed Ethiopia's environment from one of high growth and relative stability in 2018 to a period characterized by rising ethnic tensions and widespread conflict by 2020.

3 Data and empirical strategy

3.1 Data

We use two main datasets to analyse the effect of conflict on banks. The first is a branch-level panel data that we collected covering the period before and after the beginning of the conflict. Specifically, we introduce a novel survey on management practices inspired by the World Management Survey, adapted for bank branches. Table 1 reports the specific set of questions. The second dataset contains the place, the date, and the actors involved for each violent event in Ethiopia: these data are continuously collected by The Armed Conflict Location & Event Data Project (ACLED).

The branch-level panel dataset was constructed using a questionnaire that we developed based on

the World Management Survey (Bloom & Van Reenen, 2007), customized to the specific context of bank operations and lending activities. The adapted questionnaire covers four dimensions of management – performance, lean, target, and people management – each evaluated on a scale from one (worst practice) to five (best practice). In addition, we include targeted questions about branch organization, manager autonomy, and lending practices. Each dimension is assessed using open-ended questions combined with a structured scoring framework to ensure consistency and comparability across branches. These scores are aggregated into two composite indices related to performance management (performance and people management) and other management practices (lean and target management) by taking the mean of these scores. To complement this, open-ended questions and a double-scoring technique are employed to mitigate bias and improve the quality of data collection. Table D.1 reports summary statistics for the main analysis variables related to the internal organization by survey wave. As part of this survey, we also ask a number of questions related to branch-level lending, Table D.2 reports summary statistics for the variables included in the analysis by wave. Appendix D describes the procedure in detail.

These interviews are conducted with the branch manager, i.e., the most senior manager at the branch. As ethnicity is highly salient in Ethiopia and plays a significant role in social and economic interactions, this interview allows us to determine the ethnicity of branch managers using a combination of indicators: the region they were born in, their accent, the languages they speak, and their name. The ethnicities are determined jointly by two separate interviewers, one conducting the interview and the other observing. Appendix Table C.1 reports the results from this exercise for 2018 and 2022.

We process the data on conflict in two ways. First, we match specific events to specific ethnic groups based on the actors involved, and map the link of those actors to specific ethnic groups primarily using information from the Ethiopia Peace Observatory. Second, to match the data to specific bank branches and banks, we determine city locations based on publicly available data and manually verify these locations using maps. We assume a branch is exposed to a conflict if the distance between the city it is based in and the conflict is less than 25 kilometers.[6] This allows us to determine both the intensity of the exposure of a branch to local conflict, and the intensity of exposure of a branch to conflict through the entire bank network of branches. The main measure of exposure to conflict used throughout our paper is the exposure to conflict through a bank's network of branches to conflict involving its own ethnic group. For bank b of

[6] In appendix B we show robustness of our key results to this cutoff.

ethnicity e, we define:

$$\text{conflict_intensity}_{bt} = \frac{1}{N_b} \sum_{e \in \mathcal{E}_{ib}} I[\text{bank_ethnicity_conflict}]_{ebt} \times \text{fatalities}_e, \tag{1}$$

where N_b is the number of branches of bank b, $\mathcal{E}_{ibt}$ represents the set of conflict events within 25 km of a branch of bank b in the period leading up to time t, $I[\text{bank_ethnicity_conflict}]_{eb}$ is an indicator that takes the value 1 if event e involves the bank's own ethnic group, and 0 otherwise. fatalities_e is the number of fatalities resulting from conflict event e. To fit the structure of the panel data, we match conflict from 2015 to 2018 to period 1, and conflict from 2019 to 2022 to period 2.

A key step in this paper is to identify the ethnic connotation of banks and cities. Ethiopia is an ideal country for a number of reasons, one of these is the naming convention. The Ethiopian naming conventions generally follow the format of "personal name" and "father's personal name". Strictly speaking, there are no surnames in Ethiopia and conventions change by geography, as discussed in Gebre (2010), Fessha (2016) and Kefale, Kamusella, and Van der Beken (2021). To determine the ethnicity of banking groups, we collect data on bank CEOs and board members, and assigned each of these to an ethnicity. We then assign each bank to the dominant ethnicity. Finally, we determine the ethnicity of cities based on the Murdock Ethnographic Atlas. This exercise yields us measures of bank, branch manager and city ethnicity. The distribution of the ethnicities of banks and cities are reported in Appendix C

3.2 Quasi-experimental variation in conflict

The Beta Israel, commonly known as Ethiopian Jews, experienced significant migration to Israel during the 1980s and early 1990s. This movement was marked by notable operations such as Operation Moses in 1984 and Operation Solomon in 1991, where tens of thousands were airlifted to Israel. The migration was driven by a combination of factors, including political instability and famine in Ethiopia, as well as the Israeli government's Law of Return, which grants Jews worldwide the right to immigrate to Israel. This migration occurred due to political instability, famine, and civil war in Ethiopia, as well as Israeli government initiatives to support Jewish immigration. The exodus of the Beta Israel community led to notable demographic shifts in their home region within Ethiopia.

The border between the Amhara and Tigray regions, from which the Beta Israel departed, has been contentious and shifting for over 300 years. These most recent shifts took place in 1992, when Ethiopia's ethnographic regional boundaries were drawn following the fall of the military regime. During these negotiations, dominated by the Tigray People's Liberation Front (TPLF), the border shifted south, encompassing part of the area recently vacated by 40,000 Beta Israel (Nyssen & Demissie, 2023).

In recent years, these disputed borders have continued to fuel tensions. The exclusion of the TPLF from Ethiopia's governing coalition in 2018 brought these long-standing grievances to the surface. The contested borders played a key role in the Amhara regional army's involvement in the Tigray conflict, as well as the subsequent civil war, since 2023, involving Amhara militias, who feared that territory they had gained might be returned to Tigray as part of a peace agreement (Nyssen & Demissie, 2023).

This is an ideal instrument for several reasons. First, banks were unlikely to anticipate the political and demographic changes tied to the conflict when we collected the first wave of data in 2018, ensuring the exogeneity of the instrument. Second, the conflict is driven by broader political and ethnic tensions and is unlikely to be influenced by bank-level or branch-level decisions, thereby minimizing the risk of reverse causality. Finally, the instrument focuses specifically on conflicts involving Tigray and Amhara groups, excluding conflicts involving other ethnicities. This design allows us to test the robustness of our results by isolating the effects of a subset of conflicts, ensuring that our findings are not driven by broader or unrelated ethnic tensions.

To study these cities, we extract data on the location of the main cities from which the Beta Israel departed from Kaplan (1992). We then match this to bank branches and banks using the cities in which they are located. We extend the area we consider as Beta Israel to include all cities within 100 kilometers of this area. The specific choice of this area does not have a qualitative impact on our results.

4 Empirical model and results

The empirical analysis proceeds in two steps. First, we employ a two-way fixed effects model to analyze the branch-level effects of bank-level exposure to conflict over time on a number of outcomes. Next, we validate these results using exposure to Beta Israel cities as an independent variable in a reduced-form IV approach.

In our empirical specification, we consider a balanced panel over two time periods $t \in \{1, 2\}$ for branches indexed by $i \in \{1, \ldots, N\}$. These branches are located in cities $c \in \{1, \ldots, C\}$, regions $r \in \{1, \ldots R\}$ and are part of banks $b \in \{1, \ldots, B\}$. As our theoretical framework has different predictions for bank-coethnic and non bank-coethnic cities, we estimate the following three regression specifications separately for these two subsamples:

$$Y_{itbc} = \beta_1 \texttt{conflict_intensity}_{tb} + \gamma_i + \gamma_t + \varepsilon_{itbc}, \tag{2}$$

$$Y_{itbc} = \beta_1 \texttt{conflict_intensity}_{tb} + \gamma_i + \gamma_{tc} + \varepsilon_{itbc}, \tag{3}$$

$$Y_{itbc} = \beta_1 \texttt{conflict_intensity}_{tb} + \beta_2 \texttt{local_conflict}_{tc} + \gamma_i + \gamma_t + \varepsilon_{itbc}, \tag{4}$$

Here, $\texttt{conflict_intensity}_{tb}$ denotes the logarithm of exposure to fatalities involving the bank's own ethnicity through its branch network; $\texttt{local_conflict}_{tc}$ denotes the logarithm of fatalities in city c; γ_i represents a branch fixed effect; γ_t represents a time fixed effect; and γ_{tc} represents a city-time fixed effect. Standard errors are clustered at the city-level throughout.

The first regression identifies the within-branch changes in the intensity of conflict exposure to conflict. Specifically, since the model includes branch and time fixed effects, the estimation thus leverages within-branch variation in the log number of fatalities involving the banks' own ethnicity across the two time periods. By accounting for branch-specific, time-invariant characteristics and common period shocks, the model isolates the impact of changes in conflict intensity on the outcome variable. The primary threats to identification are thus time-varying factors that affect both the conflict intensity and the outcome variable.

The next two specifications mitigate the influence of local conflict and its potential effects on economic circumstances in distinct ways. In regression (5), including city-time fixed effects implies we are comparing branches within a single city that are exposed to different levels of conflict through their branch network, abstracting away from any city-level changes over time. In regression (6), including local conflict intensity more directly controls for any effects that local conflict might have on the outcome variables.

4.1 Prediction 1: Manager Ethnicity

We first focus on Prediction 1, which examines the effect of conflict on banks' choice of the ethnicity of their managers. Here, the main two outcome variables are an indicator whether the branch manager and bank are coethnic, and an indicator whether the branch manager and city are coethnic.[7] Table 3 presents the results from this estimation. The coefficients estimate the impact of increased bank-level exposure to conflict on branches located in bank-coethnic cities (Panel A) and non-bank-coethnic cities (Panel B).

Panel A indicates no significant effect of conflict on the choice of the ethnicity of bank managers. In contrast, Panel B suggests that bank-level exposure to conflict drives the aggregate trends in manager-bank and manager-city coethnicity observed in Figure 4. Greater exposure to conflict increases the likelihood that banks hire city-coethnic managers. Although this effect diminishes, it remains statistically significant when city-time fixed effects are included, suggesting that it is not driven by differences in the operational locations of banks with greater conflict exposure. Similarly, controlling for local conflict intensity does not materially affect our findings. Columns four to six provide consistent evidence, showing that banks significantly reduce the probability of hiring bank-coethnic managers in response to exposure to conflict. This result is robust to the inclusion of city-fixed effects and to controlling for local conflict.

