Trusting Talent: Cross-Country Differences in Hiring

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Abstract

This article argues that a society's social trust influences employers' hiring strategies. In selecting workers, employers could either focus on applicants' potential and select on foundational skills (e.g., social skills, math skills) or focus on their readiness and select on their more advanced skills (e.g., pricing a derivative). The higher (lower) the social trust, the more (less) employers are willing to invest in workers and grant them role flexibility. Employers in higher trust societies are therefore more attentive to applicants' potential, focusing more on their foundational skills than advanced skills. We empirically test this theory using a novel dataset of more than 60 million job postings from 28 European Union countries. We find that the higher a country's social trust, the more its employers would require foundational skills instead of advanced skills. Our identification strategy takes advantage of multi-national firms in our sample and uses bilateral trust measures to predict job requirements, while including an instrumental variable and fixed effects on country, year, employer, and occupation. These findings suggest a novel pathway by which social trust shapes employment practices and organizational strategies. [1]

Keywords: Trust, Hiring, Employment Practice, Organizations, Cross-country, Skill, MNC

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[1]All Online Appendix Sections are available at https://drive.google.com/file/d/1F-wvAA13brlX7-tjRsApl1J9Pgnrtu.

1. INTRODUCTION

Swedish firm Spotify values foundational skills. As their human resource team highlights, the ideal candidate should be strong in transversal skills such as adaptability, problem solving, creativity, and communication, all of which serve as the foundation upon which other skills can be developed (Berg 2020; Tingvall 2021). This emphasis on foundational skills appears to be widespread in the Swedish labor market, even for highly technical positions. For instance, the most mentioned skills for entry-level software engineering positions and statistician positions are general mathematics, adapt to change, and teamwork. But not all labor markets share such preferences. For example, many hiring employers in France and Italy place a stronger emphasis on candidates' advanced instead of foundational skills. Unlike the Swedish market, the most mentioned skills for entry-level software engineering and statistician positions in France and Italy include names of specific software and programming languages, such as the ability to use SAS software.[2]

These differences are perhaps not surprising to those who have worked in multiple countries. Indeed, organizations in different countries often exhibit different preferences for hiring. In-depth qualitative studies have often found different labor market practices across countries (Culpepper 2007; Esping-Anderson 1990; Mayer and Solga 2008; Di Stasio and van de Werfhorst 2016; Thelen 2004). More recently, the World Management Survey, a large-scale cross-country survey in 35 countries, shows significant cross-country differences in various management practices, including employers' recruiting strategies (Bloom, Sadun, and Van Reenen 2016).

In explaining these differences, scholars have largely resorted to institutional and market-based explanations. First, market characteristics, such as market competition and the availability of human capital, could determine employers' hiring processes. For instance, those in more competitive product markets focus more on meritocracy in selecting employees, whereas those ran by family-firms tend to have less meritocratic hiring strategies (Bloom and Van Reenen 2007; Van Reenen 2011). Similarly, the level of human capital in the local labor market could determine the qualifications and skills that hiring employers require (Deming 2022). Second, a country's institutions

[2]These statistics come from the job posting data used in this study.

could shape its employers' approaches to labor market hiring. According to the variety of capitalism approach, strong labor unions and active state intervention often promote a collective bargaining system that prioritizes worker protection and training opportunities (Hall and Solskice 2001; Hall and Ginderich 2009; Schneider and Paunescu 2012). Employers may therefore face more rigid hiring procedures in highly coordinated market economies such as Germany than in more liberal market economies such as the United States (DiPrete et al. 2017). Third, cross-country variation in hiring strategies is sometimes attributed to a simple lack of awareness. Employers in some countries may be unaware of the optimal hiring strategies and, even if they do, may not have the resources to adopt such strategies (Bloom, Lemos, et al. 2014).

This study complements these approaches by using a macro-level cultural concept—social trust—to explain cross-country differences in hiring. Micro scholars have long documented the organizational importance of particularized trust between employers and employees (Klotz et al. 2013; De Jong, Dirks, and Gillespie 2016; Dirks and de Jong 2022). But we focus on generalized trust, also known as social trust, defined as the trust that people have in their fellow members of society in general. It is a societal-level construct that captures people's goodwill toward strangers (Yamagishi and Yamagishi 1994; Fukuyama 1996; Kosugi and Yamagishi 1998; Inglehart 1997; Rotter 1971; Uslaner 2002; Paxton 2007; Delhey, Newton, and Welzel 2011). Since the early days of sociology, social trust has occupied a center stage and is considered the foundation of contemporary society; it is both the glue that holds together a society and a lubricant that allows it to function. However, although social trust was closely studied by early scholars including Max Weber and Emile Durkheim, recent scholarship has paid limited attention to its role in shaping cross-country differences in organizations and labor markets (see Fukuyama 1996; Bloom, Sadun, and Van Reenen 2012 for exceptions).

This may be an important oversight, as employers' trust level toward hiring candidates could result in different ways of screening and investing in them. Most hirings involve parties with little prior interaction, hence employers' strategies in selecting candidates are influenced by their trust of strangers in general. When employers have a higher level of trust in candidates, they may perceive

their relationship with prospective employees differently, such as viewing such relationships on a longer-term basis and being willing to grant employees more role flexibility. These tendencies could in turn determine the type of skills that employers expect in candidates. Therefore, social trust should be an important factor in explaining cross-country differences in hiring. After all, most hirings are about evaluating strangers for long-term, high-stake contractual relationships.

To better understand employers' skill preferences in hiring, we first introduce the concept of foundational and advanced skills. Not all labor market skills are the same: some skills are more foundational in that they need to be learned before other skills. We define the more foundational skills to be those that provide a foundation upon which individuals could develop other skills, and the more advanced skills as those that require more skills as prerequisites. For example, before developing the highly advanced skill of derivative trading, individuals must possess more foundational skills such as analytical thinking and arithmetic. Foundational and advanced skills constitute two ends of a continuum. When it comes to the most foundational skills, almost everyone possesses them to some degree, but mastery of these skills could vary significantly. For example, everyone has some social skills, but some are much more adept in social settings than others. For the more advanced skills, the speed and the extent to which one can master them depend on the person's command of the related foundational skills. For example, those with stronger backgrounds in analytical and mathematical skills can more quickly learn derivative trading and master it.

In the labor market, both advanced and foundational skills are valued, but for different reasons. New hires already possessing strong advanced skills could contribute to the firm right away. Those possessing strong foundational skills have a high potential: they are well-positioned to learn and excel in advanced skills in the future. Moreover, those with strong foundational skills could also fit better with different roles. Employers must decide whether to weigh foundational or advanced skills more heavily when selecting job candidates. For instance, employers looking for a derivative trader could choose either a candidate with stronger skills in pricing derivatives or one who knows little about derivatives but has stronger analytical and mathematical skills. The former may have higher potential but the latter is more ready to perform. Some firms, like Spotify, focus more on

workers' potential and hire them based on their more foundational skills, whereas others screen applicants on their more advanced skills. As we will show, this difference is highly salient across countries. Employers in countries like Denmark and Sweden focus much more on foundational skills than their counterparts in Poland and Italy. These different skill preferences could have implications for an organization's employee composition and directly influence individuals' career opportunities.

We suggest that some of these cross-country differences could be explained by differences in social trust. Foundational skills are more valued when employers expect the employee to stay for a long time and/or to be given flexible roles. In higher-trust societies, employers should be more trusting of candidates and have more faith in candidates' intentions (Granovetter 2017). As a result, they may be more likely to believe in candidates' long-term commitment and be more willing to grant them flexible roles, thus preferring candidates' foundational skills as they signal greater potential. In contrast, employers in lower-trust societies may be more suspicious of candidates' long-term commitment and reluctant to grant workers too much role flexibility. In these environments, employers may choose workers who could become productive quickly.

We test this theory using a unique dataset of more than 60 million job postings in the 28 European Union (EU) countries. These job postings span all major industries and occupations and cover about 60 percent of the online EU vacancy market from 2018-2021. By analyzing the detailed content of each posting, we can observe the skills required by employers for each position. The cross-country design of our dataset allows us to compare how jobs with the same title have different hiring skill requirements across countries. For our identification strategy, we take advantage of the multi-national firms in the sample. First, we compare jobs with the same job title and that are offered by the same firm but in countries with different levels of social trust. This within-firm comparison helps rule out organizational characteristics that could confound the effect of social trust. Second, we take advantage of different levels of social trust across country-to-country dyads. For instance, British firms—due to historical reasons—may perceive the French to be less trustworthy than most other Europeans, while German firms may not have such perceptions.

