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Cultural Preferences and Firm Financing Choices

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Abstract

We document significant differences in the financing structure of small firms with managers of diverse cultural backgrounds. To isolate the effect of culture, we exploit cultural heterogeneity within a geographical area with shared regulations, institutions, and macroeconomic cycles. Our findings suggest significant cultural differences in the preference toward debt funding and in the use of formal and informal sources of financing (bank loans and trade credit). Our results are robust to alternative explanations based on potential differences in credit constraints and in the distribution of cultural origins across industries, trading partners, and headquarters location.

I. Introduction

In this paper, we examine whether the cultural origin of firm managers affects the financing decisions of the firms they run. The notion that the cultural background of individuals can affect their own financial decisions is well established in the economics literature (e.g., Guiso, Sapienza, and Zingales (2004)). At the same time, an influential body of literature dating back at least to Bertrand and Schoar (2003) has documented that the individual characteristics of managers are significant determinants of firm policies. Following the predictions of the managerial style literature, we ask to what extent managers' financial preferences—as shaped by their cultural origin—carry through into firm financial policies.

The empirical identification of the effect of management's cultural traits on firm financing decisions is challenging, because firms led by chief executive officers (CEOs) who belong to different cultural groups are usually headquartered in different countries. The ability to distinguish the role played by the manager's cultural background from the role played by other country-specific factors is crucial, since differences in economic conditions (i.e., interest rates, inflation, or expectations about the business cycle), incentives provided by institutions and regulation (i.e., tax incentives), and geographic considerations (e.g., proximity to financial institutions) have been shown to affect financing choices. We overcome this empirical challenge by exploiting cultural differences in a sample of firms within a geographical area that shares a common regulatory, institutional, and macroeconomic setting: the autonomous province of South Tyrol in Northern Italy.

The South Tyrol province represents an excellent natural laboratory to assess whether differences in the cultural origins of firm managers affect firm financing choices. One of the richest areas in the European Union, South Tyrol is home to individuals who belong to two main

cultural groups: Italian and Germanic.[1] Both Italian and German are official languages and the two cultural groups share a common Catholic religious background and live next to each other within municipalities. However, they lead relatively segregated social lives. Their children attend separate schools and individuals of Germanic (Italian) origin interact and socialize mostly with Germanic (Italian) peers. Importantly for our study, the province includes a large number of firms from a wide range of industry sectors, all subject to the same institutional, regulatory, and legal framework. Thus, the taxation and subsidization of the different financial instruments are equal for all firms in the province. Due to its uniqueness, the South Tyrol setting has been used in previous studies to investigate the influence of culture on several economic outcomes (Angerer, Glätzle-Rützler, Lergetporer, and Sutter (2016) and Sutter, Angerer, Glätzle-Rützler, and Lergetporer (2018)). While this empirical laboratory is highly specific, our results are of general interest, since one-quarter of all jurisdictions in the world operate in more than one language (Leung (2016)). Notable examples include Belgium, Canada, Switzerland, and the European Union as a whole.

The exploration of cultural differences across firm managers in South Tyrol is particularly well suited to address our research question because the two cultural groups differ significantly along several dimensions that can affect financing choices. To start with, we note that, in contrast to its Italian translation, the German word for debt, *Schuld*, is morally charged, meaning fault or guilt. In addition, the German and Italian languages differ in their degree of future-time reference, an aspect that has been linked to financial behavior (Chen (2013)). Individuals from the two cultural groups also differ in their levels of social capital and trust,

[1] We use the term *Germanic culture* to refer to people who speak German or a regional version of standard German.

which have been associated with financial development and the recourse to informal sources of debt (Guiso et al. (2004) and Levine, Lin, and Xie (2018)).

Following Guiso, Sapienza, and Zingales ((2006), p. 23) we define culture as "those customary beliefs and values that ethnic, religious, and social groups transmit fairly unchanged from generation to generation." Throughout our analysis, we proxy for the cultural origin of firm managers with their names, under the assumption that managers with a Germanic (Italian) name share a common language. Consistent with the above definition, our premise is that speaking the same language is a necessary condition for social interaction and for spreading cultural values. Through a common language, parents transmit their beliefs and preferences vertically to their children and, similarly, peers transmit their values horizontally to other peers. Accordingly, we classify all managers of firms headquartered in South Tyrol as being of Germanic or Italian origin based on their given names and surnames. Our approach is similar to that of Grinblatt and Keloharju (2001), who use a classification based on names for intra-country cultural identification across two distinct language families.

In line with our predictions, we find significant differences with respect to financing decisions between firms managed by individuals of different cultural backgrounds. In particular, we find that firms run by managers from the Italian cultural group resort more to external debt financing than firms run by individuals from the Germanic group, in the form of both bank debt and trade credit.

By construction, our setup allows us to minimize the possibility that the results are due to differences in institutional or macroeconomic conditions. In a series of robustness tests, our findings consistently show that firms managed by an individual of Italian origin are more likely to resort to external borrowings and they rely more intensively on both formal and informal

sources of financing. Our results continue to hold (i) within the sample of family firms that are managed by a family member; (ii) within the subsample of micro firms; (iii) when excluding industry sectors that have a high concentration of CEOs from a single cultural group; (iv) when excluding firms that import the most and, hence, could differ in terms of trade credit; (v) in culturally homogeneous cities; and (vi) in the more culturally heterogeneous city of Bolzano. Considering that virtually all our sample firms are led by CEOs of the same cultural origin as that of the majority of the board of directors, we cannot fully rule out our results being partly driven by corporate culture (in the spirit of Pan, Siegel, and Wang (2017)), although, points (i) and (ii) suggest that they are not driven by an endogenous sorting of managers of different origin with certain firm characteristics. Similarly, given the unavailability of data at the firm–bank level, we cannot fully rule out that our results could be partly explained by different lending standards. Nevertheless, results (iii) to (vi) suggest that our findings are not explained away by financial constraints or the availability of bank and trade credit to firms of different cultural groups (both in normal times and during the financial and sovereign crisis). We conclude that managers from seemingly close cultures living side by side can nevertheless display large and important differences in basic corporate finance decisions.

Our paper contributes primarily to the literature that analyzes the impact of culture on firm policies. Studies associate culture with corporate risk taking (Li, Griffin, Yue, and Zhao (2015)), corporate governance (Griffin, Guedhami, Kwok, Li, and Shao (2017)), firm performance (Frijns, Dodd, and Cimerova (2016)), and cash holdings (Chen, Cronqvist, Ni, and Zhang (2017)). The papers most closely related to ours are those linking culture and firm financing (Chui, Lloyd, and Kwok (2002), Li, Griffin, Yue, and Zhao (2011), El Ghoul and Zheng (2016), and Levine et al. (2018)). Our contribution to the literature is threefold. First,

these studies rely mainly on cross-country differences to investigate the relation between culture and firm financing and, as such, might be unable to fully control for differences in regulatory, institutional, and economic settings (Karolyi (2016)). In contrast, our method follows an alternative strand of the literature that relies on the epidemiological approach, which attempts to separate culture from the environment by studying the outcome variables of individuals whose cultures differ but who share a common economic and institutional setting (Fernández (2011)). In this respect, our empirical design specifically addresses potential omitted variable biases linked to cross-country differences in institutional and regulatory structures, contract enforcement, and business practices.[2]

Second, while most related studies investigate publicly traded corporations, our sample firms are all privately held and mostly owner managed. This feature has three clear advantages: (i) owner-managed firms are not prone to principal–agent problems; (ii) the cultural traits of managers are more likely to manifest themselves through firm financing policies; and (iii) the risk of endogenous sorting of managers from a given cultural group into firms with specific financing policies is minimized.

Third, our approach enables us to uncover new channels through which culture potentially affects financing structure. As we will show, Schwartz's and Hofstede's cultural scores, which have been largely employed to establish the link between culture and firm financing (Chui et al. (2002), Li et al. (2011), and El Ghoul and Zheng (2016)) are unlikely to be sufficiently different between the two cultural groups to explain our findings. Similarly, our results do not seem to be driven by linguistic differences in future-time reference, as for Chen

[2] Delis, Gaganis, Hasan, and Pasiouras (2017), Pan et al. (2017), and Nguyen, Hagendorff, and Eshraghi (2018) use this approach to assess the impact of culture on corporate performance and risk taking.

(2013). Instead, we provide suggestive evidence that our findings are most likely explained by differences in the level of social capital and by broader cultural preferences for particular financing sources.

Our findings also make a more general contribution to the trade credit literature by providing an additional explanation for recourse to this type of financing in the presence of specialized financial intermediaries (Petersen and Rajan (1997) and Giannetti, Burkart, and Ellingsen (2011)). The theoretical literature has mostly focused on transaction costs or information asymmetries to justify the coexistence of formal bank credit and informal trade credit. We suggest an additional explanation: the greater recourse to trade credit could simply reflect personal, culturally founded preferences toward this informal source of financing.

The paper is organized as follows. Section II describes the institutional background, Section III outlines the research design, Section IV presents the main empirical findings, Section V describes robustness checks, and Section VI concludes the paper.

II. Institutional Background

In 1915, the Triple Entente—the United Kingdom, France, and Russia—signed a treaty with Italy that stipulated Italy should abandon its alliance with Germany and Austria–Hungary (the Triple Alliance) and, instead, join the war on the side of the Entente. In return, Italy was promised a number of territorial gains following the ultimate defeat of the German and Austro-Hungarian Empires. Subsequently, in 1919, Austria ceded South Tyrol to Italy with the Treaty of Saint-Germain-en-Laye, thereby ending hundreds of years of Habsburg rule in the province.

At the time of its annexation, 89% of the population spoke German, 3% spoke Italian, and the remainder of the population spoke either Ladin or other languages of the Empire (Istituto Provinciale di Statistica (2015)). This situation was, however, to quickly change. In 1923, the fascist government initiated the "Italianization" of South Tyrol, which included a series of measures and economic incentives aimed at favoring the relocation of Italians from other parts of Italy to South Tyrol. During this period, the majority of German schools were closed and Italian was declared the only official language of the province.

Following the Second World War, the region of Trentino-Alto Adige (which includes the provinces of Trentino and South Tyrol) was granted a special autonomous status, German and Italian were both recognized as official languages, incentives in favor of Italians were formally removed, and German language education was reintroduced. However, since Italians were still the majority at the regional level, self-government of the Germanic minority was not possible until 1972, when the province of South Tyrol was explicitly granted an autonomous status. The 1972 agreement guarantees equal rights and opportunities to South Tyroleans of both language groups and grants considerable legislative and executive independence from the national government in most economic and social matters. Importantly for our study, all firms headquartered in South Tyrol are subject to autonomous regulations that are set at the province level and the chamber of commerce of the province is in charge of their enforcement. Thus, all firms in our study share the same legal and regulatory framework. In particular, any interest on debt financing is tax deductible for all firms in the province and eventual subsidies are equal across firms within industrial sectors.

As of the last census, in 2011 (Istituto Provinciale di Statistica (2015)), 70% of roughly half a million inhabitants in South Tyrol reported German as their mother tongue, 26% reported

Italian as their main language, and 4% identified themselves as Ladin speakers. Figure 1 illustrates the distribution of Italian speakers in South Tyrol. The majority of the municipalities in South Tyrol are predominantly German speaking, although there is variation across towns. For example, 73% of the population in the capital city of Bolzano is Italian speaking, compared to 0% of the population of Martello, a town in the northwestern Vinschgau region that borders Austria and Switzerland. As a consequence of the Italianization process, the largest concentration of Italian speakers is located in the valleys close to the cities of Bolzano and Merano. Although municipalities differ considerably on the proportion of the Italian-speaking population, there is no geographic segregation between citizens within municipalities and the vast majority of the population (96.1%) shares a common Roman Catholic religion.

III. Research Design

Our research design follows the epidemiological method (described extensively by Fernández (2011)), which aims to separate culture from the environment by studying the outcomes of individuals from different cultures who share a common economic and institutional setting. This approach presents obvious advantages in controlling for omitted variables and endogeneity compared to more standard methods, such as the use of cross-country regressions. The epidemiological method is well suited for our purposes, since South Tyroleans are all exposed to an identical economic and institutional environment and differ only in terms of belonging to either the Germanic or Italian culture. To assess the impact of managers' cultural origin on firm financing—and at the same time prevent cultural explanations from becoming simple ex post rationalizations and reduce the risk of spurious correlations—we follow a three-step procedure, described as follows.

A. Hypothesis Development

Our first step is to argue that, in South Tyrol, individuals of Germanic culture, on one hand, and of Italian culture, on the other hand, differ in a number of characteristics that can affect their financing decisions. This link can be deduced from several studies, empirical observations, and anecdotal evidence.

From a purely linguistic perspective, we note that the German word for debt is *Schuld*, which can be translated into English as *fault* or *guilt*. This morally charged term contrasts with the more neutral Italian word for debt, *debito*, stemming from the Latin word *debere*, which simply means to owe something. Consistent with an overall negative view of debt, there is anecdotal evidence that borrowing for consumption purposes is often frowned upon in German-speaking countries. Thus, it is natural to assume that Italian-speaking individuals would favor a financing structure that relies relatively more on debt than German-speaking individuals do.