To quantify the size of this effect, we determine the effect of moving from the 25th percentile change in exposure to conflict from 2018 to 2022, to the 75th percentile. We multiply this with the regression coefficient from our main specification (Columns 1 and 4) to find the average effect of this change, and find this makes a branch 18.9% more likely to hire a city-coethnic manager and 26.7% less likely to hire a bank-coethnic manager.

Interpreting this finding in the light of our theoretical model, this implies that conflict has radically changed the relative quality of the information and communication "technology" available to respectively bank-coethnic and city-coethnic managers. Using our data, we cannot disentangle changes to these separately, but only study these relative to each other. These results clearly support prediction one, for banks exposed to relatively little conflict the cost of communication is a more important concern for banks resulting in hiring bank-coethnic managers. In areas exposed to high conflict, the cost of communication becomes the dominant concern resulting in a change of their branch leadership, focused on hiring city-

[7] In bank-coethnic cities, these two indicators are always the same.

coethnic managers.

4.2 Prediction 2: Internal Hierarchy

To study the effect of conflict on branches' internal hierarchy, we use as dependent variables the number of hierarchical levels within branches and branch employees. The latter variable is included to ensure that the observed effects are not driven by overall branch expansion or contraction due to bank-level exposure to conflict.

Table 4 shows that the organizational structure of branches responds to conflict differently depending on the coethnicity of the city where they operate. In bank-city coethnic branches, Column (1) reveals a slight flattening of the hierarchy, though the effect is statistically insignificant. Conversely, branches in non-bank-coethnic cities adopt a steeper hierarchy in response to conflict. This divergence becomes more evident when city-time fixed effects are included, controlling for local changes. Specifically, bank-coethnic branches exhibit a flatter hierarchy, while non-bank-coethnic branches show a significant steepening of their hierarchy in response to conflict.

These results align with Prediction (2), which posits that increased exposure to conflict intensifies the number of hierarchical layers within branches. The findings suggest that in non-bank-coethnic cities, the information advantage of loan officers relative to managers is substantial. This disparity drives the need for a steeper hierarchy to facilitate better information acquisition. In contrast, in bank-coethnic cities, the number of hierarchical layers decreases over time, potentially reflecting the greater reliance on managers who are both bank- and city-coethnic. These managers may be better equipped to acquire high-quality signals, reducing the need to rely on loan officers. We conduct the same exercise as for the manager ethnicity to determine the size of these effects, and find that the same change in conflict increases the average levels in the internal internal hierarchy an average from 3.8 to 4.1 levels, an 8% increase.

The robustness checks in Columns (4-6) further reinforce this interpretation. The results confirm that these organizational changes are not attributable to shifts in branch size, as conflict exposure does not result in systematically larger or smaller branches in non-bank-coethnic cities. Instead, the observed steepening of hierarchies in non-bank-coethnic cities appears to be a deliberate organizational response to the informational and coordination challenges posed by conflict.

4.3 Prediction 3: Management Practices

Next, we turn to the third empirical prediction we are testing. To study this, we separately examine the effect of conflict on performance-related management practices and non-performance-related management practices. The results from this regression are reported in Table 5. In Column (1), we find clear support for our prediction: banks respond to bank-level exposure to conflict by adopting better performance-related management practices in cities that are not coethnic with the bank. This adjustment is likely aimed at reducing biases in communication that arise when employing a manager of a different ethnicity than the bank. Providing further support for Prediction 1, this effect is concentrated on performance-related practices, with no measurable difference in the effect of conflict on non-performance-related practices. Overall, this suggests that banks are able to reduce some of the costs associated with hiring a non bank-coethnic manager by adopting better incentives. Our estimates suggest that moving from the 25th to 75th percentile of conflict exposure, banks improve their performance-related management practices by 0.3 standard deviations.

In column (3), we find these results are not robust to the inclusion of city-time fixed effects. We hypothesize that this lack of robustness is due to the high level of measurement noise in these outcome variables. This is a well-recognized problem in this literature (Bloom & Van Reenen, 2007), and the addition of a larger number of fixed effects absorbing variation can exacerbate attenuation.

4.4 Branch-level lending activities

Next, we examine the effects of conflict on branch-level lending activities. To provide a broader perspective on the outcomes, we focus on specification 2 from the main text of the paper. The results of this analysis are reported in Table 6.

Panel A shows that in cities coethnic with the bank, banks exposed to greater conflict increase the average loan size, raise the percentage of collateral required for loans, and consequently reduce the loan default rate. These findings suggest that in bank-coethnic cities, banks address heightened exposure to conflict by prioritizing safer loans backed by collateral. In contrast, Panel B reveals a markedly different response in non-bank-coethnic cities. Here, banks reduce their focus on lending, evidenced by a fewer loans granted, higher lending rates, larger average loan sizes, and lower collateral requirements.

We hypothesize that in coethnic environments, even under conflict, banks can leverage local networks and trust to screen borrowers more effectively, enabling them to mitigate risks by emphasizing collateral-backed lending. Conversely, in non-coethnic environments, banks lose this informational advantage. This limitation forces them to scale back lending and compensate for increased uncertainty by charging higher interest rates rather than relying on collateral. These divergent strategies reflect how ethnic conflict disrupts information and trust, shaping banks' lending decisions. In coethnic settings, safer lending practices through collateral are viable. In non-coethnic settings, however, banks adjust by reducing lending volumes and relying on higher interest rates to manage risk.

4.5 Validation using exposure to Beta Israel cities

To validate these results, we use an instrument constructed based on exposure to Beta Israel cities. As explained in Section 3, these areas are plausibly exogenously more volatile in terms of conflict, and which was exacerbated following the reduced influence of the Tigray in the federal government. To construct an instrument, we consider the share of branches of a bank that are within 100 kilometers of Beta Israel and interact this measure with a time-dummy.

We construct an instrumental variable to measure a bank's exposure to "Beta Israel conflict" by calculating the proportion of its branches located within 100 kilometers of historically relevant Beta Israel cities. This measure reflects the intensity of a bank's exposure, normalized to range from 0 (no branches near Beta Israel cities) to 1 (for the bank with the highest proportion of branches within 100 kilometers of such cities). To account for time variation, we interact this measure with a time-dummy variable, as the base measure itself is time-invariant.

Formally, for each bank b, we define:

$$\texttt{share_branch_beta_100}_b = \frac{\frac{\sum_{c \in \mathcal{C}_b} I[\texttt{Beta_Israel_100}_{ic}]}{N_b}}{\max_{b' \in \mathcal{B}} \left(\frac{\sum_{c \in \mathcal{C}_{b'}} I[\texttt{Beta_Israel_100}_{ic}]}{N_{b'}} \right)}$$

where N_b is the total number of branches of bank b, $\mathcal{C}_b$ represents the set of all branches operated by bank b, $\mathcal{B}$ represents the set of all banks, and $I[\texttt{Beta_Israel_100}_{ic}]$ is an indicator variable that takes the value 1 if branch i is located within 100 kilometers of a Beta Israel city, and 0 otherwise. This measure

is scaled to range from 0 (no branches near Beta Israel cities) to 1 (all branches near Beta Israel cities) and is normalized to zero in the baseline year, 2018.

We employ a reduced-form estimation strategy, using this measure as the main explanatory variable in outcome regressions. Specifically, we replace `conflict_exposure` with `share_branch_beta_100` in regression 2. For this analysis, we first analyze a vector of six variables capturing internal organization attributes, including ethnicity, hierarchy, workforce size, and management practices. Next, we turn to validating the results related to branch-level lending activities.

Table 7 reports the results relating to internal organization. This confirms that conflict has virtually no effect on branches in bank-coethnic cities (panel A). In non bank-coethnic city greater exposure to the Beta Israel cities strongly reduces manager-bank coethnicity and increases manager-city coethnicity. The effect of levels points in the right direction, but is no longer statistically significant, nor is the effect on the number of employees. In terms of management practices, branches in bank-coethnic cities adopt, non-significantly, better practices both relating to performance and to other factors. Branches in non bank-city coethnic areas adopt better significantly better management practices, in particular related to performance management. This result is robust to using smaller areas around the main Beta Israel cities.

Table 8 reports the results relating to branch-level lending. Here, the estimates again closely match those from the regression using conflict in terms of signs and significance. The main differences are that the decrease in the number of loans due to exposure to Beta Israel cities is not statistically significant, and that the effect on share default is significant at the 10% level using exposure to Beta Israel cities, and is not significant when using conflict.

Overall, this provides further validation that the effects of bank-level exposure to ethnic conflict involving its own ethnicity are causal. Our measure of Beta Israel is strongly positively correlated to our measure of bank-level exposure to conflict, plausibly exogenous to the effect of a change in conflict to a change in branch-level outcomes, and correlates to these outcomes in the same way as bank-level exposure to conflict.

5 Discussion

This paper provides novel evidence on the effect of polarization on the internal structure of firms operating in a multi-ethnic environment. We develop a theoretical model to study the trade-off between information acquisition and communication within organizations and show that, in Ethiopia, bank-level exposure to ethnic conflict increases the importance of information acquisition over internal communication. Interestingly, we find that banks attempt to address the biases introduced by hiring individuals from another ethnic group by implementing better performance tracking and reward systems.

An important contribution of our theoretical model and analysis is the mechanism it provides for understanding how organizations might mitigate the costs of internal polarization. Specifically, by adjusting their organizational structure to prioritize communication with local customers, firms can reduce the negative effects of polarization on internal processes. This mechanism highlights the dual role of organizational design: not only as a response to internal inefficiencies but also as a strategy to strengthen external communication and trust with customers.