We thus use the trust level between a firm's headquarter country and the local country where the job is posted, while independently controlling for both countries as well as firms and job titles. This stringent test allows us to rule out both country- and firm-level confounders. In addition, we use religious distance and somatic distance between countries as instruments, as these traits should influence trust between countries but are unlikely to be directly associated with hiring requirements for these multi-national firms.

Our findings suggest that social trust significantly shapes the extent to which employers prioritize foundational versus advanced skills. First, a simple cross-country comparison shows that employers in countries with higher social trust select much more on foundational skills. For example, employers in Nordic European countries, a high-trust region, list more foundational skill requirements than employers in Southern European countries, with a difference of more than one standard deviation. To ensure that we are comparing similar jobs across countries, we next included detailed occupation-fixed effects and occupation-sector fixed effects, as well as individual job characteristics such as degree requirements. We also tried more than 30 different types of country-level variables as controls to ensure that our models remain robust. With these additions, we still document a consistent and strong association between a country's social trust and its employers' hiring preferences.

Next, we focus on multi-national firms to see how they prefer foundational versus advanced skills when hiring in different countries. Adding firm fixed effects, we compare how the same type of job offered by the same global employer has different skill requirements depending on the country in which the position is located. We find evidence that the same employer emphasizes more foundational skills when the hiring branch is in a higher-trust country.

These results, while interesting, cannot isolate the effect of social trust from that of unobserved country-level confounders. For example, high-trust countries may have certain features that encourage employers to list foundational instead of advanced skills. To account for country-level confounders, we use bilateral trust between countries to see how firms from one country set skill requirements in other countries, including fixed effects on both firms and local countries. This

strategy helps account for unobserved country characteristics. In these models, we also include between-country controls, such as physical distance between the two countries, differences in log GDP per capita, and whether they have similar legal systems. We also conduct an instrumental analysis using the religious and somatic distances between two countries as instruments for bilateral trust. Results from these analyses support our theory: the more people in country X trust those in country Y, the more firms from country X emphasize foundational over advanced skills when hiring in country Y.

The paper is structured as follows: we theorize the relationship between social trust and employers' hiring preferences in Section 2. We then introduce our dataset and discuss our methodology in Section 3 and present results in Section 4. To save space, we include only the most essential information and results in the main manuscript and leave many less-essential details in online appendices. We conclude the paper in Section 5.

2. SOCIAL TRUST ON HIRING

Social trust has long been at the heart of the sociological inquiry (Blau 1964; Durkheim 1893; Parsons 1937; Weber 1951; Simmel 1950). Since the field's inception, sociologists have recognized that trust plays a key role in the effective functioning of a society (Coleman 1994; Fukuyama 1996; Putnam, Leonardi, and Nanetti 1994). There are two types of trust: *particularized trust* involves a narrow circle of familiar others and *generalized trust* (also known as *social trust*) concerns a wider circle of unfamiliar others. The former assumes that the locus of trust is a specific situation or a specific relationship rather than an actor's disposition, while the latter describes actors placing a certain level of trust independent of the trustee's identity and the nature of the situation (Leana and Buren 1999; Schilke, Reimann, and Cook 2021). In modern society, which involves daily interaction with strangers, generalized trust becomes increasingly important (Yamagishi, Cook, and Watabe 1998; Delhey, Newton, and Welzel 2011)

Social trust—referring to generalized trust throughout the rest of this article—is often seen as a core component of social capital and civil society (Putnam, Leonardi, and Nanetti 1994; Delhey,

Newton, and Welzel 2011; Inglehart 1997; Paxton 2007). It is related to dispositional tendencies to trust others (Rotter 1971), confidence in people's goodwill (Kosugi and Yamagishi 1998), a default belief in the benign nature of mankind (Yamagishi and Yamagishi 1994), and a moral obligation to assume that others are trustworthy (Uslaner 2002). Although some scholars have treated generalized trust as a kind of personality trait, many others have regarded it as a community- or societal-level construct. Indeed, the tendency to trust others varies strikingly across countries: in some countries (e.g., Nordic countries), the vast majority of the population believes that most people are trustworthy, whereas in others, fewer than 10 percent of the population believes so. These differences in social trust are often attributed to macro factors, including the prevalence of community organizations, ethnic homogeneity, past conflict, general education level, family structure, and economic development (Coleman, 1988; Bjørnskov 2008; Delhey and Newton 2003).

Social trust has important consequences for the collaboration (Inglehart 1997; Putnam 2000; Uslaner 2002). It encourages people to work and transact with strangers; hence it is often described as a foundation for collective action (Blau 1964) and the basis for stability in social institutions and markets (Arrow 1974; Williamson 1973; Adler 2021). In most premodern societies, social trust was perhaps the single most important glue that allowed large communities to engage in long-term collaboration. From European guilds to Chinese lineage groups, cooperation among strangers was enforced via neither formal authority nor market mechanisms but was based on social trust: one invests in others in the community trusting that others would do the same during their own time of need (Macy and Skvoretz 1998). Today, in a wide range of working relationships, social trust rather than formal institutions still constitutes the basis for cooperation among strangers. For example, the widely used concept of agile teams features few formalized procedures, and team members are frequently replaced and may not maintain close personal ties. These teams work effectively only when team members are willing to trust each other.

2.1. Social Trust in Organizational Contexts

One of the most important relationships in modern society is between employers and employees. In the early days of corporations, employers hired employees through their personal networks.

For example, surveys of US factories in the 19th century show that most workers hired by foremen were extended family members or others whom foremen knew on an individual basis (Jacoby 2004). As factories grew and demand for labor rose, however, this hiring strategy became increasingly infeasible. By the early 20th century, many employers had established formalized hiring procedures and professional human resource management to guide the hiring (Dobbin and Sutton 1998). Today, hiring is often seen as impersonal and formalized. Most countries have specific hiring guidelines that prevent hiring managers from exercising certain discretions, such as giving preference to some demographic groups. Therefore, hiring is often an interaction between strangers: most hiring managers have little prior personalized connection with candidates.

Like most collaborations, the employer-employee relationship requires trust (Leana and Buren 1999; Xiao and Tsui 2007; Granovetter 2017). Many employment practices, including the amount of managerial supervision, the discretion given to workers, and the criteria for hiring, are dependent on employers' assumptions of candidates' trustworthiness. The more employers believe that most people in the society can be trusted, the more they may be willing to give autonomy to workers and invest in their training and growth (Mizrachi, Drori, and Anspach 2007). Below, we focus on a specific employment practice—the skills criteria used in hiring—to demonstrate the labor market consequences of social trust.

2.2. Foundational and Advanced Skills

Hiring employers generally evaluate candidates on their existing skillsets. This may be carried out via interviews, online assessments, or simply an evaluation of resumes. The type of skills hiring employers use to make hiring decisions has long interested scholars studying labor markets. Studies of labor markets generally bucket skills into different categories based on their area of use, such as social skills (Deming 2017), technical skills (Hershbein and Kahn 2018), and professional skills (Iyigun and Owen 1998). This categorization, however, may obscure the order of these skills: some skills are prerequisites to others. For example, both mathematical thinking and pricing a stock option are analytical skills, but the former is the foundation on which the latter can be learned. We introduce the concept of foundational versus advanced skills to indicate how foundational

each skill is. As we discussed in the introduction, foundational skills need to be learned before more advanced skills, and the mastery of advanced skills depends on one's mastery of related foundational skills. Figure 1 provides some skill examples and their position on the foundational-advanced continuum.

[Insert Figure 1 about here]

A well-established concept is general versus firm-specific skills, where the former refers to skills that are widely used across fields and the latter are skills applicable only to a particular firm or occupation (Becker 1964; Lazear 2007). In the external labor market, however, employers rarely expect candidates to possess firm-specific skills, as these skills are learned only after an employee has joined the firm. Since this study focuses on external hiring, our discussion does not apply to firm-specific skills: whether we are discussing the more foundational skills or the more advanced skills, we are referring to skills that are portable across firms.

However, it is still important to highlight the difference between the two concepts. Foundational/advanced skills are about the order in which skills need to be learned, whereas general/specific skills refer to how widely used a particular skill is. We would like to think of the latter concept as measuring a skill's breadth and the former as its depth. Although many advanced skills are highly specific to a particular firm or occupation, some are also quite general. For example, many advanced statistics require many requiresite skills but are widely used across occupations and industries.

A seemingly obvious question is why employers do not simply select candidates possessing both foundational and advanced skills. Skill acquisition is not a binary outcome: employers' concern is not whether a candidate possesses a particular skill, but rather the extent to which the candidate masters it. For instance, almost everyone possesses some analytical skills, but their mastery of analytical skills could vary significantly. A financial trading firm could select candidates who already know derivative trading and have some analytical skills, but these candidates' analytical skills may be far weaker than some of the other candidates. When conceptualizing skill acquisition as a scale instead of a binary outcome, it becomes clear that employers have to first decide which

skills to prioritize and then assess candidates' level in those skills.