Further, we can advance some hypothesis regarding the sources of external financing that Italian-speaking borrowers are more likely to tap. A number of studies have documented that Italians are more likely to rely on informal networks and institutions. Bandiera, Guiso, Prat, and Sadun (2010) find that Italian managers are more likely to be hired through informal channels such as personal or family contacts, rather than through formal channels such as business contacts or headhunters. Puntscher, Hauser, Pichler, and Tappeiner (2014) document that individuals of Italian origin living in South Tyrol are more likely to establish informal friendship ties and less likely to organize themselves and interact through formal associations compared to South Tyroleans of Germanic origin. Along these lines, we expect individuals of Italian origin to rely more often than individuals of Germanic origin on informal sources of financing.

Guiso et al. (2004) directly link the reliance on informal financing to the level of social capital. Since social capital is an important determinant of the level of trust and trust is a necessary condition for the development of financial markets, social capital should affect the level of financial development. By exploiting social capital differences at the province level in Italy (measured as participation in referenda and blood donations), the authors show that households located in areas of low social capital make greater use of informal credit. Data on households' recourse to bank and informal financing are not available at the intra-province level, making it difficult to directly test whether South Tyroleans of Italian and Germanic origin differ in their financing habits. However, a number of elements suggest that individuals of Italian cultural origin could be characterized by lower levels of social capital and trust. Becker, Boeckh, Hainz, and Woessmann (2016) find that populations that were affiliated with the Habsburg Empire in the past, such as the German-speaking inhabitants of South Tyrol, still preserve higher levels of trust in formal institutions today. Puntscher et al. (2014) conduct a survey in the South Tyrol province and report lower levels of generalized trust among Italian-speaking citizens.[3] Similar to Guiso et al. (2004), in an untabulated analysis, we explore participation in referenda and find a positive correlation of 45.5% between the proportion of German-speaking population in the municipalities of South Tyrol according to the 2011 census and participation in the referendum that took place the same year. Following this argument, we would expect informal sources of debt to represent a significant component of external financing for South Tyroleans from the Italian cultural group.

[3] Our own calculations using data from the European Value Survey (2008–2010) show that Italians have significantly lower trust than Austrians (at the 1% significance level). Culturally, Austrians and Italians are the closest to the two groups present in South Tyrol. The generalized level of trust is measured with the percentage of respondents agreeing with the statement "Most people can be trusted." See http://www.europeanvaluesstudy.eu.

Finally, the literature on managerial style predicts that managers' individual traits and preferences (including those arising from culture) are likely to affect the decisions they make concerning not only their households but also their firms. Thus, based on the above arguments, we derive our main hypotheses: (i) firm managers from the Italian cultural group are more likely to resort to debt financing relative to firm managers from the Germanic cultural group and (ii) managers from the Italian cultural group are more likely to resort to informal forms of debt, such as trade credit, compared to managers from the Germanic cultural group.

B. Classification of Managers' Cultural Origin

The second step consists of classifying firm managers into their cultural groups. We start by selecting firms headquartered in the South Tyrol province with data available from Bureau van Dijk's Orbis. Given that Italian law requires such companies to file and deposit annual reports with the local chamber of commerce, this set of firms includes essentially all limited liability firms (*società per azioni* and *società a responsabilità limitata*) headquartered in the province. Through the Statistical Classification of Economic Activities in the European Community (NACE) code, we exclude utilities, financial, and real estate companies, due to their regulated status and peculiar capital and debt structure. For the remaining sample firms, we retrieve the latest available data on board composition (as of March 2016) and identify the CEO.

To establish whether the CEO is of Germanic or Italian cultural origin, we proceed as follows. We utilize search algorithms that identify the most common Germanic surnames, Germanic male given names, Germanic female given names, Italian surnames, Italian male given

names, and Italian female given names.[4] Subsequently, a CEO is classified as having a Germanic cultural origin if all his/her given names and surname can be found in the Germanic listings, whereas the CEO is classified as having an Italian cultural origin if his/her given names and surname are in the Italian lists. We require that *both* the given name *and* the surname be Germanic (Italian) for a CEO to be associated with a Germanic (Italian) origin. We manually double-check the allocation of CEOs to the two categories to ensure that such a requirement is satisfied. In comparison to alternative classification criteria based on only the first name or the surname, our approach enables us to achieve a neater identification of the origin of managers and reduce potential misclassification bias due, for example, to bilingual families. Bilingual families can lead to misclassification to the extent that managers whose parents speak different languages cannot be easily associated with either of the two cultures. Given that bilingual families are most likely to manifest themselves through mixed names (e.g., a Germanic first name and an Italian surname), constraining both the name and surname of the manager to be of the same linguistic origin should minimize such instances. Our classification criterion is not overly restrictive, since only 5.8% of firm managers in the province have a discordant Germanic (Italian) first name and

[4] We retrieve Italian surnames from http://www.cognomix.it/origine-cognomi-italiani, which lists the most common Italian surnames, explaining their origin. We obtain German and Austrian surnames, respectively, from https://de.wiktionary.org/wiki/Verzeichnis:Deutsch/Liste_der_h%C3%A4ufigsten_Nachnamen_Deutschlands and https://de.wiktionary.org/wiki/Verzeichnis:Deutsch/Liste_der_h%C3%A4ufigsten_Nachnamen_%C3%96sterreichs, which are based on the telephone directories of the countries and were manually cleaned to eliminate foreign surnames. Finally, first names are obtained from http://www.vornamen-weltweit.de/maennlich-deutsch.php, http://www.vornamen-weltweit.de/weiblich-deutsch.php, and http://www.vornamen-weltweit.de/geographisch.php?land=4.

Italian (Germanic) surname.[5] Since we are interested in comparing the features of firms run by managers of Germanic and Italian origins, we discard managers with a different linguistic origin, who account for 2.1% of the firm CEOs in the province. Some examples of how we have classified managers are provided in Appendix A.

C. Impact of the Manager's Culture on Firm Financing

The third and final step of our research approach is to show that the manager's cultural background has an impact on the firm's choices of financing channels. We do so by regressing a number of firm financing outcome variables on the manager's cultural origin indicator obtained above.

Our regression analysis exploits the cross-sectional variation in managers' culture and firm financing structure. We obtain information about the financing structure from Orbis. This database provides only the latest available information on the composition and characteristics of a firm's top management. For consistency, in our main analyses, we extract the latest financial statements available (as of March 2016) for our sample firms. This ensures that the firm financial variables we look at refer to a time when the manager was in charge of the company.[6]

Table 1 reports basic summary statistics on the cross section of our sample firms. Our key variable is the indicator variable CEO_IT_ORIGIN, which takes a value of one if the manager is classified as being of Italian origin and zero if classified as being of Germanic origin. On

[5] For robustness, we repeat our analysis by classifying the linguistic origin of CEOs based on (i) their first name only and (ii) their surname only. The results, available from the authors upon request, are qualitatively unchanged.

[6] As we shall see below, all of the firms in the sample are privately held and most are small or micro firms. Therefore, the cultural origin of the management of the company is unlikely to change over a relatively small time horizon. For robustness, in Section V.B, we also exploit the panel dimension of the Orbis data.

average, 31.1% of the managers in the sample are of Italian origin. This result is in line with the overall percentage of the Italian-speaking population in South Tyrol, which was equal to 26.1% according to the 2011 census (Istituto Provinciale di Statistica (2015)). We map the distribution of firms with CEO_IT_ORIGIN by city in Figure 2. Comparing Figures 1 and 2, we note that the cities with the largest proportions of CEOs of Italian origin are mostly, but not always, those cities where the population is predominantly Italian speaking.

In terms of other firm characteristics, none of the firms in the sample is publicly traded and only 2.3% are large firms according to the definitions provided by the European Commission (i.e., with a turnover larger than 50 million euros or total assets of more than 43 million euros). The financing structure of our firms is therefore very simplified and consists essentially of equity, bank loans, and trade credit. To analyze the financing structure of firms, we use the following ratios: external debt financing over total assets (EXT_DFIN_TA)—constructed as the sum of loans, long-term debt, and accounts payable over total assets—which measures firms' total actual borrowings; total debt over total assets (TD_TA), as a measure of recourse to formal financing (i.e., bank loans); and accounts payable over total assets (AP_TA), as a measure of recourse to informal financing (i.e., trade credit). These are the main dependent variables in our analysis, together with three indicator variables for the use of external debt (EXT_D_USER), bank debt (BANK_USER), and trade credit (TC_USER). To complement our analysis, we also include two variables to analyze the asset structure of firms' balance sheets, cash over total assets (CASH_TA) and accounts receivable over total assets (AR_TA), as a measure of how much credit a firm provides its clients.

In Table 2, we compare the balance sheet structure of firms led by managers of Italian and Germanic origins by means of a standard two-sample *t*-test for differences in means. Our

findings suggest that firms run by managers of Italian cultural origin are more likely to resort to external debt than firms run by managers of Germanic cultural origin: with the exception of the ratio of total debt to assets, which is statistically indistinguishable between the two groups, the debt indicators and debt levels are significantly larger for the firms run by managers of Italian origin. These firms are also characterized by greater recourse to more informal sources of funding, such as trade credit (and debit). The two sets of companies also differ along other dimensions. Compared to their Germanic-led counterparties, firms with a manager of Italian origin are smaller and younger, hold more cash, have a lower share of tangible assets, operate on smaller average margins, and are led by managers who are older and more likely to be female.

IV. Main Results

A. Multivariate Findings

In the remainder of the paper, we shift our analysis to a multivariate setting. Table 3 reports the estimates from ordinary least squares (OLS) regressions where the dependent variables measure firm liability and asset structure. In all specifications, we add a set of standard control variables that previous literature has found to be significant determinants of firm capital structure. Firm-specific controls include size (FIRM_SIZE), asset tangibility (ASSET_TANG), sales growth (SALES_GROWTH), investments (INVESTMENTS), operating margin (OP_MARGIN), and age (FIRM_AGE). We also add manager-specific variables to account for CEO characteristics other than linguistic origin that could affect capital and debt structure choices, such as age (CEO_AGE), age squared (CEO_AGE^2), and an indicator variable that takes a value of one if the manager is male and zero if female (CEO_MALE). Details on how the

dependent and control variables are calculated are in Appendix B. All continuous variables in our analyses are winsorized at the 1% and 99% levels to minimize the impact of outliers. In addition, we use beginning-of-the-year values for our balance sheet control variables to mitigate endogeneity concerns. Although our sample is cross-sectional, we add fiscal year-end fixed effects to account for the fact that the latest year of available balance sheet data is not the same for all sample firms. We employ industry fixed effects, computed according to the 21 NACE classification groups, to capture industry-specific differences in firm financing structure. Finally, we add city fixed effects, that is, one dummy variable for each of the 116 municipalities in the province. These fixed effects enable us to control for any variation in institutional, geographical, and economic characteristics across municipalities with majorities of German- or Italian-speaking population (and managers) that can potentially confound our results. Standard errors are corrected for heteroscedasticity.[7]

The results in Table 3 confirm that firms run by managers of Italian cultural origin are more likely to resort to external debt financing and borrow significantly more, than firms run by individuals of Germanic cultural origin. The results in the first, third, and sixth columns show that, controlling for standard determinants of firm financing, the former are 5.5–10.7% more likely to use external debt, bank debt, and trade credit than the latter. Consistently, we find that the former also hold more debt than the latter: external debt financing (total debt) over total assets is, on average, 3.3 (1.9) percentage points higher for Italian-led firms, explaining 10.5% (8.2%) of its total standard deviation. Managers of Italian origin also display a higher use of informal sources of financing: the ratio of trade credit is, on average, 1.5 percentage points higher for firms whose manager is of Italian origin, explaining 7.5% of its total standard

[7] The results remain qualitatively unchanged if we cluster standard errors by city.

deviation. In what follows, we advance an explanation for which channels are most likely to be driving our results.[8]

B. Explanatory Channels

The lesser recourse to external debt funding observed in firms run by Germanic managers is consistent with the preference for avoiding debt that can be associated with the morally charged reference to debt (*Schuld*) in the German language. Consistent with this interpretation, in untabulated results we find that (i) the greater recourse to debt by Italian firms is mostly driven by the extensive margin, that is, the decision to borrow from external sources, rather than by the amount of debt taken conditional on borrowing and (ii) firms with Italian-speaking managers are significantly less likely to keep retained earnings. Additionally, our findings on the more intense use of trade credit by managers of the Italian cultural group can be explained by their lower level of trust/social capital and their preference for interacting within informal organizations. As discussed in Section III, individuals of Italian cultural origin are associated with a lower level of generalized trust and a stronger preference for informal networks, both consistent with the more intense use of informal financing sources for managers from this group.

[8] We also repeat the estimations using the cultural origin of the board of directors, that is, a dummy (BOD_IT_ORIGIN) equal to one (zero) when the majority of the members of the board have an Italian (Germanic) origin, in lieu of the CEO's cultural origin. The estimates, reported in Appendix C, are very similar to those in Table 3. To single out the cultural impact of the CEO from that of the board, one should look at instances where the CEO's cultural origin differs from that of the board. This is, however, unfeasible in our sample of small and privately held firms, since in 99.7% (99.9%) of cases a firm with a board of Italian (Germanic) origin is led by a CEO from the same cultural group.