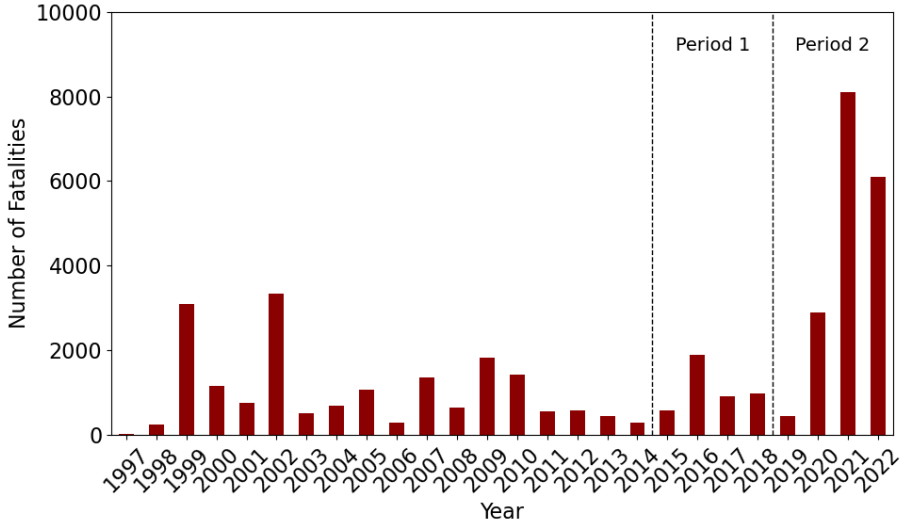
In further developing this research, we will formalize the theoretical link between better rewarding performance, and reductions in the bias of a non bank-coethnic manager. Additionally, we intend to study the effect of conflict on local economic outcomes and lending, and how bank-level reorganization can reduce the negative effects of conflict.

Figure 1: Regions of Ethiopia



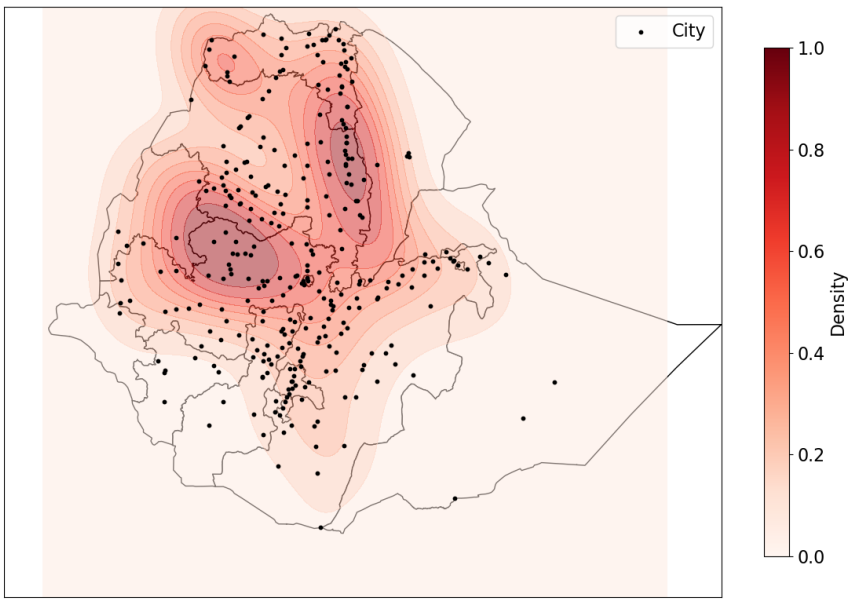
Notes: This figure displays the twelve regions in Ethiopia and two administrative councils, Addis Ababa and Dire Dawa. To ensure regions stay the same over time in our analysis, we combine Central Ethiopia, South West Ethiopia, South Ethiopia and Sidama into the Southern Nations, Nationalities and Peoples' Region (SNNPR). This region was split into four between 2020 and 2023, and remains one of the most ethnically diverse regions of the country.

Figure 2: Ethnic conflict over time



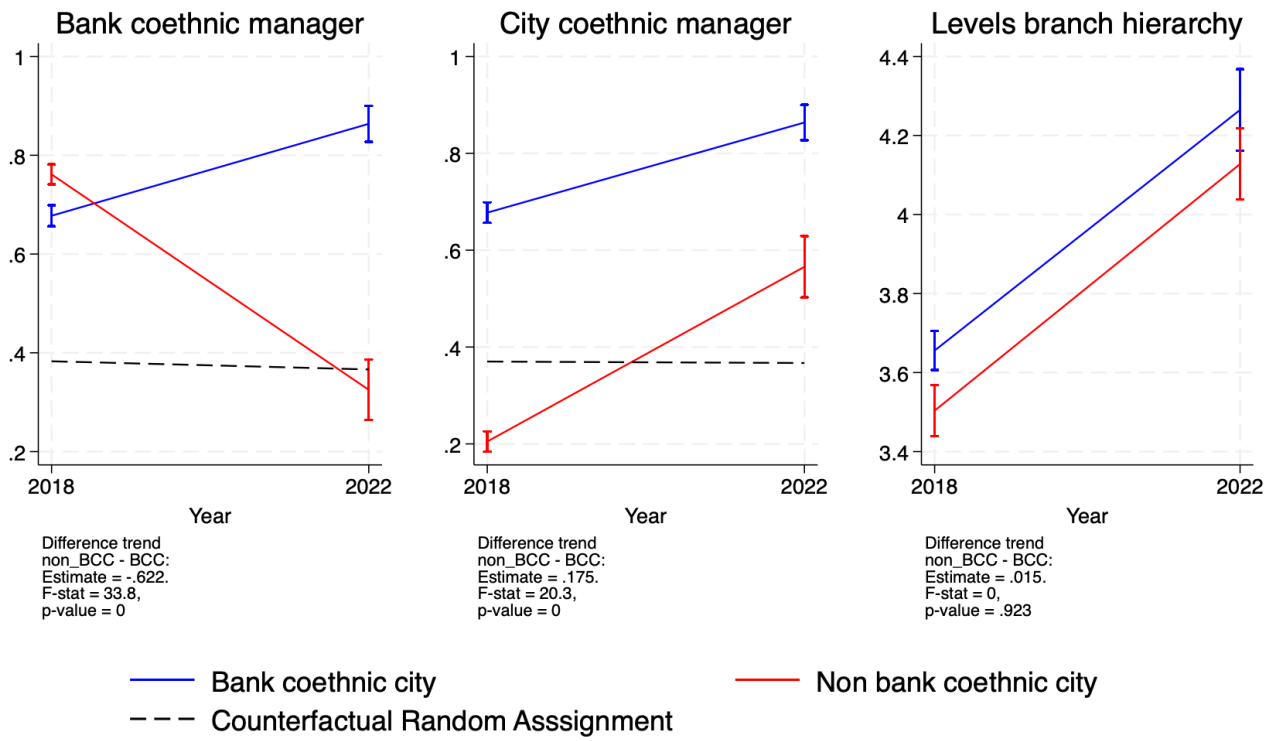
Notes: This figure displays the number of fatalities from ethnic conflict in Ethiopia over time. The variable on the y-axis includes all fatalities from conflict involving at least one ethnic group in the ACLED database. To create out conflict variable, we link conflict between 2015 and 2018 (period 1) to the branch-level data collected in 2018, and conflict between 2019 and 2022 (period 2) to branch-level data collected in 2022.

Figure 3: Ethnic conflict over space



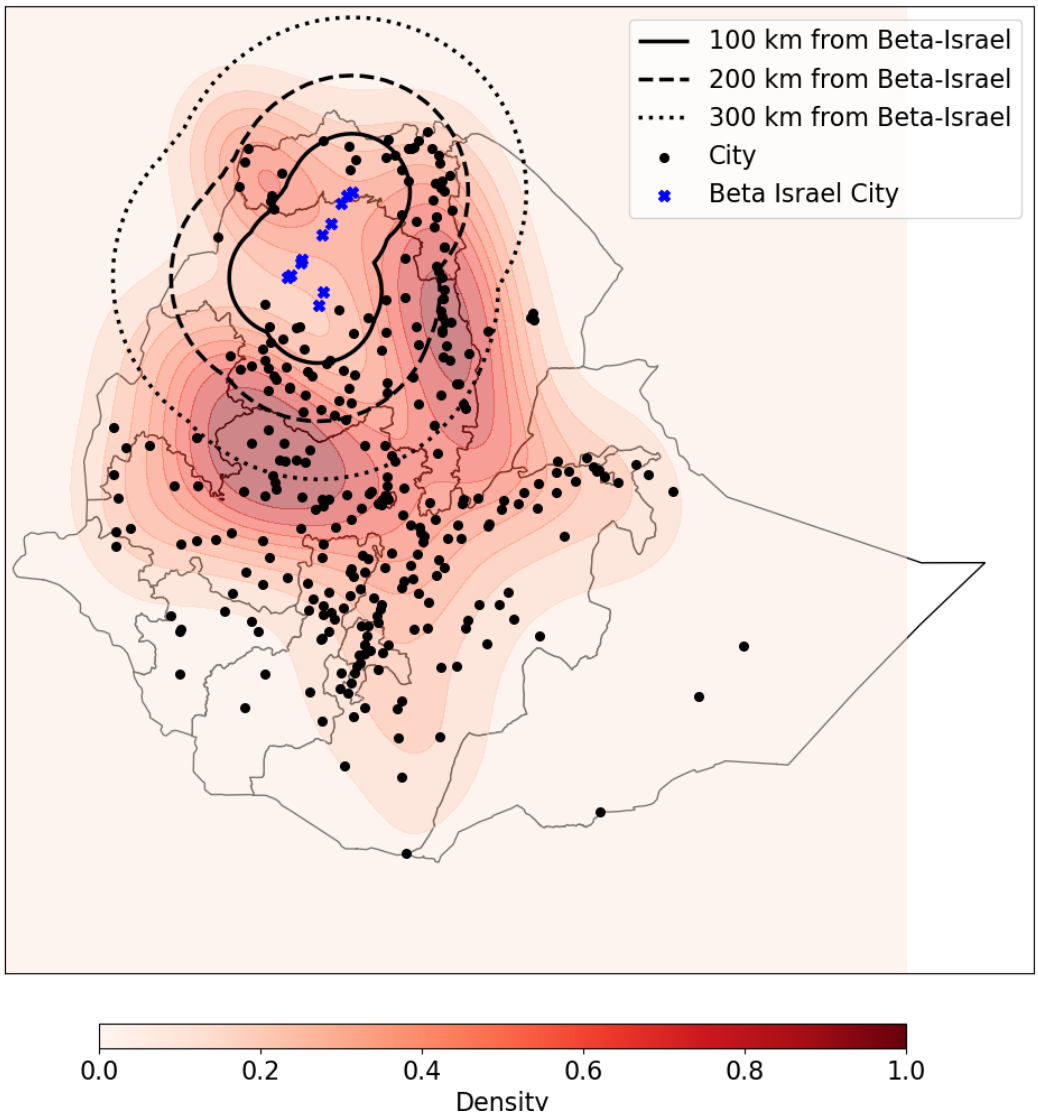
Notes: This figure shows the intensity of ethnic conflict across Ethiopia from 2015 to 2023. The figure shows three distinct peaks in conflict respectively towards the west, north-west and north. Moving clockwise, the high-intensity conflict in the southwest is concentrated in Oromiya, primarily involving the Oromo Liberation Army. In the northwest, the conflict involves Tigray and Amhara militias, while in the north, it is predominantly driven by clashes between the government and its allies and the Tigray Liberation Front.