Prioritizing foundational over advanced skills has advantages. Such a hiring strategy could generate a pool of high-potential employees. Foundational skills are important for developing and mastering more advanced skills. By selecting those with strong foundational skills, employers could expect those new hires to be highly productive in the future. For example, some financial trading firms select those with excellent intuition for numbers and then train them on advanced financial markets and derivatives. Given the importance of numbers in trading, these individuals have the potential to become top-notch traders. Similarly, a retail store may pick someone without retail experience but have excellent communication skills, such that they have a high ceiling and could be a great long-term fit with the organization. By not expecting job candidates to already possess more advanced skills, employers could identify high-potential candidates who would be a better fit in the long run.

Relatedly, selecting candidates with stronger foundational skills could offer employers greater role flexibility. Given the frequent changes in industry environments, employers often have to redefine employees' roles over time. Employees with stronger foundational skills should be more adaptive to take on a variety of roles, as their strong foundations could help facilitate the learning of different advanced skills. For instance, a financial trader with stronger analytical skills could more quickly learn different types of trades, hence having an easier time rotating to new desks depending on market conditions. Employers striving to maintain greater role flexibility may prefer to select candidates on their foundational instead of advanced skills.

However, despite these advantages, selecting on foundational skills involves more uncertainty. New hires possessing more advanced skills could start contributing very quickly, whereas those who possess only strong foundational skills need time to develop requisite advanced skills. Employee training is therefore important for those not possessing advanced skills. Hiring this type of worker involves two types of risk. First, training employees on advanced skills takes time and employees may leave at any point. Even worse, they may join competitors. Second, those possessing only foundational skills may not be able to master the advanced skills. Those good with numbers

may be more likely to become excellent derivative traders, but some of them may never pan out.

Employers' selection of foundational versus advanced skills essentially reflects their preference for candidates' potential versus readiness. This preference should be contingent on two factors: (1) employers' perception of employees' long-term commitment; and (2) employers' preference for role flexibility. When employers perceive their relationship with employees as a long-term collaboration instead of a short-term transaction, they should be more likely to select candidates based on their foundational skills. Similarly, employers should prefer candidates' foundational skills when they want to give employees high flexibility in their roles. Below, we discuss how employers' social trust could shape both their perception of employees' long-term commitment and their preference for role flexibility.

2.3. Social Trust and Skill Requirements

Labor market hiring is often theorized as a matching process for skills, whereby employers search for candidates whose skillsets best fit the organization's needs. In practice, however, many employers select candidates not only on their currently possessed skills, but also on their long-term commitment to this job and potential to learn skills in the future. For instance, most employers would select a candidate who has shown a long-term commitment to the profession than one who has not, believing that the former is more likely to excel in the long run. However, whereas most skills can be immediately assessed, long-term commitment and career goals are much more difficult to evaluate, and assessing them involves a higher level of subjectivity.

Social trust could play an important role in this process. To demonstrate their interest and commitment, candidates often have to frame their stories and values that are consistent with employers' expectations, including signaling long-term commitments to a position and a profession (Rivera and Tilcsik 2016). For example, questions such as "Why do you want this job" are ubiquitous in job interviews across industries and occupations. Candidates are expected to frame their answers to demonstrate some level of interest and long-term commitment. When employers trust their candidates, they are more likely to buy into candidates' stories and intentions and believe in their commitment. By making candidates' stories and statements more believable, social trust

helps create a deeper bond between employers and candidates.

But when trust is absent, employers may find it much more difficult to believe in the candidates' stories and intentions (Yamagishi and Sato 1986; Xiao and Tsui 2007; Granovetter 2017). They may more easily suspect that a candidate is not genuinely interested in staying long on the job and/or occupation. For example, studies of low-skilled labor markets in developing countries often find that employers and workers share little faith in each other (Chang 2008). Employers perceive workers as opportunistic, ready to lie to get a job and move to the next job when a better opportunity arises. Consequently, they tend to treat hiring as a short-term transaction. Not only do they invest little in employee training and mentoring, they also fire workers without hesitation. In these markets characterized by high distrust, employers could find workers deceptive and unpredictable. The absence of social trust could create a toxic environment where employers are not willing to commit to a longer-term relationship.

Besides its influence on long-term commitment, social trust could also dictate how much role flexibility employers are willing to give employees. Role flexibility refers to how much control and autonomy workers have over their responsibilities and work processes. In more flexible role arrangements, workers are given the freedom to take on diverse tasks based on their skills, interests, and organization needs. For instance, many cross-functional teams rely on ad hoc collaborations and each person's roles and responsibilities are loosely defined. Although high role flexibility could make organizations more adaptable and innovative, it could also reduce productivity if workers abuse the flexible arrangements. Workers have the autonomy to prioritize tasks and choose routines, which increases the difficulty of monitoring their performance. Employers therefore need to trust that workers will not engage in freeriding and other counter-productive behaviors. Moreover, setting flexible roles means weaker role boundaries among workers. Without strong trust, this lack of role differentiation could lead to role conflict and coordination problems. For these reasons, employers may force employees to follow more standardized processes and impose stricter role boundaries in contexts of weaker trust. In fact, formal bureaucracy, which limits role flexibility, is often seen as a replacement for social trust (Zucker 1987; Uslaner 2018).

Many examples show that social trust is a prerequisite for role flexibility. For instance, NASA's open-innovation model prioritizes openness and transparency across the entire RD process. Such model is predicated on trust among employees, as they need to actively work with colleagues outside of their traditional boundaries and assume new roles as knowledge flows freely (Lifshitz-Assaf 2018). This importance of trust for flexible roles extends to blue-collar jobs as well. Japan's Total Quality Control System relies on workers playing interdependent roles (Fukuyama 1996). A worker may substitute for another worker's job whenever such a need arises. Many observers have attributed the success of this manufacturing system to Japanese society's high level of social trust. Indeed, this system often fails when replicating in other parts of the world (Fukuyama 1996).

To summarize, social trust in a society could shape employers' hiring strategies via two processes. First, it could influence employers' perception of candidates' long-term commitment. Absent of trust, employers tend to view their relationship with employees as short-term transactions. Consequently, they may be less willing to invest in employees and prefer candidates who already possess the advanced skills required to perform the job. Second, higher social trust could encourage employers to grant more role flexibility to employees. The more flexible the roles, the more employers may prefer to hire candidates with strong foundational skills. Thus, both processes suggest that greater social trust should result in a greater preference for foundational instead of advanced skills. We make the following hypothesis:

Hypothesis 1 *The higher the social trust, the more employers value candidates' foundational skills over advanced skills.*

2.4. Boundary Conditions

We expect social trust to matter more in some types of jobs than others. Here we hypothesize two boundary conditions: credentials and referrals. Many jobs require credentials, including education degrees, work experience, and occupational certifications. These jobs are quite common: over 30 percent of jobs in the EU in 2020 require a college degree or above (Statista 2022), and about 22 percent of jobs require occupational certifications or licenses (Koumenta and Pagliero 2019). Similarly, employers could also encourage current employees to refer qualified candidates

to apply for openings. Estimates suggest that 25-40 percent of jobs in the EU are filled through employee referrals (Topa 2011).

Credentials and referrals could serve as substitutes for social trust. Social trust matters because hiring employers have limited information on candidates. But jobs that require more credentials provide key candidate information to employers. This added information could help reduce employers' uncertainty: they can better evaluate candidates' career objectives and reduce their uncertainty on candidates' intentions. For instance, employers could use candidates' subjects of study and their years of work experience to interpret their long-term orientation and assess their fit with the job. Similarly, they could also obtain additional information about referred candidates from their referees. By providing new information about candidates, credentials, and referrals could reduce employers' reliance on social trust.

Moreover, credentials and referrals could also serve as a vouching mechanism for candidates' trustworthiness. Formal institutions and reputations are often seen as replacements for social trust (Zucker 1987, 19; Misztal 2013). Candidates' affiliated institutions in their credentials, whether it is their universities, former employers, or certifying institutions, could serve as insurance for candidates' credibility. Hiring employers may evaluate candidates' trustworthiness based on their affiliated institutions and their referrees. When credentials or referrals are available, social trust may therefore play a less crucial role in shaping employers' hiring preferences.