An alternative explanation of our results that is also consistent with the lower levels of trust in institutions of individuals of Italian origin is that CEOs from this cultural group rely more intensively on debt financing to reduce their cash transfers to the government. As mentioned, interest on debt is tax deductible for all firms in the province. However, this fails to explain why firms with Italian-speaking managers would also resort more to trade credit, which does not include an explicit interest rate and hence cannot be used for tax deductibility purposes.[9]

Similarly, our results cannot be convincingly explained by referring to standard classifications of cultural dimensions. Schwartz's and Hofstede's cultural measures have been widely used to explain cross-country differences in capital structure and trade credit. Specifically, Chui et al. (2002) and Li et al. (2011) link capital structure to Schwartz's indicators of embeddedness and mastery, while El Ghoul and Zheng (2016) link the use of trade credit to Hofstede's measures of collectivism, power distance, uncertainty avoidance, and masculinity. While Schwartz's and Hofstede's scores for the population of South Tyrol are unavailable, the scores for Austria and Italy, which are the closest countries to our Germanic and Italian cultural groups, are fairly similar and fall within the same quartile in the distribution of all indicators except power distance.[10] Hence, it is unlikely that these score differences *per se* are sufficient to explain our results.

[9] One might wonder whether the use of trade credit translates into a higher purchase price, which represents a tax-deductible cost. This is, however, a controversial issue in the trade credit literature. For example, Giannetti et al. (2011) find that firms using more trade credit have lower—not higher—input costs.

[10] The authors' calculations (available upon request) are based on Schwartz's and Hofstede's country indicators retrieved from https://www.researchgate.net/profile/Shalom_Schwartz and https://geert-hofstede.com, respectively.

Newly proposed cultural metrics based on linguistic differences in future-time reference are equally unlikely to fully explain our results. Chen (2013) finds that individuals who speak a language in which future actions are typically expressed in the present tense (i.e., weak future-time reference languages, such as German) display stronger future-oriented behavior (in terms of savings, having a retirement account, exercising, or not smoking) than individuals who speak a language with a strong future-time reference (such as Italian). Chen et al. (2017) extend the argument to firm policies and find higher cash holdings in weak future-time reference language firms. Within our setting, the future-time reference argument should translate into higher cash ratios in firms run by managers of Germanic origin compared to those run by managers of Italian origin. The estimates reported in the fifth column of Table 3 instead show that the difference in cash holdings across firms run by managers of different cultural background is economically unimportant and statistically insignificant. We therefore exclude cash holdings as a dependent variable in the remainder of the analysis.

To interpret our results in terms of the choice/preference of top management for different forms of financing, we need to ensure that the estimated coefficients are not capturing a spurious correlation between the manager's cultural origin and other unobserved factors. In the remainder of the paper, we discuss and rule out several competing explanations.

V. Robustness Checks

In this section, we adopt several approaches to address potential endogeneity concerns that could bias our analysis in terms of both reverse causality and omitted variables. Reverse causality (or self-selection) occurs if managers of a given cultural origin choose to work for

firms with given characteristics. In our setting, this would be the case if managers of Italian (Germanic) origin were attracted to companies with greater (lesser) recourse to external debt financing. An omitted variable bias arises in the presence of additional factors that affect both the financing decisions of firms and the cultural origin of managers, such as a lower supply of credit for individuals of one cultural group. Given the lack of detailed data at the firm–bank and client–supplier levels, we cannot perfectly disentangle the effect of culture from such unobserved factors. We nevertheless attempt to overcome this limitation by performing additional analyses that exploit unique institutional features of the province under study.

A. Local Environment and Banking Sector

One alternative interpretation for our findings is that firms led by managers of Italian cultural origin find it easier to access external financing compared to firms led by German-speaking CEOs. As we will discuss, this seems unlikely in our setting. We show in Table 2 that companies run by German-speaking CEOs are larger, older, more profitable, and have more tangible assets. These firm characteristics make them more suitable for lending and, therefore, less likely to be rationed (e.g., Kaplan and Zingales (1997), Petersen and Rajan (1997), and Hadlock and Pierce (2010)). Additionally, the use of city fixed effects controls for local factors that could impact access to bank financing, such as local banking market competition (Love and Pería (2015)) and geographical proximity to financial institutions (Degryse and Ongena (2005) and Agarwal and Hauswald (2010)).

City fixed effects also help control for potential differences in the lending standards of banks at the local level. For the purposes of corporate lending, the banking market in South Tyrol consists of 54 banks, 85% of which are local banks headquartered in the province (one *cassa di risparmio/Sparkasse*, one *banca popolare/Volksbank*, and 44 *banche di credito*

cooperativo/Raiffeisen) and the remaining 15% are Italian banks headquartered elsewhere.[11] Small municipalities are mostly served by local banks, whereas large cities are also served by national banks.

Nevertheless, a residual concern could apply to the interpretation of our findings if segmentation in the banking market is highly correlated with the cultural origin of firm managers. Specifically, if lending standards differ across banks, firm managers of a certain cultural group might (i) have to turn to banks with restrictive lending conditions if these are the only ones locally present or (ii) choose to turn to those banks even in the presence of other banks with more favorable lending standards. Such a choice could be motivated by behavioral preferences: Fisman, Paravisini, and Vig (2017) find that the cultural origin of individual bank managers plays a significant role in bank lending in a multicultural environment. In our setting, this would translate into German-speaking firm managers borrowing predominantly from banks whose managers belong to their own cultural group. If those banks apply stricter lending standards than those that lend to Italian-speaking CEOs, it could be hard to disentangle the extent to which our findings are driven by such differences as opposed to managers' financing preferences.

To identify the cultural origin of bank managers in our sample, we gather the names and locations of all 347 bank branches in the South Tyrol province.[12] From the banks' websites and press releases, we retrieve the name of the bank managers in charge of corporate loans (bank

[11] The market share of corporate lending for local banks in the South Tyrol province is around 50% (Bank of Italy, 2016). The correlation between the population size of a municipality and the proportion of banks that operate in the municipality but are headquartered outside the South Tyrol province is 60%.

[12] Source: http://www.tuttitalia.it/trentino-alto-adige/provincia-autonoma-di-bolzano/22-banche/.

branch manager, corporate loan officer, or corporate area manager) and we classify these managers as having an Italian or Germanic cultural origin based on their names, in line with the approach followed to classify our CEOs. Figure 3 shows the geographical distribution of bank managers according to their cultural origin.

In the absence of firm-bank level data, we proceed by investigating how our main results compare in (i) environments that are characterized by a predominantly German-speaking population or where the bank managers are mostly of Germanic origin and (ii) the more heterogeneous capital city of Bolzano, where population, firm managers, and bank managers are more evenly distributed across the two cultural groups. A comparison of Figures 1 to 3 suggests that, while the degree of spatial segmentation of the cultural groups is high, there exists some variation that enables us to investigate the behavior of firm managers of Italian origin in predominantly German-speaking environments. The estimates are presented in Table 4.

The regressions in Panel A of Table 4 include only those cities where less than 30% of the population is Italian speaking, while the regressions in Panel B include only those cities where fewer than 30% of the banks have an Italian-speaking manager. We choose a 30% cutoff point to allow for (i) sufficient sample size and representativeness of firms of Italian origin in the two subsamples and (ii) consistency with the analysis presented in Panel D for the city of Bolzano, where about 70% of the population is Italian speaking. The 30% threshold excludes 16% (Panel A) and 20% (Panel B) of the cities in our baseline sample. However, the municipalities that are removed are relatively large and are home to a large number of firms; hence, the sample size is reduced by 53% in Panel A and by 57% in Panel B. Although the average fraction of Italian-speaking bank managers in Panel B is only 7.9%, in Panel C we attempt to stretch the banking segmentation further and perform more selective regressions on

firms headquartered in municipalities with only German-speaking bank managers.[13] Finally, Panel D investigates the subsample of firms headquartered in the city of Bolzano. An additional advantage of this specification is that we can fully control for all location-related features by focusing on a single city, the province's largest. All specifications include industry fixed effects and the same set of control variables as in Table 3 and Panels A to C also control for city fixed effects.

The results in Panels A, B, and D of Table 4 are similar and consistent with the main findings in Table 3: the coefficients for the three indicator variables for the use of external debt, bank debt, and trade credit are large and statistically significant. The continuous variables preserve sign and magnitude but lose statistical significance compared to the overall sample in Table 3, most likely due to the small size of the subsamples. In contrast, the findings in Panel C do not show significant differences in the financing patterns of firms of different cultural origin. However, relative to the sample in Panel B, in this panel the sample size is further reduced by one-third and the number of firms of Italian origin by 45%. Although we cannot fully exclude the possibility that, in this overwhelmingly homogeneous subsample, the cultural channel is either weaker or works differently (e.g., in the form of a strong integration to the local culture), we suspect that the lack of statistical significance could be due to the limited within-city variation in the cultural origin dummy in this sample. As a matter of fact, in 50% of these municipalities (i.e., 41 cities), no firms are led by a CEO of Italian cultural origin and a regression of CEO_IT_ORIG on city fixed effects returns an *R*-squared value of 12%.

[13] The corresponding analysis for municipalities with only Italian-speaking bank managers is unfeasible, since there is only one such municipality, which is home to nine sample firms.

Overall, our results from Table 4 confirm that firms led by CEOs of Italian cultural origin are more likely to resort to external borrowing than firms led by their German-speaking peers in both environments that are largely German speaking and environments that are culturally diverse. In other words, the cultural origin of the CEO has a significant impact on the financing choices of firms, regardless of the prevailing cultural environment of the firm's location.

B. Financial and Sovereign Crisis

Another explanation for the results in Table 3 is that they could be driven by a differential impact of the financial and sovereign crisis on firms led by managers of different cultural origins. Indeed, we recall from Table 2 that firms led by Italian managers display characteristics that are typically observed in constrained firms. Our findings could then be consistent with a scenario in which financially weaker firms run by a manager of Italian cultural origin suffer higher net worth losses during the financial crisis (e.g., due to fire sales or lower profitability), resulting in higher post-crisis leverage ratios for these firms.[14] In a similar vein, the greater use of trade credit could be consistent with Italian-led firms resorting to trade credit to partially compensate for the lack of institutional credit during the crisis. Levine et al. (2018) find that culture matters in increasing the resilience to systemic banking crises in firms with high liquidity needs through trade credit, performance, and employment.

We address this issue by exploiting a unique feature of the firms in our sample, namely, that all of them are privately held and the majority of them are small firms. Thus, the management of our sample firms is likely to be stable over a short time horizon. We take

[14] Higher losses could also have resulted if managers of the Italian cultural group did not react as well as their Germanic peers to the challenges imposed by the crisis. Indeed, studies have linked managers' cultural origin to firm performance under competitive pressure (Nguyen et al., 2018).

advantage of this feature to overcome the limitation of the Orbis data on firm managers (which refer to the last available balance sheet date) and exploit the panel dimension of the financial statement data by assuming that the cultural origin of the management of our companies is stable throughout the sample years. Balance sheet data on the sample firms are available on Orbis for the most recent 10 years. We re-estimate our baseline OLS specifications on the full 10-year panel dataset of firms headquartered in the province and evaluate whether the results observed in the cross-sectional dataset stem from the crisis period. For this purpose, we add the interaction between our indicator for CEOs of Italian origin (CEO_IT_ORIGIN) and a dummy variable CRISIS, which takes a value of one if the year of the financial statement coincides with the period of credit tightening in the South Tyrol province. The statistics on conditions of credit supply provided by the Bank of Italy (2007–2016) indicate a credit contraction and a tightening in credit conditions in the province during 2008–2013 and that this contraction relaxed from 2014 onward.[15] Therefore, we define two dummy variables accordingly: CRISIS, which equals one for 2008–2013 and zero otherwise, and POST_CRISIS, which equals one for 2014–2015 and zero otherwise. We interact each of these two dummies with our cultural origin dummy.

We present the results in Table 5, Panels A and B. In Panel A, we include industry, city, and year fixed effects; the latter subsume the effect of the uninteracted CRISIS and POST_CRISIS dummies. In Panel B, we further control for time-invariant unobserved heterogeneity at the firm level by including firm fixed effects, which absorb the city fixed

[15] This period contrasts with the crisis period in Italy, which started in 2008 and continued until at least the end of our sample period. However, the South Tyrol province developed differently from the rest of Italy. It is the only Italian province that had a higher gross domestic product (GDP) level in 2015 than in 2007. Our results are qualitatively the same if we define a single CRISIS dummy taking the value of one from 2008 to 2015, coinciding with the crisis in Italy.

effects. The firm fixed effects in Panel B also subsume the effect of the uninteracted cultural origin dummy, but the interaction term provides us with a direct test for the differential behavior of firms led by a manager of Italian cultural origin relative to firms led by a manager of Germanic cultural origin during the crisis. In both panels, we account for the fact that observations of the same firm over time are not independent and we cluster standard errors at the firm level.