Figure 4: Changes in organizational structure over time



Notes: This figure presents the changes in organizational structure over time for three main outcome variables: An indicator for the manager and bank being coethnic, an indicator for the manager and city being coethnic, and the number of layers in the hierarchy. These figures present the changes in unconditional means for these outcomes, separately for branches operating in cities coethnic with the bank (bank coethnic city) and for branches operating in cities not coethnic with the bank (non bank coethnic city.) Finally, for the coethnicity variables we report the expected share of coethnic managers if the same sample of managers were to be randomly assigned to bank branches. We conduct this exercise 200 times and report the average of these simulations.

Figure 5: Beta-Israel Cities and Conflict



Notes: This figure displays the distribution of conflict events and the locations of Beta Israel cities in Ethiopia. Beta Israel cities are marked in red, while other cities are marked in black. The contours indicate distances of 100 km, 200 km, and 300 km from the nearest Beta Israel city, with the 100 km contour represented by a solid black line, the 200 km contour by a dashed black line, and the 300 km contour by a dotted black line. The density plot shows the weighted distribution of fatalities from ethnic conflict between 2015 and 2022, with darker regions representing higher densities. The map uses the Web Mercator projection (EPSG:3857) for accurate distance calculations.

Table 1: Survey Indicators

(1) Indicator	(2) Objective	(3) Measure
	1 Lean Management	
1.1	Introduction of new management techniques	Tests whether operational efficiencies have been introduced and why
1.2	Good use of human resources	Tests whether incoming demand is segmented appropriately and the efficiency at matching supply and demand of skills
	2 Performance Management	
2.1	Performance tracking	Tests whether performance is tracked using meaningful metrics and with appropriate regularity
2.2	Review of performance	Tests whether performance is reviewed with appropriate frequency and communicated with staff
	3 Target Management	
3.1	Target balance	Tests whether targets cover a sufficiently broad set of metrics
3.2	Target interconnections	Tests whether targets are tied to company objectives and how well they cascade down the organization
	4 People Management	
4.1	Building a high performance culture	Tests whether good performance is rewarded proportionately
4.2	Making room for talent	Tests whether the branch is able to deal with underperformers

Notes: This table illustrates our survey's section on management performance. To measure good managerial practices, we evaluate them along four main categories, i.e., lean management, performance management, target management, and people management. Each category is scored on two dimensions on a scale from 1 (bad practice) to 5 (good practice). Our final management performance index is calculated by standardizing each of the eight resulting scores and by taking their unweighted average. The performance management index combines the performance and people management scores, the other management practices include those related to lean and target management.

Table 2: Summary statistics of analysis variables

	N	Mean	Std. Dev.	Min	Max
Bank coethnic manager	1,988	0.65	0.48	0	1
City coethnic manager	1,988	0.56	0.50	0	1
Levels hierarchy	1,987	3.88	1.99	1	42
Num. Employees	1,981	17.56	10.01	3	110
Performance Management	1,987	-0.00	1.00	-2.55	2.53
Other Management Practices	1,987	-0.00	1.00	-3.11	2.84
Focus on loans	1,988	0.20	0.40	0	1
Lending rate	1,662	0.15	0.02	.1	.2
Ln Number Loans	1,534	2.43	1.34	0	8.52
Ln loan size	1,529	13.28	3.77	0	17.86
Collateral	1,474	0.95	0.19	.5	1.5
Share default	1,595	0.07	0.14	0	1

Notes: This table provides summary statistics of the main analysis variables based on the branch survey. Bank coethnic manager and city coethnic manager are dummy indicators for whether respectively the manager and bank, or the manager and city are coethnic. Levels is the number of levels between the senior manager and lowest-level employee in the branch. Num. Employees is the number of employees in the branch. Performance Management is the mean of the normalised management scores related to performance and people management, Other Management Practices is the mean of the normalised management scores related to people and target management. Focus loans is an indicator equal to one if the branch indicates focussing on both deposits and loans rather than only deposits. collateral percentage is the typical level of collateral on a loan given out as a share of the total loan size Ln Number Loans is the log number of loans, Ln loan size is the log loan size, collateral percentage is the average lending percentage on the past 10 loans given out. Share default is the share of loan default on loans given out in the past year. We report the number of observations, the mean, standard deviation, minimum and maximum of these variables.

Table 3: Bank-level exposure to ethnic conflict and manager ethnicity

	Panel A: Bank-City Coethnic					
	City coethnic manager			Bank coethnic manager		
	(1)	(2)	(3)	(4)	(5)	(6)
avg. Fat. Own Eth.	-0.006	0.017	-0.008	-0.006	0.017	-0.008
	(0.032)	(0.031)	(0.030)	(0.032)	(0.031)	(0.030)
fat. Local. Conflict			0.024*			0.024*
			(0.014)			(0.014)
Branch FE	Yes	Yes	Yes	Yes	Yes	Yes
Time FE	Yes	No	Yes	Yes	No	Yes
City-Time FE	No	Yes	No	No	Yes	No
2018 Mean dep. var	0.677	0.677	0.677	0.677	0.677	0.677
p-value	0.847	0.591	0.795	0.847	0.591	0.795
N	924	924	924	924	924	924
	Panel B: Not Bank-City Coethnic					
	City coethnic manager			Bank coethnic manager		
avg. Fat. Own Eth.	0.090***	0.054***	0.104***	-0.127***	-0.089***	-0.143***
	(0.019)	(0.016)	(0.017)	(0.016)	(0.015)	(0.017)
fat. Local. Conflict			-0.042**			0.048***
			(0.018)			(0.017)
Branch FE	Yes	Yes	Yes	Yes	Yes	Yes
Time FE	Yes	No	Yes	Yes	No	Yes
City-Time FE	No	Yes	No	No	Yes	No
2018 Mean dep. var	0.205	0.205	0.205	0.761	0.761	0.761
p-value	0.000	0.002	0.000	0.000	0.000	0.000
N	1064	1064	1064	1064	1064	1064

Notes: This table examines the relationship between bank-level exposure to conflict involving the bank's ethnic group and the choice of the ethnicity of the branch manager. Panel A restricts the sample to branches in coethnic cities, while Panel B focuses on branches in non-coethnic cities. The regressions include branch and time, or branch and city-time fixed effects. Standard errors, clustered at the city level, are reported in parentheses. The reported p-value is for the t-test that the main reported parameter of interest is equal to zero. Statistical significance is denoted by * $p < 0.10$, ** $p < 0.05$, and *** $p < 0.01$.

Table 4: Bank-level exposure to ethnic conflict and internal hierarchy

	Panel A: Bank-City Coethnic					
	Levels Hierarchy			Number of Employees		
	(1)	(2)	(3)	(4)	(5)	(6)
avg. Fat. Own Eth.	-0.061	-0.344***	-0.056	-1.027*	-0.737	-1.037*
	(0.133)	(0.101)	(0.134)	(0.582)	(0.930)	(0.585)
fat. Local. Conflict			-0.078			0.149
			(0.071)			(0.240)
Branch FE	Yes	Yes	Yes	Yes	Yes	Yes
Time FE	Yes	No	Yes	Yes	No	Yes
City-Time FE	No	Yes	No	No	Yes	No
2018 Mean dep. var	3.656	3.656	3.656	15.223	15.223	15.223
p-value	0.650	0.001	0.678	0.080	0.429	0.078
N	922	922	922	916	916	916
	Panel B: Not Bank-City Coethnic					
	Levels Hierarchy			Number of Employees		
avg. Fat. Own Eth.	0.150**	0.180*	0.142**	-0.759**	-0.952***	-0.993***
	(0.076)	(0.094)	(0.069)	(0.304)	(0.264)	(0.326)
fat. Local. Conflict			0.026			0.739**
			(0.064)			(0.328)
Branch FE	Yes	Yes	Yes	Yes	Yes	Yes
Time FE	Yes	No	Yes	Yes	No	Yes
City-Time FE	No	Yes	No	No	Yes	No
2018 Mean dep. var	3.504	3.504	3.504	14.374	14.374	14.374
p-value	0.049	0.062	0.041	0.014	0.001	0.003
N	1064	1064	1064	1058	1058	1058

Notes: This table examines the relationship between bank-level exposure to conflict involving the bank's ethnic group and the internal hierarchy of the branch. Panel A restricts the sample to branches in coethnic cities, while Panel B focuses on branches in non-coethnic cities. The regressions include branch and time, or branch and city-time fixed effects. Standard errors, clustered at the city level, are reported in parentheses. The reported p-value is for the t-test that the main reported parameter of interest is equal to zero. Statistical significance is denoted by * $p < 0.10$, ** $p < 0.05$, and *** $p < 0.01$.