3. DATA AND METHOD

Our main analysis uses job postings from the 28 EU countries. To empirically examine the effect of social trust on hiring, we need a sample with variation in social trust and ways to quantitatively measure employers' hiring requirements. Social trust is about the overall level of trust in a society and hence is usually measured at the country level. Employers' hiring strategies could be reflected in their job postings, most of which list detailed skill requirements. To hire the right type of workers, organizations should write job requirements that are consistent with their expectations. Indeed, scholars in recent years have widely used job postings to measure skill requirements

(Deming 2017). Therefore, a cross-country analysis of job postings could help us understand the effect of social trust on hiring strategies.

3.1. Cross-Country Job Posting Data

Our main data source is about 60 million job postings from the 28 EU countries from 2018 to 2021. The dataset is provided by Lightcast, formerly known as Burning Glass Technologies, an employment analytics and labor market information company. Lightcast collaborated with the European Centre for the Development of Vocational Training (Cedefop) and systematically scraped and parsed around 300 selected job portals daily, covering more than 60,000 websites across 28 EU countries. These job portals include private job sites, public employment services, recruitment agencies, online newspapers, and corporate job boards. Lightcast targeted the major job portals in our sampled countries and each job portal could contain links to several thousand websites. Appendix Table B.2 shows some examples of job portals that Lightcast targeted in each country. The larger labor markets, such as Germany, contain over one hundred such portals. Even the smallest labor market in our sample, Malta, has two major job portals. This large coverage ensures that our sample contains a substantial portion of job openings in the labor markets.

The 28 sampled countries include all member states of the European Union. These countries are distributed quite evenly across regions of Europe, including eight in the western area (Austria, Belgium, France, Germany, Ireland, Luxembourg, Netherlands, United Kingdom), eleven in the east (Bulgaria, Croatia, Czech Republic, Estonia, Hungary, Latvia, Lithuania, Poland, Romania, Slovenia, Slovakia), six in the south (Cyprus, Greece, Italy, Malta, Portugal, Spain), and three in the north (Denmark, Finland, Sweden). Germany, France, and the United Kingdom have the largest number of job postings in our sample, with each well over ten million. Austria, Belgium, Spain, Ireland, Italy, Netherlands, Poland, and Sweden have between one and ten million postings. Most eastern European countries, such as Bulgaria, Estonia, Croatia, Hungary, and Slovenia have fewer than one million postings. Figure 2 and Appendix Table B.1 shows our data coverage.

To understand the representativeness of our sample, we compare our job posting data with official job vacancy statistics from EU countries in Figure 3, Figure 4, and Appendix Section B.

Overall, our job postings cover about 60 percent of the job vacancies in the 28 EU countries and has better representations in more developed economies and in more recent periods. In occupational composition, the job posting sample is over-represented in Professional and Managerial occupations and under-represented in Service, Sales, and Agricultural occupations. It is also over-represented in certain industries such as Adminstrative and Support, Information and Communication, and Professional, Scientific and Technical Services, while under-represented in industries such as Construction, Education, and Wholesale and Retail Trade.

[Insert Figure 2 about here]

[Insert Figure 3 about here]

[Insert Figure 4 about here]

3.2. Matched Lightcast-Orbis Sample

Our main identification strategy relies on multi-national corporations, so we need to identify each employer's headquarter country. To do so, we merged the Lightcast sample with the Orbis global database from Bureau Van Dijk (BvD), a Moody's Analytics company, which is the largest cross-country firm-level database that includes ownership information. Our matching is based on employer name, industry, and location. We used a combination of machine-based and manual methods to make the correct matches. Online Appendix Section A describes our matching process in detail. Throughout this process, our priority is to avoid false positives: we determine a pair to be matched only if we have a high level of certainty.

The matching process gives us a sample of more than 16 million job postings. Out of these, 5.4 million are posted by multi-national firms and about two million are posted by a firm's foreign subsidiaries. Together, the 16 million matched Lightcast-Orbis jobs posted in the 28 EU countries come from 359,063 firms headquartered in 144 countries (see Figure 2). As Figure 3 and Figure 4 show, the matched Lightcast-Orbis sample and the complete Lightcast sample have similar distributions in country, industry, and occupation.

3.3. Parsing Skill Requirements

Job postings could reveal what type of skills employers focus on. Skill requirements may be found throughout each job posting, especially in sections describing job duties and required qualifications (see Online Appendix Figure B.1 for examples). The Lightcast dataset uses the standardized ESCO skills in level 3. ESCO is a multilingual classification that identifies and categorizes skills and occupations relevant to the EU labor market (ESCO, 2021). It defines a set of 13,890 skills, ranging from more general ones such as *work in teams* to more specific ones such as *ICT system programming* and *JavaScript*. The Lightcast team uses these skills as the possible universe of skills. Online Appendix Section B describes the details of Lightcast's coding of skill requirements and our validation process.

Lightcast team identifies all the ESCO skills required in each job posting. The median job posting lists seven required skills; 17 percent list zero skills and 47 percent require more than 10 skills.[3] To validate Lightcast skill coding, we aggregate the skill requirements coded by Lightcast to the occupation level and compare them to the ratings provided by the US Bureau of Labor Statistics's Occupational Information Network (O*NET). Across skill categories, we observe a relatively strong association between Lightcast's coding and O*NET's rating, with correlations ranging between 0.3 and 0.5. Online Appendix Figure B.2 provides more details on this analysis.

Besides detailed skill requirements, the Lightcast team also parses information on each job posting's education and work experience requirements, standardized EU industry codes (NACE level 2), occupation codes (ESCO level 4), and geographical locations (Nut Liv3). We include these as control variables in our model to ensure that we compare similar jobs across countries.

3.4. Dependent Variable: Foundational-Advanced Skills

Using the skills parsed by Lightcast, we next examine each job posting's skill requirements and measure the foundational versus advanced skills included. Our strategy is to first create a foundational score—measuring where a skill sits on the foundational-advanced scale—for each

[3]Those jobs listing zero skills are mostly very short posts. Here is an example of one such post: *Chef Manager -BI Contract Catering - Surrey - £32,000 - Monday to Friday. We are looking for a foodie Chef Manager.* Since these posts do not reveal skill requirement, we simply drop them in the analyses.

ESCO skill, and then simply take the average foundational score for all skills listed in a job posting.

To measure the foundational score for each ESCO skill, we administered a survey of 1,120 individuals to rate where each skill sits on the foundational versus advanced scale. We conducted the survey online via Prolific and restricted our sample to those with previous hiring experience. After defining foundational and advanced skills, we asked each respondent to rate 50 (or 51) randomly chosen ESCO skills on a 5-point scale, where 5 indicates a highly foundational skill and 1 indicates a highly advanced skill. Each ESCO skill was rated by 20 respondents, and we took the average score given by the 20 respondents as the foundational score for each skill.

Table 1 provides examples of commonly mentioned ESCO skills and their foundational scores. Skills such as *communication* and *work in teams* have high foundational scores, whereas skills such as *JavaScript* and *technical drawings* are seen as more advanced and thus have low foundational scores. Consistent with our intuition, this foundational score is negatively associated with years of work experience and job preparation level (see Appendix Section C).

[Insert Figure 1 about here]

To finalize our dependent variable at the job level, we averaged the foundational scores for all skills listed in each job posting. The resulting variable has a mean value of 3.44 and standard deviaiton of 0.57.

3.5. Independent Variables: Social Trust

We use nationally representative surveys to measure each country's level of social trust. Past research has captured social trust using variations of the following question: "Do you think that most people can be trusted?" Both the European Values Study (EVS) and the World Values Survey (WVS)—the two largest cross-country surveys in Europe—include this question and past work has generally used one of these two surveys to measure social trust. We use EVS to construct our trust measure because it covers all 28 countries in our job posting sample. Nevertheless, social trust measures are highly consistent across these two surveys—with a correlation above 0.9—and using trust measures from either survey produces the same set of findings (see Appendix Figure D.1).

The EVS is a nationally representive survey administered every nine years that covers an in-

creasing number of European countries. We use all five waves of the currently available EVS surveys: 1981, 1990, 1999, 2008, and 2017. The combined EVS surveys cover more than 223,000 respondents from 48 countries/regions, including all 28 EU countries in our Lightcast sample. The exact question we use is "Generally speaking, would you say that most people can be trusted, or that you can't be too careful in dealing with people?" and respondents can select one of the two options: "Most people can be trusted" or "Can't be too careful." For each country, we measure social trust as the number of people in that country choosing the option "Most people can be trusted" over the total number of people who answered the question.

In calculating social trust, we could combine different waves of EVS—since the social trust question is asked in all waves—or use the most recent waves only. Combining all waves could provide a bigger sample size per country, but the older waves could misrepresent a country's level of social trust if that level has changed significantly over time. As Appendix Figure D.2 shows, a country's social trust in the 1980s is highly correlated with its social trust the 2010s, with a correlation of over 0.9. This suggests that a society's level of social trust is generally quite stable over time, a claim well supported by previous studies (Gauchat 2012; Kwon, Heflin, and Ruef 2013). Given this high temporal stability, we calculate each country's level of social trust by combining all waves of EVS from 1981 to 2017. This gives us a total of 151,449 respondents in 28 countries. The median country has 5,036 respondents, with Cyprus having the fewest at 1,459 and Germany having the most at 9,921.