The estimated coefficients for the dummy of Italian cultural origin in Panel A of Table 5 largely confirm that firms led by managers of Italian origin are characterized by greater recourse to external debt funding in general and informal sources of funding in particular than firms run by managers of Germanic origin. Indeed, the coefficients of the uninteracted cultural origin dummy are positive and statistically significant and have similar magnitudes as the coefficients in Table 3. These results suggest that the financing patterns of firms managed by a manager of Italian cultural origin existed before the crisis, confirming our interpretation of the results as driven by preferences rather than by a potentially worse financial situation for Italian-led firms. Furthermore, the coefficients of the interaction term with the CRISIS dummy in Panels A and B show that Italian-led firms actually obtained more bank credit during the period of reduced supply for credit, further mitigating concerns that their weaker financial situation during the crisis could have led to our previous findings. The coefficients of the interaction term with the crisis for the external debt financing ratio and the debt-to-assets ratio (second and fourth columns in both panels) are positive and significant, suggesting that firms led by a manager of Italian cultural origin increased their access to external borrowing and to formal sources of credit during the crisis. Consistent with this interpretation, the coefficient of this interaction term for the ratio of accounts payable (sixth column) is small and statistically insignificant, suggesting that, on

average, firms led by managers of Italian origin did not use more trade credit during the crisis. Finally, the coefficient of the cultural dummy on the regression for accounts receivable in Panel B shows that Italian-led firm actually increased the provision of trade credit to their clients during the crisis (last column). In line with the redistribution theory of trade credit, this result suggests that firms that have access to formal sources of credit are able to provide liquidity to their clients in times when bank credit is scarce (Garcia-Appendini and Montoriol-Garriga (2013)) and it provides evidence that Italian firms were investing in the relationships with their clients. Once again, this is inconsistent with the idea that the results are driven by potentially weaker Italian-led firms.[16]

C. Trade Credit Supply

A related concern is that the results in Table 3 are driven by differences in the supply of trade credit for firms of different cultural origin. There are several reasons why the supply of trade credit could be correlated with the cultural origin of the firm's manager. First, suppliers

[16] To confirm that our findings are driven by an increase in debt, rather than a reduction in the assets of firms with Italian-speaking managers, in Appendix D we use panel regressions with firm fixed effects to compare the evolution of assets (FIRM-SIZE), debt (ln(EXT_DFIN) and ln(TD)), and employment (ln(EMPLOY)) in firms of different cultural origin during the crisis. The positive and statistically significant coefficients of the interaction of culture and the crisis in the second and third columns and the insignificant coefficients in the first and fourth columns confirm that the larger debt ratios observed for firms of Italian origin are driven by an increase in debt levels and not a reduction in firm net worth or lower investments in labor. Further, the results in Appendix E suggest that those firms invested larger amounts in fixed capital and performed similarly to firms of Germanic origin during the crisis. Overall, the evidence confirms our interpretation that the greater recourse to debt of Italian-led firms is driven by preferences rather than by a differential impact of the financial and sovereign crisis on firms led by managers of different cultural origin.

could display different degrees of trust toward firms of different cultural origin (Guiso, Sapienza, and Zingales (2009)) and, hence, they might require cash payments or offer trade credit for firms of distinct cultural groups. Second, previous literature has found stark differences in the provision of trade credit across different countries (Rajan and Zingales (1995), European Central Bank (2011), and El Ghoul and Zheng (2016)). To the extent that a portion of these differences can be explained by culture (El Ghoul and Zheng (2016)), our findings could be consistent with a scenario in which firms of Italian (Germanic) cultural origin buy mostly from firms of the same cultural group, which could differ in their willingness to provide trade credit. Third and relatedly, if firms with German-speaking managers in the province are more likely than their Italian-speaking peers to import their goods from German-speaking countries, then differences in the use of trade credit could reflect differences in the payment periods offered across countries.

We address this issue by controlling for the potential supply of trade credit in a two-step estimation strategy similar to that of Petersen and Rajan (1997). In the first step, we predict the amount of credit offered by the firms' suppliers, accounting for firm cultural origin in addition to other standard predictors of trade credit supply. We then use the predicted quantity of trade credit (PRED_TC_SUPPLY) supplied to a firm as an additional regressor in the trade credit equations. Additionally, in Section V.D we deal with the possibility that the results could reflect different credit payment terms offered for imported goods.

We measure the supply of trade credit as the product of the ratio of the firm's purchases over total assets (where the purchases are calculated as the sum of the cost of raw materials and services) and the fraction of purchases made on credit. Unlike Petersen and Rajan (1997), we do not have survey information providing firm-level measures for the fraction of purchases made on credit. However, trade credit policies are largely determined by the nature of the goods sold and

have limited within-industry variation (Ng, Smith, and Smith (1999) and Giannetti et al. (2011)). Therefore, we calculate this fraction at the industry level, using the (weighted) average of the ratios of accounts receivable to sales in the industries from which our sample firms purchase their goods and services. To identify these industries, we use the input–output matrix of the South Tyrol province, provided by the provincial (ASTAT) and national (ISTAT) statistical offices.[17]

As Petersen and Rajan (1997), we estimate the supply of trade credit as a function of the customer's credit quality (proxied by the firm's size, age, operating margin, and tangible assets), the availability of bank credit (ratio of total debt to total assets), the firm's relationships with suppliers (sales growth), liquidation costs (measured by the fraction of total inventories that corresponds to finished goods), and the CEO's cultural origin dummy. We then augment the regression in Table 3 using the predicted supply of trade credit (PRED_TC_SUPPLY) from the first-stage regression. The results are reported in Table 6. The first two columns show coefficient estimates for the trade credit user dummy (TC_USER) and the second two columns show estimates for the accounts payable ratio (AP_TA) as dependent variables.

The specifications reported in the first and third columns of Table 6 correspond to the reduced-form specifications in Table 3, augmented with the predicted amount of trade credit supply obtained from the first-stage regressions (PRED_TC_SUPPLY). In the second and fourth columns, we additionally include a control for the fraction of current assets over total assets

[17] The input–output matrix was obtained from http://dati.istat.it/Index.aspx?DataSetCode=DCCN_SQCT. All additional firm-specific variables used in this section were obtained from Bureau van Dijk's AIDA database. The procedure used to calculate the fraction of purchases on account using the input–output matrix is available from the authors upon request.

(CA_TA), which is likely to affect the need for financing through trade credit. Throughout the specifications, the results show a positive correlation between the amount of trade credit supplied to each firm and the use or quantity of trade credit demanded. More importantly, our main results are robust to this estimation procedure that accounts for the supply of trade credit.

D. Further Endogeneity Concerns

In this section, we address additional endogeneity issues by replicating the results of Table 3 over subsamples of firms where self-selection is unlikely and/or omitted variable concerns are minimal. First, we restrict our analysis to the subsample of family firms where the manager is a family member. Such companies are typically founded and run by the same family over their entire life. This minimizes the possibility that managers of a given cultural origin choose to work for firms with certain characteristics. We retrieve information on the ownership structure of the sample firms from Orbis and we classify a company as a family firm if one or several related individuals hold the majority of the shares. We then restrict our sample to those family firms whose manager is a family member, that is, the manager is one of the majority shareholders or carries the surname of the controlling family.[18] Around 60% of the original sample firms satisfy these restrictions. Around 29% of these firms are led by a family of Italian cultural origin.

We re-estimate our main specification over the subsample of family firms and report the estimates in Panel A of Table 7. To save space, we report only the coefficients for the cultural

[18] Our method might, in fact, underestimate the number of family firms in the sample, since, following Italian law, women in South Tyrol retain their maiden name after marriage. This, however, is unlikely to introduce any bias in the analysis, since it is expected to affect family firms where the CEO is of either Italian or Germanic origin in the same way.

origin dummy; however, the estimations in this table include all the controls and fixed effects of Table 3. The positive and significant coefficients of the CEO_IT_ORIGIN dummy with respect to the three financing dummy variables EXT_D_USER, BANK_USER, and TC_USER confirm that the financing pattern discussed above is a general feature of these firms and is not caused by endogeneity. In terms of magnitude, the coefficients are similar to those in Table 3.

Second, we look into potential endogenous matching of the manager's cultural origin and firm size. To the extent that firms whose manager is of Germanic origin are, overall, larger and better established than their Italian counterparts (see Table 2), our results could be capturing different financing policies driven by firm size. Although we control for firm size in all our specifications, the effect could be nonlinear. To overcome this issue, we perform the estimations over the more homogeneous subsample of micro firms, defined as firms with total assets of up to 2 million euros. The results over the subsample of micro firms are presented in Panel B of Table 7. They consistently show that firms whose manager is of Italian origin are more likely to borrow and also display higher levels of external borrowing in general and trade credit in particular. Once again, the coefficients are of similar magnitude as those in Table 3.

Third, we address the possibility that our results are driven by an omitted variable, namely, the terms of credit granted by firms' trading partners. The trade credit literature suggests that the terms of credit are largely invariant within an industry and related to the nature of the traded good (Ng et al. (1999) and Giannetti et al. (2011)). Given that our estimations contain industry fixed effects, the coefficients obtained so far are unlikely to be biased due to differences across industries in the terms of trade credit. However, as mentioned in Section V.C, terms of trade differ within the euro area (European Central Bank (2011)) and, hence, could differ between imported and domestic purchases. Given the location of the South Tyrol area on the

border with Austria and Switzerland, one potential concern is that firms with a manager of Germanic origin could be more likely to buy goods from these German-speaking countries and that the observed differences are due to the different credit terms in these countries. Therefore, we need to ensure that our results cannot be mechanically explained by different trading patterns between the two cultures.

Unfortunately, Orbis does not disclose the amounts of firm imports. Thus, to control for this potential bias, we rerun our estimation over a subsample of firms that are less likely to be importers according to the input–output matrix for the South Tyrol province. The matrix contains data on the fraction of purchases that represent imports. We derive our subsample by eliminating the upper quartile of firms by the ratio of imports to total purchases (corresponding to 13.1% or more imports). The estimates are shown in Table 7, Panel C, and confirm our main findings.

Fourth, we address the possibility that managers of a given cultural group are concentrated in certain industry sectors. Figure 4 displays the distribution of the managers' cultural origins within each industry. We see that this distribution closely mirrors that of the overall sample firms (i.e., 31.1% of Italian-speaking CEOs) in the various industries. For robustness, we rerun our estimates excluding the two sectors with the lowest proportion of Italian-speaking CEOs (agriculture, forestry and fishing, and manufacturing) and the two sectors with the highest proportion of Italian-speaking CEOs (education, and human health and social work activities). We report the results in Panel D of Table 7 and these are, once again, consistent with our main findings. To further ensure that the cultural heterogeneity of the industries is not itself driving the results, we replace in Table 8 the industry and city fixed effects with interacted city and industry fixed effects (Panel A) and with interacted city, industry, and firm size group fixed effects (Panel B). We follow the European Commission to define four firm size groups,

where micro, small, medium, and large firms are, respectively, those with total assets of up to 2 million euros, up to 10 million euros, up to 43 million euros, and above 43 million euros. The coefficients in this case compare firms of different cultural origin in the same city and industry (and size group), which therefore have similar financing needs and access to the same set of opportunities. The results are qualitatively very similar to those in Table 3.[19]

E. Neighboring Provinces

Finally, in this section, we address one concern that could be specific to our geographical laboratory. Specifically, the negative shocks that the population of South Tyrol experienced since annexation (see Section II) could have translated into a greater risk aversion of the German-speaking population, which, in turn, could manifest itself as a present-day aversion toward high leverage.

We believe that this is unlikely to be driving our findings for two reasons. First, survey measures of risk aversion are higher in Italy than in Austria and Germany (Rieger, Wang, and Hens (2015)). Puntscher et al. (2014) focus on the South Tyrol province and find that the Italian-speaking population is more mistrusting than the German-speaking population. If one is ready to assume that risk aversion and mistrust are linked, these findings provide evidence against the German-speaking group being more risk averse. Second, the assets-to-equity ratio in small and

[19] We also perform a matching exercise where we compare the financing choices of Italian-led firms with their closest counterfactual led by a manager of Germanic cultural origin in terms of city, firm size group (micro, small, medium, large), and industry. We run a regression analysis using the subsets of closest matches and report the results in Appendix F. The estimates are qualitatively very similar to those in Table 3, suggesting that our results are not driven by a selection of firms led by a manager of Italian cultural origin into particular industries, size groups, or cities.

medium-sized firms is higher in Italy than in Austria and Germany (European Committee of Central Balance-Sheet Data Offices (2014)). Ignoring all the caveats involved in cross-country comparisons, this finding suggests that, consistent with our cultural and linguistic explanation, CEOs of Italian origin generally borrow more than CEOs of Germanic origin and not just within the province of South Tyrol.