Table 5: Bank-level exposure to ethnic conflict and management practices

	Panel A: Bank-City Coethnic					
	Performance-related practices			Non performance-related practices		
	(1)	(2)	(3)	(4)	(5)	(6)
avg. Fat. Own Eth.	-0.002	0.013	-0.001	0.127**	-0.023	0.130**
	(0.064)	(0.104)	(0.064)	(0.061)	(0.081)	(0.064)
fat. Local. Conflict			-0.012			-0.036*
			(0.023)			(0.020)
Branch FE	Yes	Yes	Yes	Yes	Yes	Yes
Time FE	Yes	No	Yes	Yes	No	Yes
City-Time FE	No	Yes	No	No	Yes	No
2018 Mean dep. var	3.107	3.107	3.107	3.176	3.176	3.176
p-value	0.980	0.902	0.990	0.040	0.779	0.044
N	924	924	924	924	924	924
	Panel B: Not Bank-City Coethnic					
	Performance-related practices			Non performance-related practices		
avg. Fat. Own Eth.	0.118**	0.023	0.113**	0.113***	0.047	0.122***
	(0.048)	(0.068)	(0.055)	(0.036)	(0.047)	(0.041)
fat. Local. Conflict			0.015			-0.027
			(0.031)			(0.026)
Branch FE	Yes	Yes	Yes	Yes	Yes	Yes
Time FE	Yes	No	Yes	Yes	No	Yes
City-Time FE	No	Yes	No	No	Yes	No
2018 Mean dep. var	3.272	3.272	3.272	3.289	3.289	3.289
p-value	0.016	0.737	0.041	0.002	0.325	0.003
N	1062	910	1062	1062	910	1062

Notes: This table examines the relationship between bank-level exposure to conflict involving the bank's ethnic group and management practices. Panel A restricts the sample to branches in coethnic cities, while Panel B focuses on branches in non-coethnic cities. The index for performance-related practices includes practices related to people management and performance, the index for non performance-related practices includes all other practices. The regressions include branch and time, or branch and city-time fixed effects. Standard errors, clustered at the city level, are reported in parentheses. The reported p-value is for the t-test that the main reported parameter of interest is equal to zero. Statistical significance is denoted by * $p < 0.10$, ** $p < 0.05$, and *** $p < 0.01$.

Table 6: Bank-level exposure to ethnic conflict and branch-level lending

	Panel A: Bank-City Coethnic					
	Focus on loans	Lending rate	Ln Number Loans	Ln loan size	Collateral	Share default
avg. Fat. Own Eth.	-0.010	0.002	0.061	0.841**	0.043***	-0.047***
	(0.030)	(0.002)	(0.101)	(0.357)	(0.015)	(0.016)
Branch FE	Yes	Yes	Yes	Yes	Yes	Yes
Time FE	Yes	Yes	Yes	Yes	Yes	Yes
2018 Mean dep. var	0.677	0.677	0.677	0.677	0.677	0.677
p-value	0.728	0.240	0.548	0.021	0.006	0.003
N	924	606	462	462	420	568
	Panel B: Not Bank-City Coethnic					
	Focus on loans	Lending rate	Ln Number Loans	Ln loan size	Collateral	Share default
avg. Fat. Own Eth.	-0.067***	0.002*	-0.249***	0.837***	-0.018**	0.008
	(0.018)	(0.001)	(0.059)	(0.160)	(0.008)	(0.010)
Branch FE	Yes	Yes	Yes	Yes	Yes	Yes
Time FE	Yes	Yes	Yes	Yes	Yes	Yes
2018 Mean dep. var	0.761	0.761	0.761	0.761	0.761	0.761
p-value	0.000	0.085	0.000	0.000	0.027	0.403
N	1064	730	618	608	540	634

Notes: This table examines the relationship between bank-level exposure to conflict involving the bank's ethnic group and the lending-related outcomes of bank branches. Panel A restricts the sample to branches in coethnic cities, while Panel B focuses on branches in non-coethnic cities. Focus on loans is an indicator equal to one if the branch states it focuses on loans as well as deposits, and collateral is the share of collateral as a percentage of the total loan required. The regressions include branch and time fixed effects. Standard errors, clustered at the city level, are reported in parentheses. The reported p-value is for the t-test that the main reported parameter of interest is equal to zero. Statistical significance is denoted by * $p < 0.10$, ** $p < 0.05$, and *** $p < 0.01$.

Table 7: Bank-level exposure to Beta-Israel cities and organizational outcomes

	Panel A: Bank-City Coethnic					
	Man-Bank CE	Man-City CE	Levels	Num. Employees	Perf. People	Other Mgt
shareBranchBeta100	0.164	0.164	-0.206	-3.827	0.139	0.492
	(0.215)	(0.215)	(0.540)	(2.320)	(0.362)	(0.303)
Branch FE	Yes	Yes	Yes	Yes	Yes	Yes
Time FE	Yes	Yes	Yes	Yes	Yes	Yes
2018 Mean dep. var	0.677	0.677	3.656	15.223	3.107	3.176
p-value	0.448	0.448	0.703	0.101	0.702	0.107
N	924	924	922	916	924	924
	Panel B: Not Bank-City Coethnic					
	Man-Bank CE	Man-City CE	Levels	Num. Employees	Perf. Mgt	Other Mgt
shareBranchBeta100	-0.642***	0.472**	0.380	-0.557	1.316***	1.059***
	(0.176)	(0.201)	(0.691)	(3.202)	(0.262)	(0.209)
Branch FE	Yes	Yes	Yes	Yes	Yes	Yes
Time FE	Yes	Yes	Yes	Yes	Yes	Yes
2018 Mean dep. var	0.761	0.205	3.504	14.374	3.272	3.289
p-value	0.000	0.020	0.583	0.862	0.000	0.000
N	1064	1064	1064	1058	1062	1062

Notes: This table examines the relationship between the share of a banks branches located within 100km of the cities from which the Beta-Israel migrated and the six previously introduced organizational characteristics of bank branches. Panel A restricts the sample to branches in coethnic cities, while Panel B focuses on branches in non-coethnic cities. The regressions include branch and time fixed effects. Standard errors, clustered at the city level, are reported in parentheses. The reported p-value is for the t-test that the main reported parameter of interest is equal to zero. Statistical significance is denoted by * $p < 0.10$, ** $p < 0.05$, and *** $p < 0.01$.

Table 8: Bank-level exposure to Beta-Israel cities and branch-level lending

	Panel A: Bank-City Coethnic					
	Focus on loans	Lending rate	Ln Number Loans	Ln loan size	Collateral	Share default
shareBeta100	-0.096	0.002	0.262	4.074**	0.309***	-0.225***
	(0.154)	(0.008)	(0.398)	(1.644)	(0.069)	(0.060)
Branch FE	Yes	Yes	Yes	Yes	Yes	Yes
Time FE	Yes	Yes	Yes	Yes	Yes	Yes
2018 Mean dep. var	0.677	0.677	0.677	0.677	0.677	0.677
p-value	0.536	0.851	0.513	0.015	0.000	0.000
N	924	606	462	462	420	568
	Panel B: Not Bank-City Coethnic					
	Focus on loans	Lending rate	Ln Number Loans	Ln loan size	Collateral	Share default
shareBeta100	-0.485***	0.012	-0.444	7.905***	-0.133*	0.154*
	(0.115)	(0.008)	(0.522)	(1.346)	(0.071)	(0.092)
Branch FE	Yes	Yes	Yes	Yes	Yes	Yes
Time FE	Yes	Yes	Yes	Yes	Yes	Yes
2018 Mean dep. var	0.761	0.761	0.761	0.761	0.761	0.761
p-value	0.000	0.142	0.397	0.000	0.063	0.100
N	1064	730	618	608	540	634

Notes: This table examines the relationship between the share of a banks branches located within 100km of the cities from which the Beta-Israel migrated and the six previously introduced lending-related outcomes. Panel A restricts the sample to branches in coethnic cities, while Panel B focuses on branches in non-coethnic cities. The regressions include branch and time fixed effects. Standard errors, clustered at the city level, are reported in parentheses. The reported p-value is for the t-test that the main reported parameter of interest is equal to zero. Statistical significance is denoted by * $p < 0.10$, ** $p < 0.05$, and *** $p < 0.01$.

A Proofs theoretical model

A.1 Proof Lemma 1

Proof. Let us consider all the possible posteriors generated by all the possible structure-ethnicity combinations:

- **Flat hierarchy, bank coethnic BM.** In this scenario, when the BM reports $\sigma = h$ the HQ forms a posterior belief $Pr(q = H|\sigma = h) = 1 - \gamma_1$ and the project has expected return

$$(1 - 2\gamma_1)x > 0$$

so that the HQ finances the project.

If instead the BM reports $\sigma = l$ the HQ's posterior belief is $Pr(q = H|\sigma = l) = \gamma_1$ and the project has expected return

$$(2\gamma_1 - 1)x \leq 0$$

and the HQ does not finance the project.

- **Steep hierarchy, bank coethnic LO.** If the LO reports $\sigma = h$ the HQ forms a posterior belief $Pr(q = H|\sigma = h) = 1 - \gamma_2$ and the project has expected return

$$(1 - 2\gamma_2)x > 0$$

so that the HQ finances the project.

If the LO reports $\sigma = l$ the HQ's posterior belief is $Pr(q = H|\sigma = l) = \gamma_2$ and the project has expected return

$$(2\gamma_2 - 1)x \leq 0$$

and the HQ does not finance the project.

- **Flat hierarchy, city coethnic BM.**

If the BM reports $\sigma = h$, the HQ forms a posterior belief $Pr(q = H|\sigma = h) = \frac{1-\varepsilon}{1+\beta}$ and the project yields expected return

$$\left[\frac{2(1-\varepsilon)}{1+\beta} - 1\right]x > 0$$

and the HQ finances the project. If instead the BM reports $\sigma = l$, the HQ's posterior belief is $\frac{\varepsilon}{1+\beta}$

and the project has expected return

$$\left(\frac{2\varepsilon}{1+\beta}-1\right)x \leq 0$$

so the HQ does not finance the project.

- **Steep hierarchy, city coethnic LO.**

  If the LO reports $\sigma = h$, the HQ's posterior belief $Pr(q = H|\sigma = h) = \frac{1}{1+\beta}$ and the project yields expected return

$$\left(\frac{2}{1+\beta}-1\right)x > 0$$

  and the HQ finances the project.