Figure 5 shows our calculated social trust for each country in our sample. The three Nordic countries in our sample (Denmark, Finland, Sweden) have the highest level of social trust, with a mean value of 0.67, more than two standard deviations above the mean value of 0.31 for the entire sample. These countries are known for their economic and social development, education level, and ethnic homogeneity, factors possibly influencing social trust (Akchurin and Lee 2013). Formerly communist countries have a relatively low level of social trust, with a mean value of 0.23. A centrally planned economy, where much of the social coordination is formalized and managed, could have crowded out the role of social trust such that a low trust persists today (Aghion et al.

2010; Choi and David 2012). These patterns suggest that social trust may be highly associated with a country's history, economic and social development, and ethnic composition.

[Insert Figure 5 about here]

Although survey-based trust measures are widely used, there has been some concern recently about their validity, due to both the lack of monetary stake in survey questions and differences in interpreting these questions (Nannestad 2008; Delhey, Newton, and Welzel 2011; Robbins 2021; 2022). As a robustness check, we constructed an additional trust measure at the country level using trust games that we conducted online. Results using this alternative trust measure produce consistent findings. We discuss this alternative measure of social trust, as well as detailed steps in constructing social trust from surveys, in Appendix Section D.

3.6. Independent Variable: Bilateral Trust

An important part of our analytical strategy, which we discuss below, uses bilateral trust between countries. Bilateral trust refers to the amount of generalized trust that people from one country have regarding people from another country. For example, Germans' bilateral trust of the French could be conceptualized as the proportion of Germans who believe that most French people can be trusted.

We calculate bilateral trust between European countries using Eurobarometer surveys, nationally represenative surveys covering about 1,000 individuals per country since the 1970s. From 1970 to 1997, the survey asks the following question: "I would like to ask you (a question) about how much trust you have in people from various countries." Respondents were asked, regarding list of countries, their trust level on a four-point scale: "lots of trust," "some trust," "not very much trust," and "no trust at all." Respondents are asked about their trust toward people in 29 countries, including 21 EU countries in our sample. This bilateral trust question is asked in 16 European countries, and we have employers headquartered in all 16 of these countries in our job posting sample. We therefore have 336 bilateral dyads (16 x 21=336) and bilateral trust measures. Following Guiso, Sapienza, and Zingales (2009), we aggregate the survey waves and calculate bilateral trust between country X and Y as: the average trust rating of individuals in country X toward

people from country Y. The bilateral trust measure ranges from 1 to 4, 4 being the highest level of trust.

Out of these bilateral dyads, the median number of respondents from the Eurobarometer is 3,576; the dyad with the least number of respondents is Luxembourgers' trust of Bulgarians, with 211 respondents. The dyad with the most is Germans' trust of French, with 15,178 respondents. Figure 6 shows the distribution of received trust in 21 European countries from people in 16 European countries. Consistent with EVS's average trust in a society, people from Nordic countries such as Sweden, Finland, and Denmark are perceived by others as highly trustworthy, whereas those from formerly communist countries are seen as the least trustworthy.

[Insert Figure 6 about here]

However, Figure 6 shows considerable heterogeneity in how various people perceive those from a country, with an average value of trust at 3.04, and a standard deviation at 0.38. The average level of trust ranges from a minimum of 1.79 (trust of Portuguese toward Slovaks) to a maximum of 3.69 (trust of Finns toward Finns). In general, it appears that people in countries that share similar ethnic backgrounds and speak similar languages have higher trust in each other.

3.7. Analytical Strategy

To understand the effect of social trust on employers' skill preferences, we use two types of strategies. The first relies on cross-country variation in social trust. In these models, we examine the association between a country's social trust and its employers' skill requirements, while controlling for many covariates. In particular, we use employer fixed effects, observing how the same employer uses different hiring strategies across countries with different levels of social trust. The model is as follows:

$$Foundational_{jfcy} = \beta_1 \cdot Trust_c + \beta_2 \cdot X_{jfcy} + \beta_3 \cdot CX_{cy} + TimeFE_y + FirmFE_f + u_{jfcy}, \tag{1}$$

where $Foundational_{jfcy}$ is the foundational-advanced score for job posting j, posted by firm f in country c at time y. $Trust_c$ is the level of social trust in a country. $FirmFE_j$ are occupation-

employer fixed effects. Occupation is at the ESCO level 4, including detailed occupation titles such as human resource managers. X_{jfcy} are job-level controls, including degree requirement, work experience requirement, and the total number of skills listed. These controls, along with occupation-fixed effects, ensure that we are comparing highly similar jobs across countries.

Variable CX_{cy} includes a set of country-level control variables widely used in cross-country studies, including logged GDP per capita and the rule of law. These variables help capture socio-economic development and institutional quality, both of which could influence employers' hiring strategies. In our context, the supply of labor is particularly relevant. We use the human capital index to account for the quality of labor in a country, the unemployment rate to reflect the quantity of labor supply, and the percentage of graduates from vocational programs to measure the type of skills that typical candidates possess. We expect employers to focus more on foundational skills in countries that have a lower unemployment rate and fewer graduates from vocational programs.

Finally, we add collective bargaining coverage as a covariate because countries with strong labor protection tend to have lower turnover rates and longer job tenures, factors that could lead to more preference for foundational skills. Besides these, we also tried many additional country-level factors as control variables. Since many of these variables are highly correlated with the control variables mentioned here, we do not include them in the main models and only mention them in Online Appendix Section C, where we describe these control variables and discuss their sources in greater detail.

The cross-country model above cannot account for unobserved regional factors that drive both social trust and employers' hiring strategies. Our second type of analytical strategy uses variations in bilateral trust across countries. For example, British firms may be more trusting of German people than French people, whereas Belgian firms may be vice versa. These variations in bilateral trust enable us to explore cross-country differences in multi-national employers' hiring strategies

while including fixed effects on both countries and employers. The model is specified as follows:

$$Foundational_{jfcdy} = \beta_1 \cdot BTrust_{cd} + \beta_2 \cdot X_{jfcdy} + \beta_3 \cdot BCX_{cdy} + CountryFE_c + TimeFE_y + FirmFE_f + u_{jfcdy}, \tag{2}$$

where $BTrust_{cd}$ is bilateral trust between country c and d.

In these bilateral models, the only source of the confounder is unobserved bilateral factors that are associated with both bilateral trust and employers' hiring strategies. We therefore included BCX_{cdy}, which are bilateral controls between two countries, including differences in logged GDP per capita, logged physical distance, and whether they have a common legal origin. These bilateral controls help account for physical distances and economic differences between two countries that could simultaneously influence between-country trust and employers' hiring.

An important assumption of our bilateral models is that a multi-national firm's headquarters has strong influence on their foreign subsidiaries' hiring process. To validate this, we surveyed 200 human resource managers who have worked in foreign subsidiaries of a multi-national firm. Our survey suggests that most headquarters help set requirements and standards in its subsidiaries' hiring. In many cases, they also review job postings and are involved in hiring decisions. We then conducted an empirical test to see how much of the skill requirements in foreign subsidiaries can be attributed to the headquarters. Comparing highly comparable jobs in the same region but headquartered in different places, we find that the headquarters's hiring preferences strongly influence its foreign subsidiaries' hiring. These results, discussed in greater detail in Appendix Section A, suggest that a multi-national firm's headquarter plays an important role in its foreign subsidiaries' hiring.

We also conduct an instrumental variable (IV) analysis on the bilateral model. The extent to which people from one country trust those from another is often driven by ethnic similarity. We therefore use somatic distance between a given two countries as an instrument for trust. Our assumption is that somatic distance was developed long ago and would not affect hiring strategies in any way other than through social trust. A similar strategy has previously been employed by

economists studying the impact of social trust on economic exchange (Guiso, Sapienza, and Zingales 2009) and firm decentralization (Bloom, Sadun, and Van Reenen 2012). Somatic distance data between countries are obtained from Guiso et al. (2009).

All models are conducted using ordinary linear square (OLS). Local models are clustered by country, and bilateral models are clustered by country-dyad.

4. MAIN RESULTS

Results suggest that higher social trust leads employers to emphasize more on foundational skills. First, a cross-country comparison shows employers seek more foundational skills in higher-trust countries. This association is robust across model specifications, even after including occupation and employer fixed effects. Next, models using bilateral trust provide additional support. Controlling for country, employer, and occupation, employers require more foundational skills when recruiting in countries whose people they trust more. This result holds when we use somatic distances between countries to instrument bilateral trust.