Nevertheless, we further investigate this point by comparing the capital structure of firms headquartered in the neighboring provinces of Tyrol in Austria and Trentino in Italy. These areas were also part of the Habsburg Empire but, unlike South Tyrol, did not experience any negative shocks from its dissolution and are monolingual. We gather financial data on companies headquartered in the Austrian Tyrol and Trentino provinces from Orbis for the latest available fiscal year prior to 2016. Since Austrian firms with fewer than 300 employees are not required to file detailed financial information (see the Orbis User Manual), we can only compute the shareholder equity ratio, measured as equity over total assets, an inverse measure of leverage. Table 9 displays summary statistics for the shareholder equity ratio in the provinces of Austrian Tyrol, South Tyrol, and Trentino. In the first column of Table 10, we regress this ratio on a dummy variable (HQ_TRENTINO) that indicates if the firm comes from the Trentino province (one) or the Austrian Tyrol province (zero) as our key explanatory variable. For this sample, we do not have information on the CEOs, so we only include firm-specific controls, industry fixed effects, and controls for the end of the fiscal year. From the negative and strongly significant coefficient of HQ_TRENTINO, we conclude that, in the bordering areas of Trentino and Austrian Tyrol, Italian firms tend to hold relatively less equity than Austrian firms. Since these areas have not been exposed to the negative shocks that occurred in South Tyrol, these findings

again support our interpretation that the leverage decision is not driven by province-specific risk aversion.[20]

To conclude this section, we use the data from these neighboring provinces to emphasize the benefits of conducting the analysis in a multicultural environment within the same economic and institutional setting. In the second column of Table 10, we compare shareholder equity ratios (EQUITY_TA) in firms of Germanic origin in South Tyrol, firms of Italian origin in South Tyrol and Italian origin in Trentino, using Germanic firms in Austrian Tyrol (HQ_AUSTRIAN_TYROL) as our (omitted) base group. We observe that firms run by CEOs of Germanic origin (CEO_GER_ORIGIN) have similar capitalization ratios in both South Tyrol and Austrian Tyrol. Firms run by CEOs of Italian origin in Trentino, instead, have lower equity ratios than their cultural peers in South Tyrol. More interestingly, the difference in shareholder equity ratios between firms in Trentino and in Austrian Tyrol (which differ along both cultural and economic/institutional dimensions) differs significantly from the corresponding difference between Italian- and German-speaking firms in South Tyrol (which differ only along the cultural dimension). This highlights the importance of focusing on an environment with a fixed regulatory, economic, and institutional environment to study cultural preferences for financing structure.

[20] A residual concern specific to South Tyrol could be linked to potentially different levels of the wealth of the firm managers of the two cultural groups. Given that most of our firms are small and owner managed, the link between the firm and the CEO's household raises the question of whether the firm's financing decisions should be studied in connection with the CEO's wealth. Unfortunately, it is impossible to formally test this issue due to the unavailability of data on the personal wealth of individuals in South Tyrol.

VI. Conclusions

This paper examines the relation between the cultural origin of firm managers and corporate financing behavior. Motivated by the evidence from previous literature on the relation between social capital and financial development, on individuals' preferences for conducting economic activities within either formal institutions or informal networks, and on managerial style, we conjecture that the composition of firms' liabilities can be shaped by the culturally embedded preferences of their managers. Consistent with our conjecture, we find large and significant differences in the financing structure of firms run by individuals of different cultural origin. Our method, which analyzes firms within a small geographical province in one country, ensures that these results are not driven by institutional, regulatory, religious, or economic differences associated with the different cultures. Lacking detailed bank–firm level data, we perform a series of robustness checks to further rule out our results being driven by omitted variables and other endogeneity concerns. Throughout the different analyses, our results are consistent with the existence of culturally embedded preferences for different types of financing structures.

For the benefit of internal validity and identification, we set up our analysis in one particular province in Italy that hosts two different cultural groups. While the setting of our study is highly specific, the results generally have much wider external validity. In particular, the South Tyrol province has a GDP level that is comparable to that of many advanced economies and aligned with the average GDP of the European Union. Moreover, its residents are active in a wide range of sectors, from agriculture to manufacturing and services, and enjoy a high degree of industrialization. Thus, we believe that our results are informative on the effect of culture on the financing practices of firms in wider setups, particularly for advanced economies.

Our main results highlight culture as one of the drivers of the variation in the recourse to financing in a multicultural setup. In terms of policy implications, our results suggest that one-size-fits-all regulations aimed at incentivizing the access to formal sources of finance could have heterogeneous effects, depending on the preferences of different cultural groups affected by the regulation. Similarly, our study suggests that financial education should be structured differently according to the preferences of the different target cultural groups.

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Table 1. Summary Statistics

This table reports summary statistics for the cross section of sample firms headquartered in the South Tyrol province with a CEO of Italian or Germanic origin as of the latest available year prior to 2016. Definitions of the variables are provided in Appendix B.

Variables	N	Mean	Std	p25	p50	p75
CEO cultural origin:						
CEO_IT_ORIGIN	3,526	0.311	0.463	0	0	1
Dependent variables:						
EXT_D_USER	3,526	0.741	0.438	0	1	1
EXT_DFIN_TA	3,526	0.315	0.315	0	0.239	0.566
BANK_USER	3,526	0.516	0.500	0	1	1
TD_TA	3,526	0.161	0.232	0	0.001	0.281
CASH_TA	3,416	0.109	0.164	0.004	0.031	0.146
TC_USER	3,526	0.734	0.442	0	1	1
AP_TA	3,526	0.153	0.200	0	0.076	0.231
AR_TA	3,526	0.203	0.246	0	0.097	0.348
Firm control variables:						
FIRM_SIZE	3,526	13.75	1.818	12.56	13.75	14.95
ASSET_TANG	3,526	0.263	0.289	0.032	0.134	0.439
SALES_GROWTH	3,526	0.045	0.585	-0.104	0.016	0.146
INVESTMENTS	3,526	0.039	0.080	0.004	0.016	0.047
OP_MARGIN	3,526	0.097	0.479	0.026	0.076	0.178
FIRM_AGE	3,526	16.05	14.39	5	12	23
PRED_TC_SUPPLY	3,526	0.308	0.135	0.226	0.334	0.404
CA	3,526	0.662	0.306	0.433	0.766	0.932
CEO control variables:						
CEO_AGE	3,526	52.71	11.54	45	52	60
CEO_MALE	3,526	0.880	0.325	1	1	1

Table 2. *t*-Tests for Differences in Mean Values

This table reports the mean values, standard deviations, and *t*-tests of the differences in means (with associated *p*-values) of the dependent and control variables for the cross section of sample firms headquartered in the South Tyrol province with a CEO of Italian or Germanic origin as of the latest available year prior to 2016. Firm controls refer to the last available balance sheet date in Orbis (as of March 2016). Definitions of the variables are provided in Appendix B.

	CEO_IT_ORIGIN		CEO_GER_ORIGIN			
Variables	Mean	Std	Mean	Std	*t*-Test	*p*-Value
Dependent variables:						
EXT_D_USER	0.770	0.421	0.728	0.445	2.703	0.007
EXT_DFIN_TA	0.334	0.312	0.307	0.316	2.371	0.018
BANK_USER	0.542	0.498	0.505	0.500	2.005	0.045
TD_TA	0.157	0.218	0.162	0.238	-0.656	0.512
CASH_TA	0.121	0.177	0.104	0.158	2.797	0.005
TC_USER	0.764	0.425	0.720	0.449	2.803	0.005
AP_TA	0.176	0.218	0.143	0.190	4.340	0.000
AR_TA	0.225	0.259	0.193	0.239	3.523	0.000
Firm control variables:						
FIRM_SIZE	13.31	1.936	13.95	1.727	-9.278	0.000
ASSET_TANG	0.227	0.274	0.279	0.294	-5.112	0.000
SALES_GROWTH	0.028	0.672	0.052	0.542	-1.052	0.293
INVESTMENTS	0.037	0.081	0.040	0.080	-0.938	0.348
OP_MARGIN	0.064	0.545	0.111	0.445	-2.511	0.012
FIRM_AGE	14.47	12.71	16.77	15.04	-4.688	0.000
PRED_TC_SUPPLY	0.288	0.133	0.316	0.135	-5.765	0.000
CA	0.692	0.295	0.648	0.310	4.032	0.000
CEO control variables:						
CEO_AGE	53.83	12.09	52.21	11.26	3.758	0.000
CEO_MALE	0.842	0.365	0.898	0.303	-4.401	0.000

Table 3. Cultural Origin Regressions

This table reports ordinary least squares estimates for the cross section of sample firms headquartered in the South Tyrol province with a CEO of Italian or Germanic origin as of the latest available year prior to 2016. Definitions of the variables are provided in Appendix B. Standard errors are corrected for heteroscedasticity. ***, **, and * indicate statistical significance at the 1%, 5%, and 10% levels, respectively.

Independent Variables	EXT_D_USER	EXT_DFIN_TA	BANK_USER	TD_TA	CASH_TA	TC_USER	AP_TA	AR_TA
CEO_IT_ORIGIN	0.055***	0.033**	0.107***	0.019**	-0.003	0.055***	0.015*	0.013
	(0.017)	(0.013)	(0.020)	(0.009)	(0.007)	(0.018)	(0.009)	(0.010)
FIRM_SIZE	0.048***	0.022***	0.080***	0.020***	-0.023***	0.047***	0.003	0.005**
	(0.005)	(0.003)	(0.005)	(0.002)	(0.002)	(0.005)	(0.002)	(0.003)
ASSET_TANG	-0.028	0.040*	0.171***	0.188***	-0.123***	-0.040	-0.150***	-0.259***
	(0.030)	(0.022)	(0.034)	(0.018)	(0.009)	(0.030)	(0.012)	(0.012)
SALES_GROWTH	0.019	0.014	0.026*	-0.005	0.004	0.025*	0.019***	0.015**
	(0.013)	(0.010)	(0.014)	(0.007)	(0.005)	(0.013)	(0.007)	(0.007)
INVESTMENTS	0.137	0.203***	0.302***	0.182***	-0.106***	0.127	0.019	-0.199***
	(0.087)	(0.074)	(0.102)	(0.054)	(0.027)	(0.090)	(0.046)	(0.038)
OP_MARGIN	-0.027*	-0.048***	-0.027	-0.021**	0.025***	-0.025	-0.024***	0.009
	(0.015)	(0.014)	(0.019)	(0.010)	(0.005)	(0.016)	(0.008)	(0.007)
FIRM_AGE	-0.002***	-0.003***	-0.002***	-0.002***	0.001***	-0.002***	-0.001***	-0.000
	(0.001)	(0.000)	(0.001)	(0.000)	(0.000)	(0.001)	(0.000)	(0.000)
CEO_AGE	0.006	0.004	0.009**	0.002	0.001	0.006	0.002	0.007***
	(0.005)	(0.003)	(0.005)	(0.002)	(0.001)	(0.005)	(0.002)	(0.002)
CEO_AGE^2	-0.000	-0.000	-0.000*	-0.000	-0.000	-0.000	-0.000	-0.000***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
CEO_MALE	0.019	0.008	0.011	0.017	0.009	0.020	-0.009	-0.006
	(0.024)	(0.016)	(0.026)	(0.011)	(0.008)	(0.024)	(0.011)	(0.013)
Constant	0.269	0.375*	-0.443**	-0.032	0.421***	0.260	0.396***	0.105
	(0.170)	(0.211)	(0.205)	(0.141)	(0.069)	(0.171)	(0.115)	(0.095)
No. of obs.	3,526	3,526	3,526	3,526	3,416	3,526	3,526	3,526
Industry fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
City fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Fiscal year fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Adj. R^2	0.063	0.057	0.115	0.115	0.138	0.060	0.092	0.139

Table 4. Local Environment Analysis

This table reports estimates for the cross section of firms headquartered in the South Tyrol province with a CEO of Italian or Germanic origin as of the latest available year prior to 2016. The samples in Panels A to D are, respectively, restricted to firms that are headquartered in cities where the population of Italian speakers is less than 30%, cities where the proportion of banks with a manager of Italian cultural origin is less than 30%, cities with no Italian-speaking bank managers, and Bolzano. All panels include industry and fiscal year fixed effects and control variables FIRM_SIZE, ASSET_TANG, SALES_GROWTH, INVESTMENTS, OP_MARGIN, FIRM_AGE, CEO_AGE, CEO_AGE^2, and CEO_MALE. Definitions of the variables are provided in Appendix B. Panels A to C include city fixed effects. Standard errors are corrected for heteroscedasticity. ***, **, and * indicate statistical significance at the 1%, 5%, and 10% levels, respectively.