  If instead the BM reports $\sigma = l$, the HQ's posterior belief is zero and the project has a negative expected return $-x$, so the project is not funded.

□

A.2 Proof Proposition 1

Proof. (i). First, consider the appointment of the BM in a flat hierarchy. The HQ appoints a city coethnic BM if

$$\frac{(1-2\varepsilon)(1-\beta)x}{2} \geq \frac{(1-2\gamma_1)x}{2} \iff \gamma_1 \geq \gamma^* \equiv \frac{1-(1-2\varepsilon)(1-\beta)}{2}.$$

(ii). Let us now consider the appointment of the LO in a steep hierarchy. In this scenario, the HQ appoints a city coethnic LO if

$$\frac{(1-\beta)x}{2} - \kappa \geq \frac{(1-2\gamma_2)x}{2} - \kappa \iff \gamma_2 \geq \frac{\beta}{2}.$$

□

A.3 Proof Proposition 2

Note that $\gamma^* \geq \frac{\beta}{2}$ since $2(1-\beta)\varepsilon \geq 0$.

Proof. (i). Let $\gamma_2 < \frac{\beta}{2}$ and $\gamma_1 < \gamma^*$. In this case, in either organizational structure the HQ appoints bank coethnic subordinates. Hence, the hierarchy is optimally flat if

$$\frac{(1-2\gamma_1)x}{2} \geq \frac{(1-2\gamma_2)x}{2} - \kappa \iff \gamma_1 < \gamma_2 + \frac{\kappa}{x},$$

otherwise, the HQ sets a steep hierarchy.

(ii). Let $\gamma_2 \geq \frac{\beta}{2}$ and $\gamma_1 < \gamma^*$. In this case, if the hierarchy is flat, the HQ appoints a bank coethnic BM, otherwise it appoints city coethnic BM and LO. The optimal hierarchy is flat if

$$\frac{(1-2\gamma_1)x}{2} \geq \frac{(1-\beta)x}{2} - \kappa \iff \gamma_1 \leq \frac{\beta}{2} + \frac{\kappa}{x},$$

otherwise the hierarchy is optimally steep with city coethnic subordinates.

(iii). Let $\gamma_2 \geq \frac{\beta}{2}$ and $\gamma_1 \geq \gamma^*$. In this case, irrespective of the organizational structure, the HQ appoints city coethnic subordinates. Hence, the optimal hierarchy is steep if

$$\frac{(1-\beta)x}{2} - \kappa \geq \frac{(1-\beta)(1-2\varepsilon)x}{2} - \kappa \iff \varepsilon \geq \frac{\kappa}{x(1-\beta)},$$

which is always met.

□

B Robustness Test

B.1 Robustness to changing the matching of conflict to cities

To test the robustness of our results to the type of conflict we match, we vary the set $\mathcal{E}_{bt}$ in equation 1 by changing the set to all conflict within 15 and 50 kilometers of a branch of bank b. First, we consider matching only conflict within 15 kilometers of the city, for which we report the results relating to internal organization in Table B.1 and results relating to lending activities in Table B.2. Next, we focus on conflict within 50km of the city, we report the results relating to internal organization in Table B.3 and results relating to lending activities in Table B.4. For clarity of exposition, we focus on our main specification (Equation 2) with branch and time fixed effects, not controlling for local conflict.

These four table show that results are clearly not driven by the specific choice of distance we use to match conflict to cities. All results are similar both quantitatively and qualitatively, with coefficients shrinking as we increase the amount of conflict we match reflecting the variance the independent variable.

Table B.1: Bank-level exposure to ethnic conflict and organizational characteristics (Matching conflict within 15km of the city)

	Panel A: Bank-City Coethnic					
	Man-Bank CE	Man-City CE	Performance Mgt	Other Mgt	Levels	Num. Employees
avg. Fat. Own Eth.	0.024	0.024	0.017	0.125	-0.059	-0.400
	(0.038)	(0.038)	(0.081)	(0.083)	(0.142)	(0.643)
Branch FE	Yes	Yes	Yes	Yes	Yes	Yes
Time FE	Yes	Yes	Yes	Yes	Yes	Yes
2018 Mean dep. var	0.677	0.677	3.107	3.176	3.656	15.223
p-value	0.533	0.533	0.837	0.134	0.678	0.536
N	924	924	924	924	922	916
	Panel B: Not Bank-City Coethnic					
	Man-Bank CE	Man-City CE	Performance Mgt	Other Mgt	Levels	Num. Employees
avg. Fat. Own Eth.	-0.165***	0.115***	0.139**	0.130***	0.195**	-0.836*
	(0.020)	(0.024)	(0.057)	(0.037)	(0.095)	(0.475)
Branch FE	Yes	Yes	Yes	Yes	Yes	Yes
Time FE	Yes	Yes	Yes	Yes	Yes	Yes
2018 Mean dep. var	0.761	0.205	3.272	3.289	3.504	14.374
p-value	0.000	0.000	0.017	0.001	0.042	0.081
N	1064	1064	1062	1062	1064	1058

Notes: This table examines the relationship between bank-level exposure to conflict involving the bank's ethnic group and the internal organisation of bank branches, including only conflict within 15km of a city in which the bank is active. Panel A restricts the sample to branches in coethnic cities, while Panel B focuses on branches in non-coethnic cities. The regressions include branch and time fixed effects. Standard errors, clustered at the city level, are reported in parentheses. The reported p-value is for the t-test that the main reported parameter of interest is equal to zero. Statistical significance is denoted by * $p < 0.10$, ** $p < 0.05$, and *** $p < 0.01$.

Table B.2: Bank-level exposure to ethnic conflict and branch-level lending (Matching conflict within 15km of the city)

	Panel A: Bank-City Coethnic					
	Focus on loans	Lending rate	Ln Number Loans	Ln loan size	Collateral	Share default
avg. Fat. Own Eth.	-0.026	0.002	-0.003	0.669	0.068***	-0.047**
	(0.041)	(0.003)	(0.113)	(0.531)	(0.017)	(0.019)
Branch FE	Yes	Yes	Yes	Yes	Yes	Yes
Time FE	Yes	Yes	Yes	Yes	Yes	Yes
2018 Mean dep. var	0.677	0.677	0.677	0.677	0.677	0.677
p-value	0.538	0.456	0.979	0.211	0.000	0.013
N	924	606	462	462	420	568
	Panel B: Not Bank-City Coethnic					
	Focus on loans	Lending rate	Ln Number Loans	Ln loan size	Collateral	Share default
avg. Fat. Own Eth.	-0.072***	0.003***	-0.353***	1.071***	-0.025**	0.009
	(0.021)	(0.001)	(0.074)	(0.227)	(0.010)	(0.013)
Branch FE	Yes	Yes	Yes	Yes	Yes	Yes
Time FE	Yes	Yes	Yes	Yes	Yes	Yes
2018 Mean dep. var	0.761	0.761	0.761	0.761	0.761	0.761
p-value	0.001	0.010	0.000	0.000	0.015	0.501
N	1064	730	618	608	540	634

Notes: This table examines the relationship between bank-level exposure to conflict involving the bank's ethnic group and the internal organisation of bank branches, including only conflict within 15km of a city in which the bank is active. Panel A restricts the sample to branches in coethnic cities, while Panel B focuses on branches in non-coethnic cities. The regressions include branch and time fixed effects. Standard errors, clustered at the city level, are reported in parentheses. The reported p-value is for the t-test that the main reported parameter of interest is equal to zero. Statistical significance is denoted by * $p < 0.10$, ** $p < 0.05$, and *** $p < 0.01$.

Table B.3: Bank-level exposure to ethnic conflict and organizational characteristics (Matching conflict within 50km of the city)

	Panel A: Bank-City Coethnic					
	Man-Bank CE	Man-City CE	Performance Mgt	Other Mgt	Levels	Num. Employees
avg. Fat. Own Eth.	-0.007	-0.007	0.018	0.125**	-0.019	-1.460***
	(0.034)	(0.034)	(0.065)	(0.063)	(0.117)	(0.530)
Branch FE	Yes	Yes	Yes	Yes	Yes	Yes
Time FE	Yes	Yes	Yes	Yes	Yes	Yes
2018 Mean dep. var	0.677	0.677	3.107	3.176	3.656	15.223
p-value	0.847	0.847	0.777	0.047	0.875	0.007
N	924	924	924	924	922	916
	Panel B: Not Bank-City Coethnic					
	Man-Bank CE	Man-City CE	Performance Mgt	Other Mgt	Levels	Num. Employees
avg. Fat. Own Eth.	-0.127***	0.090***	0.098*	0.098***	0.131*	-0.770***
	(0.016)	(0.017)	(0.051)	(0.036)	(0.079)	(0.282)
Branch FE	Yes	Yes	Yes	Yes	Yes	Yes
Time FE	Yes	Yes	Yes	Yes	Yes	Yes
2018 Mean dep. var	0.761	0.205	3.272	3.289	3.504	14.374
p-value	0.000	0.000	0.057	0.007	0.098	0.007
N	1064	1064	1062	1062	1064	1058

Notes: This table examines the relationship between bank-level exposure to conflict involving the bank's ethnic group and the internal organisation of bank branches, including only conflict within 50km of a city in which the bank is active. Panel A restricts the sample to branches in coethnic cities, while Panel B focuses on branches in non-coethnic cities. The regressions include branch and time fixed effects. Standard errors, clustered at the city level, are reported in parentheses. The reported p-value is for the t-test that the main reported parameter of interest is equal to zero. Statistical significance is denoted by * $p < 0.10$, ** $p < 0.05$, and *** $p < 0.01$.