4.1. Cross-Country Findings

Figure 7 descriptively shows each country's level of social trust and its employers' preferences for foundational skills. The size of each country's circle indicates the number of job postings from that country in our sample. The figure shows a positive linear association, with a correlation of 0.37, between a country's social trust and the average level of foundational skill emphasis. Out of the four countries with the highest level of social trust—Denmark, Sweden, Finland, and Netherlands—three have high average scores among their employers on the foundational-advanced scale, with more than one standard deviation above the mean (Mean = 3.45; Standard Deviation=0.13). The exception is Finland, which has a high level of social trust, yet its employers show a stronger preference for advanced skills. On the other end, in countries with low levels of social trust, such as Romania, Slovakia, Portugal, and Hungary, employers prefer more advanced skills. Two outliers are Cyprus and Malta, both of which have low levels of social trust but their employers show extremely high preference for the foundational skills. However, these two countries are

two of the smallest labor markets in Europe and have the smallest samples in both the EVS and our sample of job postings.

[Insert Figure 7 about here]

Table 2 examines this association using OLS models. From left to right, we increasingly add stricter model specifications. Model 1 includes only year and month-fixed effects; model 2 adds occupation fixed effects and job-level covariates as controls; model 3 adds occupation-sector fixed effects; model 4 takes out occupation-fixed effects and adds in employer-fixed effects instead; model 5 uses both occupation and employer-fixed effects; model 6 uses occupation-employer dyadic fixed effects; and model 7 adds country-level covariates as controls. In models 1-3, we use the complete Lightcast sample; in models 4-7, we use the matched Orbis sample to include parent companies as employer-fixed effects. Across all models, we find that employers in higher-trust countries place a higher emphasis on foundational skills when making hiring decisions. The effect sizes vary moderately across models. The inclusion of more controls and fixed effects generally increases the effect size. The inclusion of country-level covariates, however, slightly reduces the effect size. This is presumably because many country-level covariates, such as GDP per capita and human capital index, have a moderately high correlation with a country's social trust.

[Insert Table 2 about here]

The magnitude of the trust effect is considerable. For example, going from a low-trust country like Cyprus (social trust = 0.07) to a high-trust country like Denmark (social trust = 0.7), employers would increase their emphasis on foundational skills by 0.3-0.5 standard deviations depending on model specifications. In general, an one standard deviation increase in social trust leads to about 0.1-0.15 standard deviation increase in employers' foundational skill preference.

Among the control variables, we find that employers have a greater preference for foundational skills in countries with a lower unemployment rate, fewer graduates from vocational programs, and more collective bargaining coverage. A lower unemployment rate reflects a tighter labor market, and focusing on foundational skills could lead to a wider pool of candidates. Vocational programs tend to train students on advanced skills, which could increase an emphasis on such skills in hiring.

Collective bargaining coverage helps protect the length of an employer-employee relationship, which could in turn encourage employers to focus on foundational skills.

Findings from Table 2 are subject to endogeneity concerns at the country level. The employer fixed effects models show that the same employers require more foundational skills when they recruit in higher trust countries. However, higher-trust countries could also have other characteristics, so it is unclear if employers' changing behavior across countries is due to cross-country differences in social trust or some other unobserved cross-country characteristics. Our next set of analyses tries to overcome this major endogeneity concern.

4.2. Bilateral Findings

We next examine country-to-country trust and its impact on multi-national employers' hiring strategies in different countries. In this analysis, we limit our sample to jobs posted by foreign subsidiaries of multi-national organizations. As Table 3 shows, we have a sample of about 1.1 million job postings from such organizations in 21 EU countries.

Figure 8 breaks down bilateral trust values into 70 equal-sized quantiles and plots their corresponding jobs' average score on the foundational-advanced scale. Consistent with our between-country findings, the figure shows a positive linear association between social trust and requiring more foundational skills, with a correlation of 0.14. The average score on the foundational-advanced scale is 3.6 when bilateral trust is in the top quartile, but only 3.2 when it is in the bottom quartile. Table 3 employs OLS models to explore this association. The first six models in Table 3 are mostly the same as those in Table 2. Moving from left to right, we increasingly add fixed effects on occupations and employers. The one notable difference is that all models in Table 3 include country-fixed effects; that is, we control for the country that the job is posted. As a result, Model 6 includes several country-to-country level control variables instead of country-level control variables.

[Insert Figure 8 about here]

[Insert Table 3 about here]

All six models on Table 3 show a positive and significant association between bilateral social

trust and requiring more foundational skills. The effect sizes vary moderately across models. Moving from a low bilateral trust pair such as Portugal to Slovakia (bilateral trust = 1.79) to a high bilateral trust pair such as Sweden to Denmark (bilateral trust = 3.57) would predict a 0.64-0.92 standard deviation increase on the foundational-advanced scale. In general, a one-standard-deviation increase in bilateral trust predicts a 0.14-0.2 standard deviation increase in employers' preference for foundational skills. These effect sizes in bilateral models are sizeable, and slightly larger than that shown in Table 2 using between-country comparisons.

4.3. An Instrumental Variable Approach

Models 7 and 8 on Table 3 use an instrumental variable approach. We use somatic distances as an instrument for bilateral social trust between two countries. Much work has shown that people tend to trust others who share similar physical traits (somatic similarity)(DeBruine 2002; Delhey, Newton, and Welzel 2011). Not surprisingly, somatic distance is a strong predictor of contemporary bilateral trust (see Online Appendix Section D).

At the same time, somatic distances capture long-standing cultural differences between the two countries, as they reflect the ethnic origin of the two populations. Most cross-country somatic differences generally reflect the ethnic compositions as early as the Neolithic Era (Guiso, Sapienza and Zingales 2009). Given its historical roots, we argue somatic distance would not influence organizations' strategies today through mechanisms other than social trust, a claim supported by past studies (Bloom, Sadun, and Reenen, 2012).

In this IV model, we also use the strictest set of controls as in Table 3's Model 6, including fixed effects on both occupation-firm and country, as well as bilateral controls capturing economic differences and physical distance between two countries. As Online Appendix Section D shows, our instrument is quite strong and passes all the standard validation checks.

Results from the IV model are consistent with both our between-country and bilateral models: moving from a low bilateral trust pair like Portugal to Slovakia to a high bilateral trust pair like Sweden to Norway would predict a 1.12 standard deviations increase in employers' foundational skill preference (see Online Appendix Section D for more details on the IV model).

4.4. Moderators: Credentials

To better understand the boundary conditions of our theory, we examine the following four moderators measuring credential requirements: college degree, occupational certification, work experience, and job preparation level. We suggest that credentials and referrals could serve as substitutes for social trust, as they provide individuating information about prospective workers. We do not have data to test the moderating influence of referrals, so here we focus on the moderating influence of credentials only. To do so, we simply include each of the four variables capturing credential requirements as moderators in both our between-country models and bilateral trust models. Because job preparation level encapsulates other credential requirements, we include it in separate models. We also include occupational certification in separate models because of the large number of missing observations for this variable. This analysis is shown in Online Appendix Table F.1. Online Appendix Section F discusses the construction of all four moderators in greater detail.

Table 4 shows the main moderating models. The association between social trust and skill preference is significantly smaller for jobs requiring a college degree, more work experience, more occupational certifications, and more preparation level. To be precise, requiring a college degree reduces the effect size by 18 percent in between-country models and 12 percent in bilateral models; requiring prior work experience reduces the effect size by 6 in between-country models and 5 percent in bilateral models; one additional occupational certification reduces the effect size by 20 percent in between-country models and 14 percent in bilateral models; and one higher level in job preparation level (out of five levels) reduces the effect size by 21 percent in between-country models and 5 percent in bilateral models. Some of the interaction terms are statistically insignificant in between-country models, likely due to the smaller number of trust levels in our between-country analyses.

[Insert Table 4 about here]

Overall, the moderating models suggest that degrees, work experience, certifications, and preparation levels help mitigate the consequences of social trust. Hence, the association between social trust and foundational skill preference is more concentrated in low-skill entry-level jobs.

4.5. Evidence on Mechanisms

We provide some preliminary evidence to support our purported mechanisms. First, an important assumption is that employers in higher-trust societies are more willing to train workers, which explains why they value candidates' foundational skills more. Using the European Skills and Job Survey (ESJS), we find that workers in higher-trust societies are more likely to receive on-the-job training and employee-paid training than their counterparts in lower-trust societies. These findings, shown in detail in Appendix Section F, are consistent with our theory that employers in higher-trust societies are more willing to invest in workers.