Independent Variables	EXT_D_USER	EXT_DFIN_TA	BANK_USER	TD_TA	TC_USER	AP_TA	AR_TA
			Panel A: Cities with an Italian-speaking population of less than 30%				
CEO_IT_ORIGIN	0.073***	0.028	0.088**	0.012	0.067*	0.017	0.004
	(0.035)	(0.027)	(0.038)	(0.018)	(0.035)	(0.017)	(0.019)
No. of obs.	1,673	1,673	1,673	1,673	1,673	1,673	1,673
Proportion It. CEO obs.	0.12	0.12	0.12	0.12	0.12	0.12	0.12
Adj. R^2	0.084	0.055	0.128	0.111	0.076	0.100	0.149
			Panel B: Cities where fewer than 30% of bank managers are of Italian origin				
CEO_IT_ORIGIN	0.075**	0.044	0.090**	0.012	0.067*	0.033*	0.022
	(0.036)	(0.028)	(0.040)	(0.019)	(0.037)	(0.018)	(0.021)
No. of obs.	1,499	1,499	1,499	1,499	1,499	1,499	1,499
Proportion It. CEO obs.	0.11	0.11	0.11	0.11	0.11	0.11	0.11
Adj. R^2	0.140	0.069	0.142	0.101	0.091	0.117	0.158
			Panel C: Cities with no bank managers of Italian origin				
CEO_IT_ORIGIN	0.018	0.029	-0.014	-0.011	0.019	0.040	0.024
	(0.047)	(0.038)	(0.049)	(0.025)	(0.047)	(0.026)	(0.026)
No. of obs.	1,014	1,014	1,014	1,014	1,014	1,014	1,014
Proportion It. CEO obs.	0.09	0.09	0.09	0.09	0.09	0.09	0.09
Adj. R^2	0.134	0.079	0.167	0.153	0.121	0.126	0.167
			Panel D: City of Bolzano				
CEO_IT_ORIGIN	0.051**	0.035*	0.124***	0.016	0.056**	0.018	0.028*
	(0.024)	(0.018)	(0.028)	(0.013)	(0.024)	(0.013)	(0.015)
No. of obs.	1,292	1,292	1,292	1,292	1,292	1,292	1,292
Proportion It. CEO obs.	0.52	0.52	0.52	0.52	0.52	0.52	0.52
Adj. R^2	0.034	0.061	0.098	0.083	0.036	0.092	0.116

Table 5. External Financing during the Financial and Sovereign Crisis

This table reports estimates for the panel of firms headquartered in the South Tyrol province with a CEO of Italian or Germanic origin during 2006–2015. The time-varying firm-level controls are FIRM_SIZE, ASSET_TANG, SALES_GROWTH, INVESTMENTS, OP_MARGIN, and age. The CEO characteristics are CEO_AGE, CEO_AGE^2, and CEO_MALE. Definitions of the variables are provided in Appendix B. Standard errors are clustered at the firm level. ***, **, and * indicate statistical significance at the 1%, 5%, and 10% levels, respectively.

Independent Variables	EXT_D_USER	EXT_DFIN_TA	BANK_USER	TD_TA	TC_USER	AP_TA	AR_TA
Panel A: Estimations with industry fixed effects							
CEO_IT_ORIGIN	0.035**	0.031**	0.074***	0.012	0.039**	0.017*	0.021*
	(0.014)	(0.015)	(0.022)	(0.012)	(0.016)	(0.010)	(0.012)
CEO_IT_ORIGIN * CRISIS	0.041***	0.026**	0.049***	0.026***	0.037***	0.002	0.006
	(0.013)	(0.012)	(0.018)	(0.010)	(0.014)	(0.008)	(0.009)
CEO_IT_ORIGIN * POST_CRISIS	0.014	0.005	0.020	0.008	0.010	-0.001	-0.013
	(0.020)	(0.016)	(0.024)	(0.012)	(0.021)	(0.011)	(0.012)
No. of obs.	22,091	22,091	22,091	22,091	22,091	22,091	22,091
Firm-level controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes
CEO characteristics	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Industry fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Firm fixed effects	No	No	No	No	No	No	No
Year fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes
City fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Adj. R^2	0.085	0.107	0.128	0.145	0.085	0.162	0.214
Panel B: Estimations with firm fixed effects							
CEO_IT_ORIGIN * CRISIS	0.045***	0.020*	0.043**	0.024***	0.042***	-0.003	0.018**
	(0.013)	(0.011)	(0.017)	(0.009)	(0.014)	(0.007)	(0.007)
CEO_IT_ORIGIN * POST_CRISIS	0.032*	0.007	0.019	0.013	0.030	-0.004	0.010
	(0.019)	(0.014)	(0.023)	(0.011)	(0.020)	(0.009)	(0.010)
No. of obs.	22,091	22,091	22,091	22,091	22,091	22,091	22,091
No. of firms	3,526	3,526	3,526	3,526	3,526	3,526	3,526
Firm-level controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes
CEO characteristics	No	No	No	No	No	No	No
Industry fixed effects	No	No	No	No	No	No	No
Firm fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes
City fixed effects	No	No	No	No	No	No	No
Adj. R^2	0.045	0.063	0.032	0.044	0.042	0.046	0.042

Table 6. Controlling for the Supply of Trade Credit

This table reports the second stage of a two-step estimation for trade credit usage for the cross section of sample firms headquartered in the South Tyrol province with a CEO of Italian or Germanic origin as of the latest available year prior to 2016. Definitions of the variables are provided in Appendix B. Standard errors are corrected for heteroscedasticity. ***, **, and * indicate statistical significance at the 1%, 5%, and 10% levels, respectively.

Independent Variables	TC_USER		AP_TA	
CEO_IT_ORIGIN	0.088***	0.088***	0.046***	0.044***
	(0.019)	(0.019)	(0.009)	(0.009)
FIRM_SIZE	0.053***	0.054***	0.009***	0.011***
	(0.005)	(0.005)	(0.002)	(0.002)
ASSET_TANG	0.206***	0.217***	0.075***	0.186***
	(0.058)	(0.066)	(0.029)	(0.033)
SALES_GROWTH	-0.017	-0.017	-0.020**	-0.016**
	(0.016)	(0.016)	(0.008)	(0.008)
INVESTMENTS	0.137	0.147	0.027	0.133***
	(0.091)	(0.095)	(0.046)	(0.046)
OP_MARGIN	0.001	0.001	-0.000	-0.004
	(0.017)	(0.017)	(0.008)	(0.008)
FIRM_AGE	-0.002***	-0.002***	-0.001***	-0.001***
	(0.001)	(0.001)	(0.000)	(0.000)
CEO_AGE	0.006	0.006	0.002	0.002
	(0.005)	(0.005)	(0.002)	(0.002)
CEO_AGE^2	-0.000	-0.000	-0.000	-0.000
	(0.000)	(0.000)	(0.000)	(0.000)
CEO_MALE	0.022	0.022	-0.008	-0.006
	(0.024)	(0.024)	(0.011)	(0.011)
PRED_TC_SUPPLY	0.679***	0.674***	0.622***	0.577***
	(0.134)	(0.135)	(0.074)	(0.074)
CA_TA		0.015		0.149***
		(0.046)		(0.022)
Constant	-0.108	-0.124	0.059	-0.095
	(0.188)	(0.193)	(0.118)	(0.120)
No. of obs.	3,526	3,526	3,526	3,526
Industry fixed effects	Yes	Yes	Yes	Yes
City fixed effects	Yes	Yes	Yes	Yes
Fiscal year fixed effects	Yes	Yes	Yes	Yes
Adj. R^2	0.064	0.064	0.109	0.122

Table 7. Subsample Analysis

This table reports estimates for the cross section of firms headquartered in the South Tyrol province with a CEO of Italian or Germanic origin as of the latest available year prior to 2016. The samples in Panels A to D, respectively, are restricted to those family firms whose CEO is a family member, restricted to firms with total assets of up to 2 million euros, exclude the upper quartile of importing firms, and exclude agriculture, forestry and fishing, manufacturing, education, human health and social work activities. All panels include industry, city, and fiscal year fixed effects and control variables FIRM_SIZE, ASSET_TANG, SALES_GROWTH, INVESTMENTS, OP_MARGIN, FIRM_AGE, CEO_AGE, CEO_AGE^2, and CEO_MALE. Definitions of the variables are provided in Appendix B. Standard errors are corrected for heteroscedasticity. ***, **, and * indicate statistical significance at the 1%, 5%, and 10% levels, respectively.

Independent Variables	EXT_D_USER	EXT_DFIN_TA	BANK_USER	TD_TA	TC_USER	AP_TA	AR_TA
			Panel A: Family firms				
CEO_IT_ORIGIN	0.043*	0.016	0.076***	0.005	0.042*	0.011	0.011
	(0.024)	(0.018)	(0.027)	(0.013)	(0.025)	(0.011)	(0.013)
No. of obs.	2,104	2,104	2,104	2,104	2,104	2,104	2,104
Adj. R^2	0.036	0.060	0.097	0.101	0.032	0.104	0.125
			Panel B: Micro firms				
CEO_IT_ORIGIN	0.064***	0.031*	0.123***	0.013	0.062***	0.019*	0.021
	(0.023)	(0.016)	(0.025)	(0.011)	(0.023)	(0.011)	(0.013)
No. of obs.	2,314	2,314	2,314	2,314	2,314	2,314	2,314
Adj. R^2	0.051	0.059	0.070	0.094	0.052	0.073	0.109
			Panel C: Excluding importing firms				
CEO_IT_ORIGIN	0.050**	0.036**	0.109***	0.018*	0.047**	0.018*	-0.003
	(0.020)	(0.015)	(0.023)	(0.011)	(0.021)	(0.010)	(0.012)
No. of obs.	2,678	2,678	2,678	2,678	2,678	2,678	2,678
Adj. R^2	0.067	0.054	0.119	0.118	0.062	0.086	0.132
			Panel D: Excluding culturally homogeneous industries				
CEO_IT_ORIGIN	0.073***	0.035**	0.118***	0.017*	0.071***	0.019**	0.018
	(0.019)	(0.014)	(0.022)	(0.010)	(0.019)	(0.010)	(0.012)
No. of obs.	2,843	2,843	2,843	2,843	2,843	2,843	2,843
Adj. R^2	0.056	0.055	0.113	0.122	0.050	0.084	0.137

Table 8. Further Controls for the Local Environment

Panel A (B) reports estimates for the cross section of sample firms headquartered in the South Tyrol province with a CEO of Italian or Germanic origin as of the latest available year prior to 2016 after including city–industry fixed (city–industry–firm size) effects. Firm sizes—micro, small, medium, and large—follow the European Commission definitions. All regressions include control variables FIRM_SIZE, ASSET_TANG, SALES_GROWTH, INVESTMENTS, OP_MARGIN, FIRM_AGE, CEO_AGE, CEO_AGE^2, and CEO_MALE and fiscal year fixed effects. Definitions of the variables are provided in Appendix B. Standard errors are robust to heteroscedasticity. ***, **, and * indicate statistical significance at the 1%, 5%, and 10% levels, respectively.

Independent Variables	EXT_D_USER	EXT_DFIN_TA	BANK_USER	TD_TA	TC_USER	AP_TA	AR_TA
			Panel A: City–industry fixed effects				
CEO_IT_ORIGIN	0.059***	0.038***	0.112***	0.020**	0.059***	0.018*	0.015
	(0.019)	(0.014)	(0.022)	(0.010)	(0.020)	(0.009)	(0.012)
No. of obs.	3,526	3,526	3,526	3,526	3,526	3,526	3,526
City–industry fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Fiscal year fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Adj. R^2	0.059	0.065	0.111	0.148	0.057	0.065	0.097
			Panel B: City–industry–firm size fixed effects				
CEO_IT_ORIGIN	0.053**	0.039**	0.122***	0.021**	0.054**	0.018*	0.017
	(0.022)	(0.016)	(0.025)	(0.011)	(0.022)	(0.011)	(0.013)
No. of obs.	3,526	3,526	3,526	3,526	3,526	3,526	3,526
City–industry–firm size fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Fiscal year fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Adj. R^2	0.050	0.068	0.106	0.170	0.046	0.019	0.068

Table 9. Capital Structure in Neighboring Provinces: Summary Statistics

This table reports summary statistics for the ratio of shareholders' equity over total assets in the cross section of sample firms headquartered in South Tyrol, Austrian Tyrol, and Trentino, respectively, for the last available year prior to 2016.

	N	Mean	Std	p25	p50	p75
Overall	7,946	0.312	0.255	0.096	0.248	0.481
South Tyrol	3,528	0.299	0.264	0.070	0.227	0.474
Austrian Tyrol	373	0.408	0.235	0.221	0.390	0.577
Trentino	4,045	0.316	0.247	0.108	0.254	0.477

Table 10. Capital Structure in Neighboring Provinces: Regressions

The first (second) column reports estimates for the cross section of sample firms headquartered in Austrian Tyrol and Trentino (South Tyrol, Austrian Tyrol, and Trentino) for the last available year prior to 2016 with respect to the ratio of shareholders' equity over total assets. Definitions of the variables are provided in Appendix B. Standard errors are corrected for heteroscedasticity. ***, **, and * indicate statistical significance at the 1%, 5%, and 10% levels, respectively.

Independent Variables	EQUITY_TA	
HQ_TRENTINO (1)	-0.073***	-0.065***
	(0.015)	(0.014)
CEO_GER_ORIGIN in South Tyrol (2)		0.019
		(0.017)
CEO_IT_ORIGIN in South Tyrol (3)		-0.016
		(0.018)
HQ_AUSTRIAN_TYROL (4)	Omitted	Omitted
FIRM_SIZE	-0.012***	-0.011***
	(0.003)	(0.002)
ASSET_TANG	0.064***	0.043***
	(0.016)	(0.012)
SALES_GROWTH	-0.042***	-0.034***
	(0.008)	(0.006)
INVESTMENTS	-0.058	-0.029
	(0.055)	(0.043)
OP_MARGIN	0.191***	0.193***
	(0.025)	(0.017)
FIRM_AGE	0.004***	0.004***
	(0.000)	(0.000)
Constant	0.320***	0.354***
	(0.030)	(0.080)
No. of obs.	4,418	7,946
Industry fixed effects	Yes	Yes
Fiscal year fixed effects	Yes	Yes
Adj. R^2	0.096	0.109
F-Test: 1 = 3		8.74***
F-Test: 3 = 2		14.51***
F-Test: (1 – 4) = (3 – 2)		4.51**

Figure 1. Cultural Origin of Cities in South Tyrol

This figure shows the distribution (quartiles) of the Italian-speaking population by city as reported by the 2011 Census (Istituto Provinciale di Statistica, 2015).