Table B.4: Bank-level exposure to ethnic conflict and branch-level lending (Matching conflict within 50km of the city)

	Panel A: Bank-City Coethnic					
	Focus on loans	Lending rate	Ln Number Loans	Ln loan size	Collateral	Share default
avg. Fat. Own Eth.	0.002	0.003	0.059	1.077***	0.040***	-0.047***
	(0.030)	(0.002)	(0.103)	(0.348)	(0.014)	(0.015)
Branch FE	Yes	Yes	Yes	Yes	Yes	Yes
Time FE	Yes	Yes	Yes	Yes	Yes	Yes
2018 Mean dep. var	0.677	0.677	0.677	0.677	0.677	0.677
p-value	0.955	0.132	0.568	0.003	0.007	0.003
N	924	606	462	462	420	568
	Panel B: Not Bank-City Coethnic					
	Focus on loans	Lending rate	Ln Number Loans	Ln loan size	Collateral	Share default
avg. Fat. Own Eth.	-0.069***	0.002	-0.237***	0.813***	-0.019**	0.008
	(0.018)	(0.001)	(0.060)	(0.152)	(0.008)	(0.009)
Branch FE	Yes	Yes	Yes	Yes	Yes	Yes
Time FE	Yes	Yes	Yes	Yes	Yes	Yes
2018 Mean dep. var	0.761	0.761	0.761	0.761	0.761	0.761
p-value	0.000	0.139	0.000	0.000	0.019	0.324
N	1064	730	618	608	540	634

Notes: This table examines the relationship between bank-level exposure to conflict involving the bank's ethnic group and the internal organization of bank branches, including only conflict within 50km of a city in which the bank is active. Panel A restricts the sample to branches in coethnic cities, while Panel B focuses on branches in non-coethnic cities. The regressions include branch and time fixed effects. Standard errors, clustered at the city level, are reported in parentheses. The reported p-value is for the t-test that the main reported parameter of interest is equal to zero. Statistical significance is denoted by * $p < 0.10$, ** $p < 0.05$, and *** $p < 0.01$.

B.2 Running the interacted regressions

Next, to test more rigorously for differences in the effects in bank-coethnic and non bank-coethnic cities, we run an interacted regression. To reproduce our results, we allow for differences in trends between these two types of cities over time by including a bank-city coethnic times time, and branch fixed effects. This allows us to test for differences in the effects. Specifically, we implement the following regression:

$$Y_{itbc} = \beta_1 \texttt{conflict_intensity}_{tb} \cdot \texttt{BCE}_{bc} + \gamma_i + \gamma_{t \cdot \texttt{BCE}} + \varepsilon_{itbc}, \tag{5}$$

Where BCE is an indicator for whether the bank and city are coethnic, and $\gamma_{t \cdot \text{BCE}}$ is a bank-city coethnic times time fixed effect.

Table B.5: The effect of bank-level exposure to conflict involving their ethnicity on organizational characteristics

	Man-Bank CE b/se	Man-City CE b/se	Performance Mgt b/se	Other Mgt b/se	Levels b/se	Num. Employees b/se
avgFatalitiesOwn	-0.006	-0.006	-0.002	0.127**	-0.061	-1.027*
	(0.031)	(0.031)	(0.059)	(0.050)	(0.151)	(0.608)
avgFatalitiesOwn x nonBCE	-0.121***	0.096**	0.120*	-0.014	0.211	0.268
	(0.038)	(0.038)	(0.071)	(0.061)	(0.183)	(0.738)
Branch FE	Yes	Yes	Yes	Yes	Yes	Yes
BankCityCoethnic-Time FE	Yes	Yes	Yes	Yes	Yes	Yes
2018 Mean dep. var	0.722	0.425	3.195	3.237	3.574	14.769
p-value	0.000	0.000	0.003	0.001	0.146	0.070
N	1988	1988	1986	1986	1986	1974

Notes: This table examines the relationship between bank-level exposure to conflict involving the bank's ethnic group and the internal organisation of bank branches. In this regression, all branches are included and conflict intensity is interacted with a dummy equal to one if a branch is located in a city that is not coethnic with the bank. The regressions include branch and bank-city coethnic times time fixed effects. Standard errors, clustered at the city level, are reported in parentheses. The reported p-value is for the t-test that the main reported parameter of interest is equal to zero. Statistical significance is denoted by * $p < 0.10$, ** $p < 0.05$, and *** $p < 0.01$.

Table B.6: The effect of bank-level exposure to conflict involving their ethnicity on lending activities

	Focus on loans	Lending rate	Ln Number Loans	Ln loan size	Collateral	Share default
	b/se	b/se	b/se	b/se	b/se	b/se
avg. Fat. Own Eth	-0.010	0.002	0.061	0.841***	0.043**	-0.047***
	(0.029)	(0.002)	(0.105)	(0.313)	(0.017)	(0.015)
avg. Fat. Own Eth x nonBCE	-0.056	-0.000	-0.309**	-0.004	-0.061***	0.055***
	(0.035)	(0.002)	(0.125)	(0.378)	(0.021)	(0.018)
Branch FE	Yes	Yes	Yes	Yes	Yes	Yes
Bank-City Coethnic-Time FE	Yes	Yes	Yes	Yes	Yes	Yes
2018 Mean dep. var	0.071	0.147	2.047	12.697	1.004	0.048
p-value	0.001	0.118	0.000	0.000	0.123	0.418
N	1988	1336	1080	1070	960	1202

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Notes: This table examines the relationship between bank-level exposure to conflict involving the bank's ethnic group and the internal organisation of bank branches. In this regression, all branches are included and conflict intensity is interacted with a dummy equal to one if a branch is located in a city that is not coethnic with the bank. The regressions include branch and bank-city coethnic times time fixed effects. Standard errors, clustered at the city level, are reported in parentheses. The reported p-value is for the t-test that the main reported parameter of interest is equal to zero. Statistical significance is denoted by * $p < 0.10$, ** $p < 0.05$, and *** $p < 0.01$.

C Ethnicity of banks, cities and managers

C.1 List of banks and bank-ethnicities

Bank	Bank ethnicity	Branches	Share total branches (%)
Abay	Amhara	81	8.1
Addis	Amhara	5	.5
Awash	Oromo	101	10.2
BOA	Amhara	39	3.9
Berhan	Amhara	75	7.5
Bunna International	Amhara	47	4.7
CBB	Amhara	19	1.9
CBE	Amhara	211	21.2
CBO	Oromo	55	5.5
Dashen	Amhara	56	5.6
Debub	SNNP	17	1.7
Lion	Tigray	14	1.4
NIB International	SNNP	86	8.7
OIB	Oromo	76	7.6
United	Amhara	53	5.3
Wegagen	Tigray	59	5.9
Total		994	100

Notes: This Table reports the ethnicity assigned to specific banks, and the number of branches and share of total branches belonging to this bank in our sample. The bank ethnicity is assigned based on the ethnicity of the C-Suite managers of the bank in 2018.

C.2 Number of cities by ethnic group

City Ethnicity	Branches	Share total branches (%)
Afar	6	.6
Amhara	531	53.4
Benishangul-Gumuz	13	1.3
Oromo	295	29.7
SNNP	121	12.2
Somali	21	2.1
Tigray	7	.7
Total	994	100

Notes: This Table reports the results from our assignment of cities to specific ethnic groups based on data from Murdock's Ethnographic Atlas. Each city is assigned to the ethnicity with the highest population share in that location.

C.3 Number of managers by ethnic group by period

Table C.1: Manager Ethnicities

Manager Ethnicity	Number (2018)	Share (2018)	Number (2022)	Share (2022)
Afar	1	.1	6	.6
Agew	0	0	8	.8
Amhara	500	50.3	442	44.5
Benishangul-Gumuz	10	1	2	.2
Oromo	291	29.3	386	38.8
SNNP	109	11	109	11
Somali	2	.2	19	1.9
Tigray	81	8.1	21	2.1

This table reports the number and share of managers belonging to each ethnic group in 2018 and 2022. The data was collected through a phone survey with branch managers, and their ethnicity was determined based on a combination of factors: the manager's name, place of birth, accent, spoken languages, and, where comfortable, their self-reported identity. Given the high salience of ethnicity in this context, these methods provide a reasonable basis for accurately assigning managers to their respective ethnic groups. For approximately 10% of managers whose ethnicity could not be determined through these methods, we applied the following rule: If the manager was born in the same region where the branch operates, they are assumed to be coethnic with the region. If the manager was not born in this region and the branch is located in a region that is not coethnic with the bank, we assume the manager is coethnic with the bank.

D Management Practices Survey and Methodology

D.1 Scoring Management Performances

The concept of "good management practice" is often relative and contingent to a specific market or sector. However, international best practices in the banking sector have been widely studied, allowing the literature to reach a consensus on what constitutes a "good" practice. We evaluate and score management practices by defining the concept of "good" and "bad" practice and codifying it from 1 (worst practice) to 5 (best practice) across eight key dimensions. These practices are grouped into four areas: lean management, performance management, target management, and people management.[8]

The lean management section evaluates the efficiency of day-to-day operations (e.g., organization of the workflow, management of slack time, method of staff assignment to specific tasks, etc.) and assesses whether the branch has adopted recognized best practices. The performance management part measures how performance is tracked and reviewed (e.g., what KPIs are used, who oversees the performance review, how frequently the performance measures are revised, etc.). The target management section reviews the nature and scope of a branch's targets (e.g., the relative importance of financial targets compared to non-financial ones, how these targets are linked to performance measures, etc.) and assesses whether they align with the bank's objectives. Finally, the people management part tests whether good performance is appropriately rewarded and whether bad performance is sanctioned (e.g., adoption of an articulated appraisal system, use of a reward plan, presence of sanctions for underperformers, etc.).

An overview of these four sections is presented in Table 1. After the completion of the survey, we combine these scores to obtain a unique index of management practices. Since the scaling may vary across practices in the econometric estimation, we normalize the final scores to z-scores (i.e., mean zero and standard deviation one). To build our final management index, we take the unweighted average across all z-scores as our primary measure of overall management practice.

D.2 Responses Collection

The information content and precision of our management performance index crucially depend on the quality of the responses collected through our survey. For this reason, we structured our questions to allow respondents to provide accurate and unbiased answers. As pointed out by (Bertrand & Mullainathan, 2001), responses are typically biased by the presence of a scoring scale, which may prompt respondents to provide the interviewer's expected answer. Additionally, interviewers may have preconceptions toward the interviewed managers. Apart from these issues, many background factors correlated with management behavior may systematically bias survey data.