Second, we conducted two mediation analyses. We first measured the average employee tenure in each country-occupation cell using public LinkedIn data. The average employee tenure is simply the average number of years that employees in a country-occupation cell have spent at the current organization. We show that social trust predicts employee tenure and the inclusion of employee tenure reduces the relationship between social trust and employer's hiring preference. Next, we measure role flexibility at the firm-year level using our job posting data. Among the ESCO skills coded by Lightcast, an important skill is *adapt to change*. When employers expect flexible roles, they should prefer employees who could adapt to frequent changes; this skill could therefore serve as a proxy for an employer's role flexibility. Our results suggest that social trust strongly predicts this measure of role flexibility and incorporating this variable reduces the coefficient of social trust. The details of these mediating analyses are included in Online Appendix Section G.

4.6. Threats to Identification and Data Limitation

Our empirical analyses face two major limitations. First, our identification strategy relies on bilateral trust models, including double fixed effects on firm and country and using instrument for social trust. Although we explain the validity of our instrument—somatic distances—such argument is ultimately subjective. We believe that our biggest threat to identification is that social trust may lead to other bilateral outcomes, such as economic exchange, cultural influence, and political alliances, that could affect multi-national firms' hiring strategies in different countries. In these cases, we would find an association between social trust and hiring strategies, but such

relationship would be caused by other mechanisms and not the immediate consequences of social trust.

Second, the use of job postings to study labor markets has both advantages and disadvantages. While such data are more readily available and cover a wide range of labor markets, they are subject to selection biases. When we compare our job posting sample to official EU statistics, we find that our sample is over-represented in higher-end occupations and industries. In addition, although job postings provide a window into employers' hiring preferences, they reflect only employers' intention to hire, which could deviate from employers' actual practices.

Relatedly, although our theory should apply to most countries in the world, our analyses focus on only the 28 EU countries. This is largely due to data availability. Bilateral trust is only available for selected European countries and, at the time of this study, we do not have job postings in most other countries.

5. DISCUSSION AND CONCLUSION

This study shows that a society's social trust shapes its employers' hiring practices. Using a large-scale sample of job postings from the 28 EU countries, we find that employers use different hiring criteria in higher- versus lower-trust societies. The higher (lower) the social trust, the more employers select candidates on their foundational (advanced) skills. To account for endogeneity concerns, we replicate the pattern using multinational employers and bilateral trust measures, as well as using an instrumental variable approach.

5.1. Cross-Country Differences in Employment Practices

Employers' approach to hiring, promoting, and managing employees varies significantly across countries. As mentioned in the Introduction, cross-country differences in employment practices have been largely attributed to differences in institutional arrangements and market conditions. Moving away from institutions and markets, this study uses a cultural approach to explain cross-country differences in employment practices. We show how a country's social trust—an important component of social capital and often considered to be a dimension of culture—could predict its

employers' hiring preferences. The large variation in social trust across societies means that employers in different countries operate under different assumptions about people's trustworthiness. This cross-country difference in trust levels could be a significant reason that countries persistently differ in their employment practices.

Our findings differ from the literature on management practices in several ways. This literature tends to assume an optimal set of management practices that could be applied universally. Employers do not adopt them in some countries either because of weak market competition or because of a lack of awareness. By emphasizing how employment practices are culturally contingent, we argue that cross-country differences in employment practices could be highly sticky: they may not easily change as a result of greater information flow or increased market competition.

5.2. Using Culture to Explain Cross-Country Differences

It is perhaps intuitive to attribute many cross-country differences to culture. Indeed, a vast literature in cross-culture psychology takes on such an approach: using a set of cultural dimensions to predict outcomes at the country level. This literature is constantly coming up with new cultural dimensions: the prominent ones include Hofestede's six cultural dimensions, Schwarz's 12 cultural indices, and Gelfand's looseness-tightness score. By assigning a cultural score to each country on each dimension, social psychologists have used these scores to predict various country-level outcomes.

Our focus on social trust shares some similarity with this vast literature on cross-cultural psychology. However, most cultural dimensions, such as individualism and uncertainty avoidance, are individual dispositions, whereas social trust is often seen as a relational construct. Our trust of strangers in one country may differ from our trust of strangers in another country. This relational nature of social trust probably explains why it is generally studied in more macro fields such as sociology and economics.

Historically, cultural influence is widely studied in sociology. Earlier sociologists, from Max Weber to Talcott Parsons, have all treated a society's culture as an important determinant of individuals' preferences, values, and behaviors. In recent decades, however, sociologists studying

culture have moved away from this over-socialized view. Instead of treating culture as a driving force, sociologists have increasingly emphasized culture as a toolkit, whereby individuals can draw specific cultural components based on their contexts, needs, and goals. This framework allows us to more accurately capture heterogeneity within a cultural context. But by giving individuals more agency, it also makes it more difficult to systematically quantify cultural forces, as evidenced by the largely qualitative nature of cultural sociology research today.

Thus, we both receive cultural influences and navigate cultural contexts based on our needs. In our case, although we see a country's social trust driving its employers' hiring behaviors, it is also important to underscore possible heterogeneity within a country. Employers from a same country may employ different hiring strategies depending on their needs and positions. This is a topic that we leave to future research.

5.3. Organizational Consequences of Social Trust

Our study also speaks to the literatures on trust. First, a voluminous line of work in social psychology and micro-organizational behavior have tried to understand the role of trust in the workplace (Dirks and de Jong 2022; Klotz et al. 2013). This line of work considers both antecedents and consequences of trust. For example, studies of antecedents have examined how various leaderships influence employees' trust, while those studying consequences have explored how employees' trust shapes performance, knowledge sharing, and job satisfaction at both individual and team levels. A few of these studies examine employers' trust of their employees, but most focus on employees' trust, including their trust in their employers, organizations, managers, and coworkers. However, regardless of the trustor and the trustee, this line of work addresses a fundamentally different type of trust. They focus on particularized trust that takes place between specific actors, whereas we are interested in social trust, also known as generalized trust, which captures trust toward strangers in general.

The study of social trust takes place in more macro-oriented fields including sociology, political science, and economics. This line of work has a long history. Early sociologists, including notable names such as Emile Durkheim, Max Weber, and George Simmel, treat social trust as a

fundamental piece in the well-functioning of societies. Many in the late 19th century lament the erosion of social trust as industrialization rapidly expanded and traditional communities disbanded. At the time, this decline in trust is seen as responsible for the decline of communities and a sense of alienation among individuals.

Economists are generally more concerned with the impact of social trust on long-term economic growth. Adam Smith (1763; 1978, 538) points out that social trust could explain Dutch's success in commerce, stating that the Dutch are "the most faithful to their word." John Stuart Miller (1848) also attributes the difficulty of conducting large-scale businesses in some countries to a lack of trust: "There are countries in Europe... where the most serious impediment to conducting business concerns on a large scale, is the rarity of persons who are supposed fit to be trusted with the receipt and expenditure of large sums of money" (cited in (Zak and Knack 2001). More recently, Robert Putnam (Putnam 1993), building on Coleman (1988)'s work, argues that differences in social trust between northern and southern Italy could explain the different levels of economic development in the two regions. Fukuyama (Fukuyama 1995:7) further pushes this idea. His book attributes a nation's wellbeing to"a single, pervasive cultural characteristic: the level of trust inherent in the society." Using qualitative comparisons across countries, he argues that the low level of social trust in some countries prevent the formation of effective large-scale businesses in those countries.

Besides economic growth, studies of social trust have also examined its consequences on various outcomes related to collective action, including political participation (Citrin 1974), public health (Hamano et al. 2010; Kobayashi et al. 2015), crime and corruption (Uslaner 2007; Rothstein 2011), and tax compliance (Scholz and Lubell 1998; Hammar, Jagers, and Nordblom 2009). Social trust reduces transaction costs, increases information sharing, and encourages cooperation. These influences could encourage individuals to participate in large-scale collective actions. For instance, people may be more willing to participate in a vaccine campaign if they trust that others in the community will do the same. When such trust is lacking, people may be more hesitant since their participation alone would produce little positive effects. This logic applies to many other

collection actions. In voting, social trust leads to a higher turnout rate, fewer cases of partisan voting, and higher likelihood of acceptance of election outcomes (Dalton 2004). When it comes to crime, social trust helps reduce the crime rate and curbs corruption (Uslaner 2018). In community service, social trust is important in mobilizing collective action, motivating participation in community building, and facilitating informal support networks (Putnam 2007).