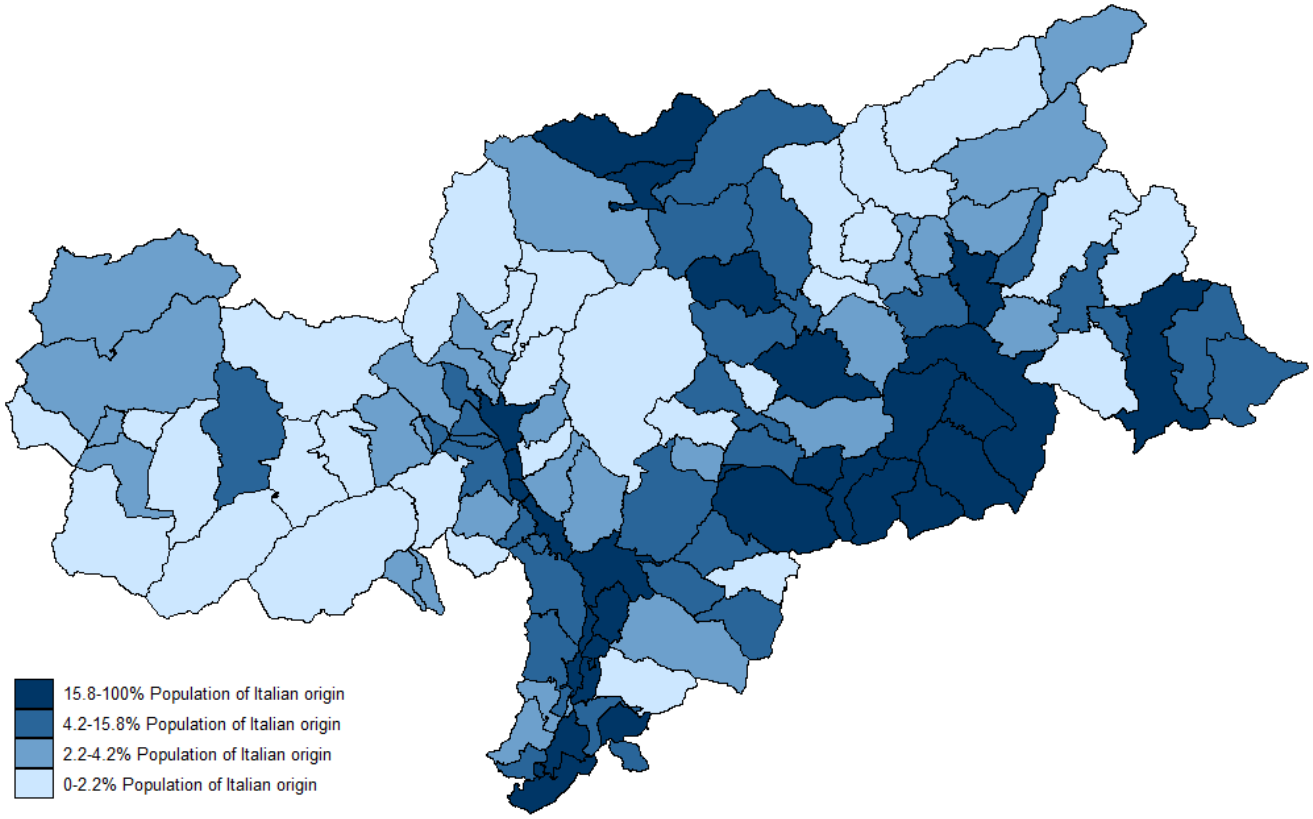


Figure 2. Cultural Origin of CEOs in South Tyrol

This figure shows the distribution (quartiles) of firms in our sample where the CEO is of Italian origin, by city.

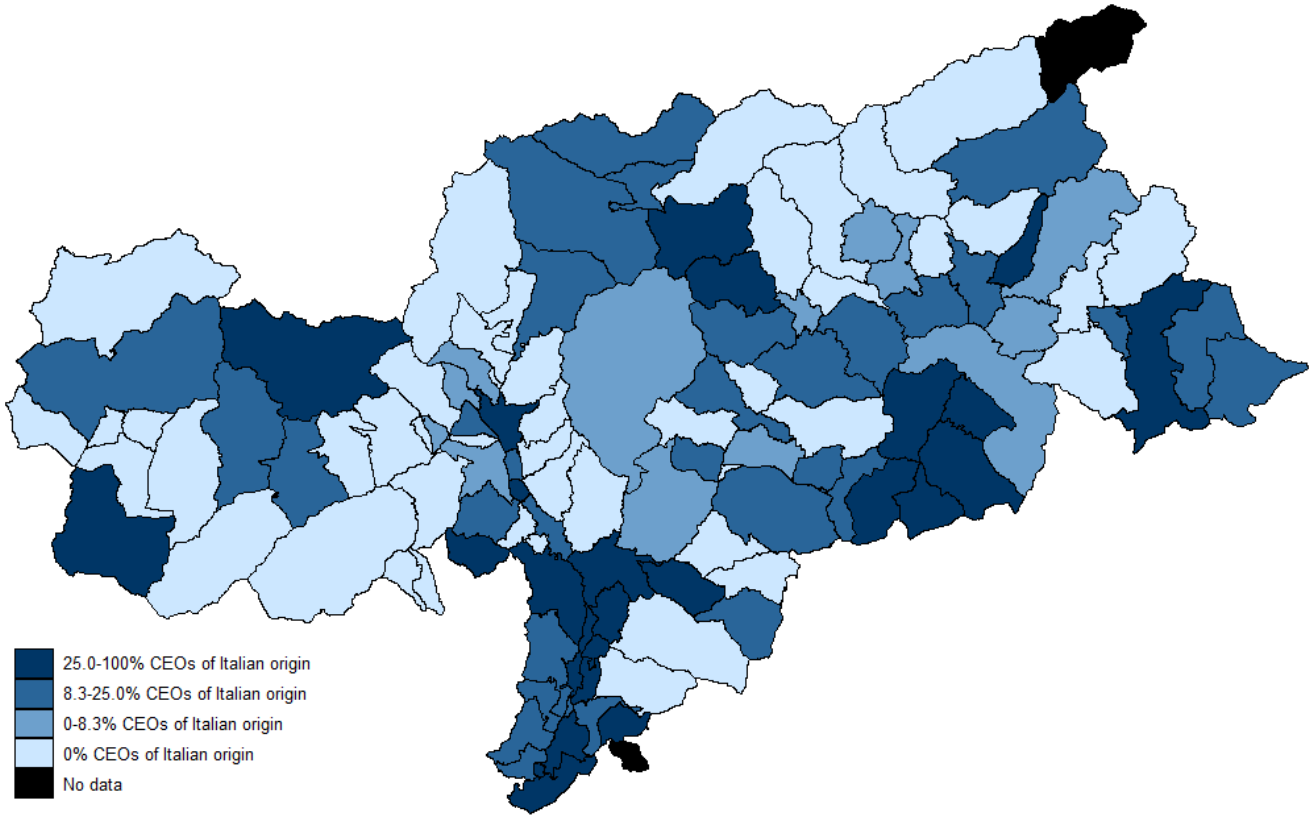


Figure 3. Cultural Origin of Bank Managers in South Tyrol

This figure shows the proportion of banks where the manager is of Italian origin, by city.

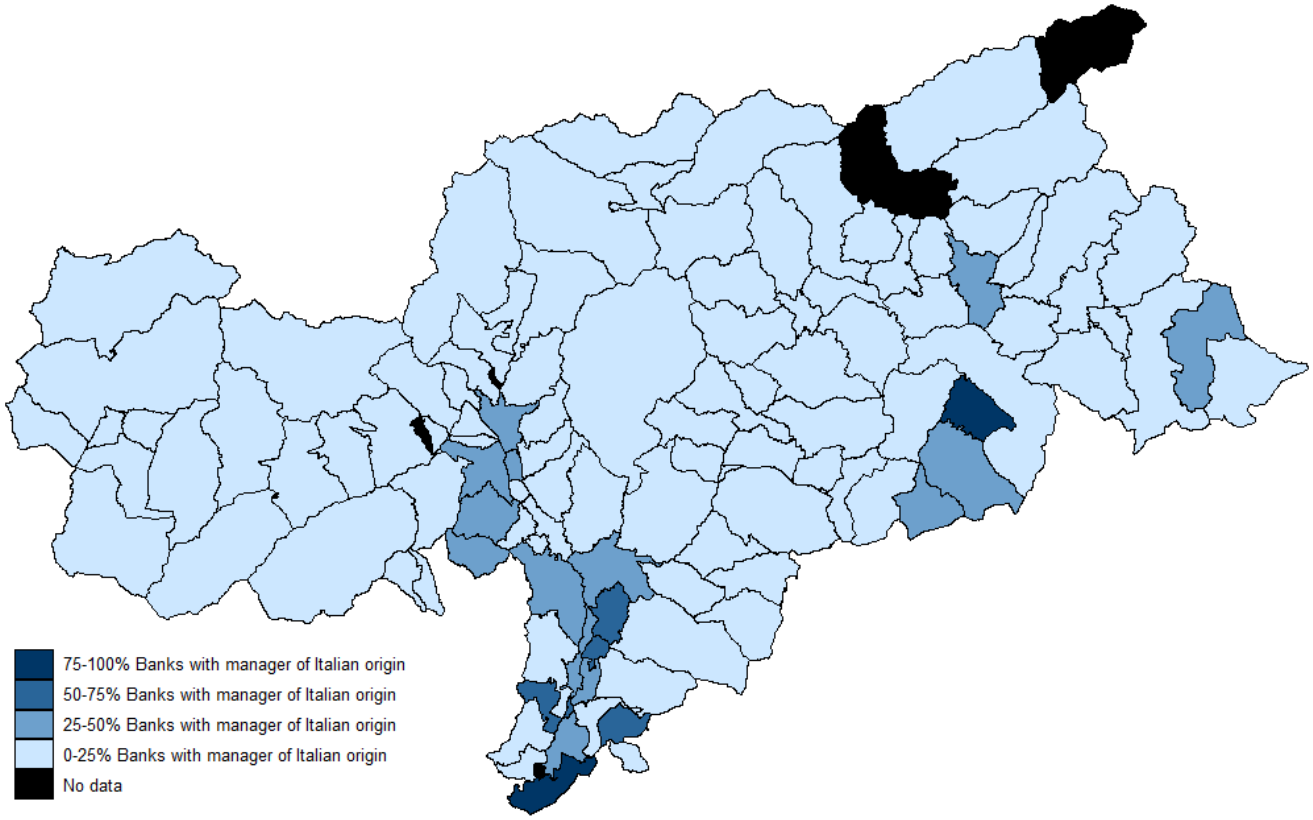
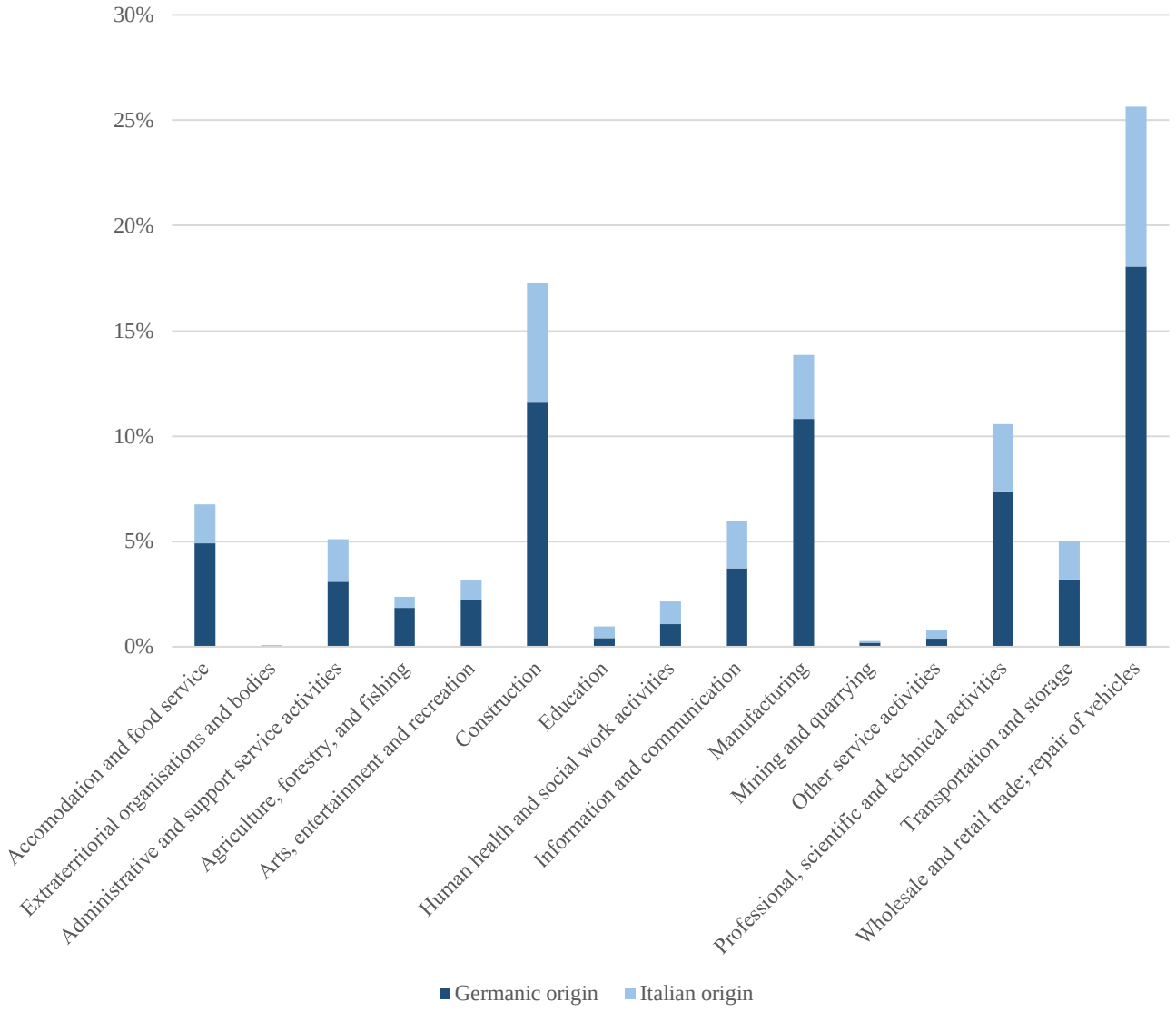


Figure 4. Cultural Origin within Industries

This figure shows the distribution of the managers' cultural origin within each industry.