[8] Note, this section is taken directly from a previously circulated working paper (Gennaioli, Limodio, & Strobbe, 2019)

To counter these potential negative effects, we adopt a combination of strategies tested in the existing literature. First, we ensure accurate responses by conducting telephone surveys without informing managers that their answers will be evaluated against a scoring grid, allowing us to gather information about actual management practices. Second, we ask a series of open-ended questions (e.g., "What types of targets are set for the bank in general? What are the goals for your branch?") and record responses until an accurate assessment of management practices is possible. Third, to correct any inconsistent interpretation of responses, we ensure interviewers conduct a minimum number of training interviews during a pilot survey phase. Furthermore, since almost all our interviewers conducted over 40 interviews (with an average of 200 interviews per interviewer), we are able to control for interviewer fixed effects in a robustness section. Fourth, we adopt a double-scoring technique, where another interviewer silently listens and scores the responses provided during the interview. Finally, we collect information on a large set of manager characteristics (e.g., age, education, ethnicity, etc.) to control for potential confounders.

D.3 Manager Participation

The average duration of an interview was approximately 27 minutes. Interviews were conducted between January 2015 and February 2018 by locally recruited research assistants (RAs). The initial survey phase consisted of a pilot involving 265 branches, which allowed us to refine the survey and train interviewers. After this stage, we surveyed the universe of Ethiopian bank branches (3,232 in total). We achieved a relatively high response rate (59%, 1,911 branches) through specific strategies. First, the survey was introduced as a neutral exercise, avoiding discussion of the bank's financial position or individual branch accounts. This ensured that interviewers were blind to financial data and helped maximize participation. Second, questions focused on evident practices within the branch, enabling branch managers to provide reliable answers. Finally, endorsement and support from the World Bank and the National Bank of Ethiopia encouraged participation by emphasizing the initiative's importance and official backing.

D.4 Additional Data Collected

In addition to management practices, our survey collected extensive data on respondent and branch characteristics. The introductory section gathered baseline information about the branch (e.g., name, geographic location, number of employees, opening date) and the manager (e.g., age, gender, education, previous employment).

A second set of questions addressed the organizational nature of the branch (e.g., management structure, autonomy from headquarters) and operations (e.g., average loan size, collateral requirements, share of defaulted loans).

D.5 Summary statistics by wave

Tables D.1 and D.2 report summary statistics on the main analysis variables by survey wave for respectively organizational characteristics and characteristics related to lending activities.

Table D.1: Summary of organizational characteristics by survey wave

	N	Mean	Std. Dev.	Min	Max
Bank coethnic manager	1,988	0.65	0.48	0	1
First Wave (2018)	994	0.72	0.45	0	1
Second Wave (2022)	994	0.58	0.49	0	1
City coethnic manager	1,988	0.56	0.50	0	1
First Wave (2018)	994	0.42	0.49	0	1
Second Wave (2022)	994	0.70	0.46	0	1
Levels hierarchy?	1,987	3.88	1.99	1	42
First Wave (2018)	994	3.57	1.54	1	9
Second Wave (2022)	993	4.19	2.32	1	42
Num. Employees	1,981	17.56	10.01	3	110
First Wave (2018)	994	14.77	10.31	3	110
Second Wave (2022)	987	20.38	8.85	5	78
Performance Management	1,987	-0.00	1.00	-2.55	2.53
First Wave (2018)	994	0.24	1.19	-2.55	2.53
Second Wave (2022)	993	-0.24	0.68	-2.25	2.53
Other Management Practices	1,987	-0.00	1.00	-3.11	2.84
First Wave (2018)	994	0.21	1.17	-3.11	2.84
Second Wave (2022)	993	-0.21	0.74	-2.76	2.84

Notes: This Table provides summary statistics of the organizational characteristics from branches in 2018 and 2022. Bank coethnic manager and city coethnic manager are dummy indicators for whether respectively the manager and bank, or the manager and city are coethnic. Levels hierarchy is the number of levels between the senior manager and lowest-level employee in the branch. Num. Employees is the number of employees in the branch. Performance Management is the mean of the normalised management scores related to performance and people management, Other Management Practices is the mean of the normalised management scores related to people and target management. We report the number of observations, the mean, standard deviation, minimum and maximum of these variables.

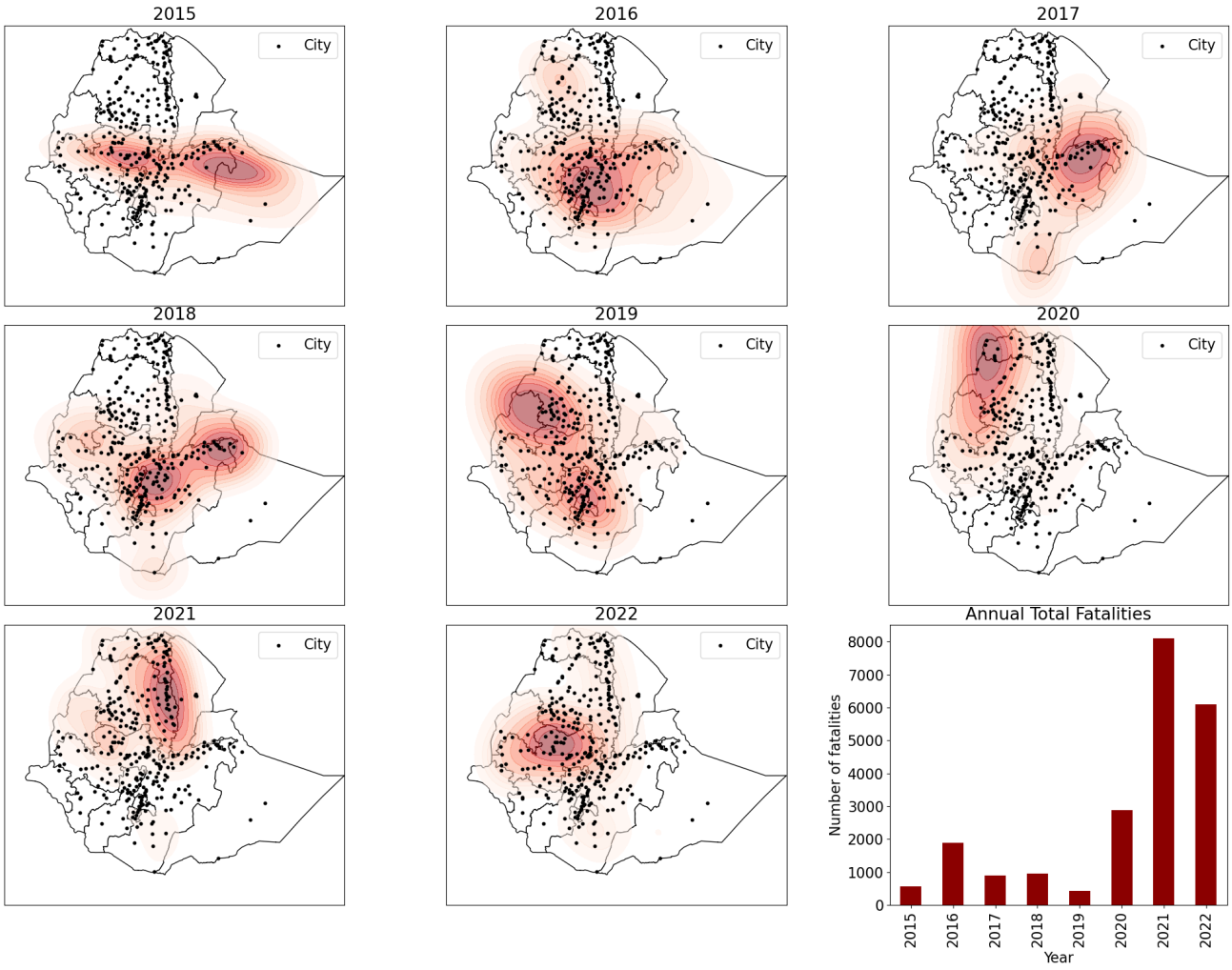
Table D.2: Summary of branch-level lending activities variables by survey wave

	N	Mean	Std. Dev.	Min	Max
Focus on loans	1,988	0.20	0.40	0	1
First Wave (2018)	994	0.07	0.26	0	1
Second Wave (2022)	994	0.33	0.47	0	1
Lending rate	1,662	0.15	0.02	.1	.2
First Wave (2018)	994	0.15	0.02	.1	.2
Second Wave (2022)	668	0.15	0.02	.1	.2
Ln Number Loans	1,534	2.43	1.34	0	8.52
First Wave (2018)	994	2.05	1.27	0	6.01
Second Wave (2022)	540	3.13	1.18	0	8.52
Ln loan size	1,529	13.28	3.77	0	17.86
First Wave (2018)	994	12.70	4.55	0	17.86
Second Wave (2022)	535	14.37	0.65	13.30	16.12
Collateral	1,474	0.95	0.19	.5	1.5
First Wave (2018)	994	1.00	0.20	.5	1.5
Second Wave (2022)	480	0.84	0.13	.5	1
Share default	1,595	0.07	0.14	0	1
First Wave (2018)	994	0.05	0.09	0	1
Second Wave (2022)	601	0.09	0.20	0	1

Notes: This Table provides summary statistics of the variables related to branch-level lending in 2018 and 2022. Focus loans is an indicator equal to one if the branch indicates focussing on both deposits and loans rather than only deposits. The average lending rate is the average lending late on loans given out in the past years with a typical level of collateral. Ln Number Loans is the log number of loans, Ln loan size is the log loan size, collateral percentage is the typical level of collateral on a loan given out as a share of the total loan size. Share default is the share of loan default on loans given out in the past year. We report the number of observations, the mean, standard deviation, minimum and maximum of these variables.

E Conflict over time

Figure E.1: Ethnic conflict in Ethiopia



Notes: This figure illustrates the spatial distribution of fatalities due to ethnic conflict in Ethiopia over time. The map on the left presents the distribution of conflict fatalities as a Kernel Density Estimate (KDE) plot, with darker regions indicating areas of higher conflict density. Cities are plotted on the map, represented in black, as well as administrative boundaries of the regions presented in Figure 1. The bottom right bar plot shows the total number of conflict fatalities for each year, with the height of each bar corresponding to the total fatalities from ethnic conflict in that year.

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