Appendix A. CEO Classification

We classify a CEO as being of Italian origin if all his/her given names and surname are Italian. We classify a CEO as being of Germanic origin if all his/her given names and surname are Germanic. If the given name is common to both the Italian and Germanic languages, we classify the CEO origin based on the surname. Foreign CEOs and those with discordant given names and surname are excluded. The following are some examples of CEO classifications.

Name and surname	Criteria	Classification
Claudio La Spisa	Italian given name and surname	Italian
Georg Koessler	Germanic given name and surname	Germanic
Marco Fuchs	Italian or Germanic given name, Germanic surname	Germanic
Marco Iori	Italian or Germanic given name, Italian surname	Italian
Paolo Stocker	Italian given name, Germanic surname	Excluded
Guenther Longo	Germanic given name, Italian surname	Excluded
Youjun Luan	Foreign given name and surname	Excluded

Appendix B. Variable Definitions

CEO_IT_ORIGIN: Dummy = 1 (0) if the manager is of Italian (Germanic) origin. Follows the classification in Appendix A. Source: lists of the most common Italian and German/Austrian names and surnames; telephone directories.

CEO_GER_ORIGIN: Dummy = 1 (0) if the manager is of Germanic (Italian) origin. Follows the classification in Appendix A. Source: lists of the most common Italian and German/Austrian names and surnames; telephone directories.

BOD_IT_ORIGIN: Dummy = 1 (0) if the majority of the members of the board of directors is of Italian (Germanic) origin. Source: lists of the most common Italian and German/Austrian names and surnames; telephone directories.

CRISIS: Equals one for 2008–2013 and zero otherwise.

POST_CRISIS: Equals one for 2014–2015 and zero otherwise.

EXT_D_USER: Dummy = 1 if (loans + long term debt + creditors) > 0. Source: Orbis.

EXT_DFIN_TA: (Loans + long term debt + creditors)/total assets. Source: Orbis.

ln(EXT_DFIN): Ln(loans + long term debt + creditors). Source: Orbis.

BANK_USER: Dummy = 1 if (loans + long term debt) > 0. Source: Orbis.

ln(EMPLOY): Ln(number of employees). Source: Orbis.

TD_TA: (Loans + long term debt)/total assets. Source: Orbis.

ln(TD): Ln(loans + long term debt). Source: Orbis.

TC_USER: Dummy = 1 if creditors > 0. Source: Orbis.

AP_TA: Creditors/total assets. Source: Orbis.

AR_TA: Debtors/total assets. Source: Orbis.

CASH_TA: Cash and cash equivalent/total assets. Source: Orbis.

EQUITY_TA: Shareholders funds/total assets. Source: Orbis.

FIRM_SIZE: Ln(total assets). Source: Orbis.

ASSET_TANG: Tangible fixed assets/total assets. Source: Orbis.

SALES_GROWTH: Ln(sales) – $\ln(\text{sales})_{-1}$. Source: Orbis.

INVESTMENTS: (Tangible fixed assets – tangible fixed assets_{-1} + depreciation)/total assets. Source: Orbis.

OP_MARGIN: Earnings before interest, taxes, depreciation, and amortization/sales. Source: Orbis.

PRED_TC_SUPPLY: [(Cost of raw materials + cost of services)/total assets] * (supplying industries' average accounts receivable/sales). Source: Orbis, AIDA, ASTAT, ISTAT.

CA_TA: (Stocks + debtors + other current assets)/total assets. Source: Orbis.

FIRM_AGE: Firm age in years. Source: Orbis.

CEO_AGE: CEO age in years. Source: Orbis.

CEO_AGE^2: CEO_AGE squared.

CEO_MALE: Dummy = 1 if CEO is male. Source: Orbis.

HQ_TRENTINO: Dummy = 1 if the headquarters are in Trentino. Source: Orbis.

HQ_AUSTRIAN_TYROL: Dummy = 1 if the headquarters are in Austrian Tyrol. Source: Orbis.

Appendix C. Cultural Origin of the Board of Directors

This table reports estimates for the cross section of firms headquartered in the South Tyrol province with a board of directors of Italian or Germanic origin as of the latest available year prior to 2016. Definitions of the variables are provided in Appendix B. Standard errors are corrected for heteroscedasticity. ***, **, and * indicate statistical significance at the 1%, 5%, and 10% levels, respectively.

Independent Variables	EXT_D_USER	EXT_DFIN_TA	BANK_USER	TD_TA	CASH_TA	TC_USER	AP_TA	AR_TA
BOD_IT_ORIGIN	0.063***	0.039***	0.116***	0.024**	-0.004	0.063***	0.016*	0.016
	(0.018)	(0.014)	(0.021)	(0.009)	(0.007)	(0.019)	(0.009)	(0.011)
FIRM_SIZE	0.049***	0.022***	0.082***	0.021***	-0.023***	0.049***	0.002	0.005*
	(0.005)	(0.004)	(0.005)	(0.002)	(0.002)	(0.005)	(0.002)	(0.003)
ASSET_TANG	-0.018	0.044*	0.169***	0.186***	-0.126***	-0.028	-0.144***	-0.255***
	(0.031)	(0.023)	(0.035)	(0.018)	(0.009)	(0.031)	(0.012)	(0.013)
SALES_GROWTH	0.020	0.014	0.028*	-0.006	0.003	0.027**	0.020***	0.016**
	(0.013)	(0.010)	(0.015)	(0.007)	(0.005)	(0.014)	(0.007)	(0.007)
INVESTMENTS	0.170*	0.230***	0.362***	0.203***	-0.101***	0.178*	0.026	-0.174***
	(0.091)	(0.076)	(0.106)	(0.055)	(0.029)	(0.093)	(0.048)	(0.040)
OP_MARGIN	-0.035**	-0.055***	-0.037*	-0.024**	0.025***	-0.033**	-0.028***	0.005
	(0.016)	(0.014)	(0.019)	(0.011)	(0.005)	(0.017)	(0.008)	(0.007)
FIRM_AGE	-0.002***	-0.003***	-0.002***	-0.001***	0.001***	-0.002***	-0.001***	-0.000
	(0.001)	(0.000)	(0.001)	(0.000)	(0.000)	(0.001)	(0.000)	(0.000)
CEO_AGE	0.008*	0.004	0.012**	0.002	0.001	0.008	0.002	0.007***
	(0.005)	(0.003)	(0.005)	(0.002)	(0.001)	(0.005)	(0.002)	(0.002)
CEO_AGE^2	-0.000	-0.000	-0.000**	-0.000	-0.000	-0.000	-0.000	-0.000***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
CEO_MALE	0.021	0.002	-0.001	0.016	0.012	0.023	-0.014	-0.011
	(0.025)	(0.017)	(0.026)	(0.012)	(0.008)	(0.025)	(0.011)	(0.014)
Constant	0.194	0.378*	-0.482**	-0.048	0.427***	0.183	0.415***	0.096
	(0.177)	(0.217)	(0.210)	(0.145)	(0.071)	(0.178)	(0.119)	(0.097)
No. of obs.	3,333	3,333	3,333	3,333	3,224	3,333	3,333	3,333
Industry fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
City fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Fiscal year fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Adj. R^2	0.063	0.057	0.117	0.115	0.138	0.061	0.091	0.135

Appendix D. Firm Size, Debt, and Investment in Labor during the Financial and Sovereign Crisis

This table reports estimates for the panel of firms headquartered in the South Tyrol province with a CEO of Italian or Germanic origin during 2006–2015. Definitions of the variables are provided in Appendix B. Standard errors are clustered at the firm level. ***, **, and * indicate statistical significance at the 1%, 5%, and 10% levels, respectively.

Independent Variables	FIRM_SIZE	ln(EXT_DFIN)	ln(TD)	ln(EMPLOY)
CEO_IT_ORIGIN * CRISIS	-0.024	0.540***	0.486**	-0.008
	(0.023)	(0.167)	(0.215)	(0.036)
CEO_IT_ORIGIN * POST_CRISIS	-0.014	0.345	0.176	-0.028
	(0.032)	(0.240)	(0.290)	(0.045)
Constant	13.830***	11.328***	8.433***	2.000***
	(0.011)	(0.086)	(0.109)	(0.015)
No. of obs.	22,091	22,079	22,075	15,907
No. of firms	3,526	3,526	3,526	2,985
Firm-level controls	No	No	No	No
CEO characteristics	No	No	No	No
Industry fixed effects	No	No	No	No
Firm fixed effects	Yes	Yes	Yes	Yes
Year fixed effects	Yes	Yes	Yes	Yes
City fixed effects	No	No	No	No
Adj. R^2	0.067	0.046	0.028	0.039

Appendix E. Investment and Operating Margin during the Financial and Sovereign Crisis

This table reports estimates for the panel of firms headquartered in the South Tyrol province with a CEO of Italian or Germanic origin during 2006–2015. Firm-level controls are FIRM_SIZE and FIRM_AGE. CEO characteristics are CEO_AGE, CEO_AGE^2, and CEO_MALE. Definitions of the variables are provided in Appendix B. Standard errors are clustered at the firm level. ***, **, and * indicate statistical significance at the 1%, 5%, and 10% levels, respectively.

Independent Variables	INVESTMENTS	OP_MARGIN
Panel A: Estimations with industry fixed effects		
CEO_IT_ORIGIN	-0.009**	0.017
	(0.004)	(0.011)
CEO_IT_ORIGIN * CRISIS	0.007*	-0.002
	(0.004)	(0.010)
CEO_IT_ORIGIN * POST_CRISIS	0.007	-0.017
	(0.005)	(0.015)
No. of obs.	22,091	22,091
Firm-level controls	Yes	Yes
CEO characteristics	Yes	Yes
Industry fixed effects	Yes	Yes
Firm fixed effects	No	No
Year fixed effects	Yes	Yes
City fixed effects	Yes	Yes
Adj. R^2	0.039	0.046
Panel B: Estimations with firm fixed effects		
CEO_IT_ORIGIN * CRISIS	0.004	-0.007
	(0.004)	(0.009)
CEO_IT_ORIGIN * POST_CRISIS	0.005	-0.018
	(0.005)	(0.014)
No. of obs.	22,091	22,091
No. of firms	3,526	3,526
Firm-level controls	Yes	Yes
CEO characteristics	No	No
Industry fixed effects	No	No
Firm fixed effects	Yes	Yes
Year fixed effects	Yes	Yes
City fixed effects	No	No
Adj. R^2	0.064	0.003

Appendix F. Matching by Size, Industry, and City

This table reports estimates for the cross section of sample firms headquartered in the South Tyrol province with a CEO of Italian or Germanic origin as of the latest available year prior to 2016. Each firms led by a CEO_IT_ORIGIN is matched with a firm led by a CEO_GER_ORIGIN of the same size, industry, and city. Firm size—micro, small, medium, or large—follows the European Commission definitions. All regressions include control variables FIRM_SIZE, ASSET_TANG, SALES_GROWTH, INVESTMENTS, OP_MARGIN, FIRM_AGE, CEO_AGE, CEO_AGE^2, and CEO_MALE and fiscal year fixed effects. Definitions of the variables are provided in Appendix B. Standard errors are robust to heteroscedasticity. ***, **, and * indicate statistical significance at the 1%, 5%, and 10% levels, respectively.

Independent Variables	EXT_D_USER	EXT_DFIN_TA	BANK_USER	TD_TA	TC_USER	AP_TA	AR_TA
CEO_IT_ORIGIN	0.060***	0.040***	0.123***	0.023**	0.059***	0.017*	0.018
	(0.019)	(0.014)	(0.021)	(0.009)	(0.019)	(0.009)	(0.011)
No. of obs.	2,375	2,375	2,375	2,375	2,375	2,375	2,375
Industry fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes
City fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Fiscal year fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Adj. R^2	0.036	0.061	0.104	0.117	0.035	0.081	0.117