Extending this literature, we underscore the role of social trust in organizations and management. Many key organizational activities involve interaction with outside stakeholders, such as hiring new employees, dealing with clients and customers, and interacting with suppliers and partners. Social trust could significantly influence these activities, as they generally involve interactions between people with limited prior ties. Our study takes a step in this direction by showing the relationship between social trust and hiring strategies. Future studies could do more to understand how social trust influences organizations' interaction with external stakeholders.

Moreover, many interactions inside organizations also take place between strangers. When picturing ties inside organizations, we typically think of particularized trust, as relationships with coworkers and managers are mostly repeated interactions between acquaintances. Yet recent changes in organizational structures have led to increasingly fluid boundaries and greater needs for cross-group collaborations. An employee may have to frequently work with unfamiliar coworkers from other units and divisions. Hence, social trust could potentially shape not only organizations' external interactions, but also dynamics inside organizations.

5.4. Foundational and Advanced Skills

We introduce a new concept in this paper: foundational versus advanced skills. Not all skills are the same. Some skills need to be learned before others, as they are the foundation upon which to build other skills. We therefore place each skill on a continuous spectrum depending on the number of prerequisite skills needed to learn it. On this scale, the extent to which one masters the more foundational skills could determine the speed and the level by which one learns the more advanced skills. This concept therefore captures hiring employers' preference for candidates' potential versus readiness. Employers targeting high-potential candidates would emphasize more foundational

skills and those preferring ready-to-work candidates would value more advanced skills.

As many industries are becoming more complex in their task environment and technologies, skill acquisition has become a more layered process. Many advanced skills nowadays require more layers of foundational skills as prerequisites. Taking our own field as an example, quantitative social science research today requires much more sophisticated methodologies, from causal inference methods to various machine learning tools, all of which require one to first spend years mastering from the most to the less foundational skills. As skills become increasingly differentiated on the foundational-advanced scale, we believe that this concept of foundational versus advanced skills will become more important to understanding contemporary labor markets.

Which type of skills employers select on has important implications for educational policies. If most employers select on foundational skills, then universities and colleges should prioritize teaching students foundational skills. This is often the rationale behind a liberal arts education. But if most employers select on advanced skills, then universities and colleges should have more vocational courses and curricula to prepare students for specific jobs. The type of skills higher education should focus on has long been debated. Universities and colleges across the world have taken on different stances on this issue. Those advocating for more vocational training argue that the content taught in higher education has little direct use in most jobs. Those arguing for liberal education believe that the aim of education is to improve students' overall knowledge and foundational skills such as analytical thinking. Our findings add an additional layer to this important debate. By showing that employers in different countries value foundational versus advanced skills differently, we point out that perhaps higher education in some countries should focus more on foundational skills while others more on advanced skills.

Employers' preference for foundational versus advanced skills could also have implications for labor market inequality. First, although foundational skills are important, their evaluation sometimes entails greater subjectivity. A number of commonly mentioned foundational skills, such as social skills and creativity, are context-dependent and difficult to measure directly. The subjectivity of these skills could introduce more room for biased evaluation. Second, the more foundational

skills are often learned in early life course. For example, one's mathematical ability and writing skills are largely influenced by formal education prior to entering university, and social skills are strongly associated with family influence. Thus, it is possible that more emphasis on foundational skills would benefit individuals growing up in more privileged environments.

Social trust is often seen as the glue that holds a society together. Depending on the strength of this glue, employers in different societies have different ways of perceiving their employees and hiring strategies. By introducing social trust to hiring processes, we hope to spur research that will further explore cross-country differences in labor markets.

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FIGURES AND TABLES

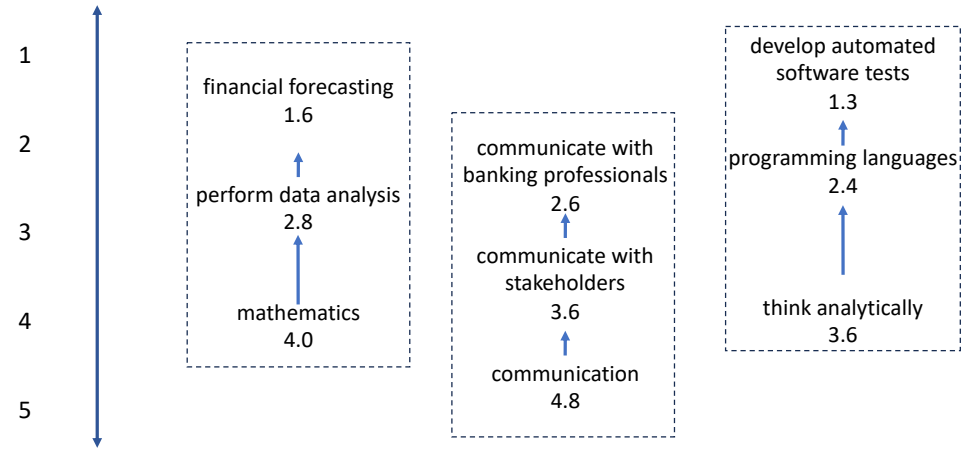
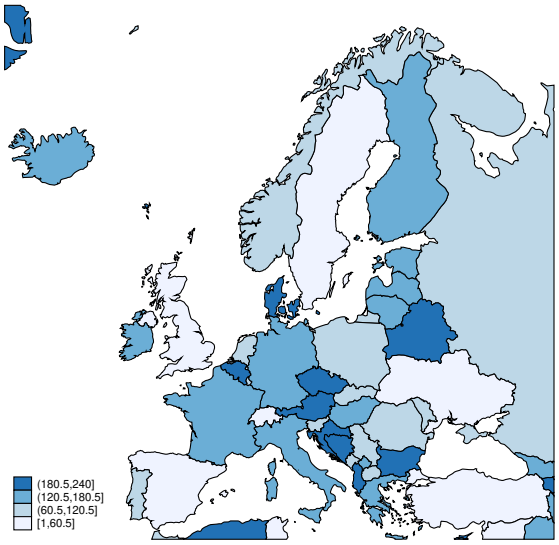


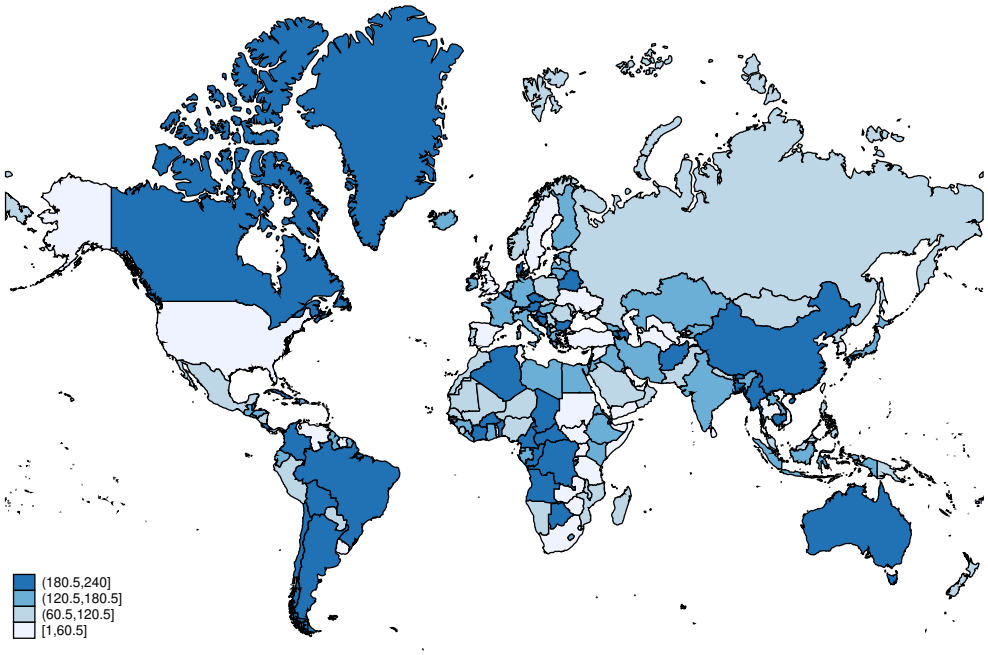
Figure 1: Skill Examples on the Foundational-Advanced Continuum

Notes: The figure shows three sets of skill examples on the foundational-advanced continuum: analytical skills, social skills, and technical skills. In each example, the more advanced skills are built upon the more foundational skills. The number listed below each skill represents the foundational score derived from our dataset.



(a) Employer Distribution by Local Country

1



(b) Employer Distribution by Headquarter Country

Figure 2: Employer Distribution by Country

Notes: The figure shows geographical distribution of employers in our sample. Figure (a) includes all employers in the Lightcast complete sample and shows country variation in where the job is posted. Figure (b) includes employers in the matched Lightcast-Orbis sample, and shows country variation in where the job employers' headquarter country is located.

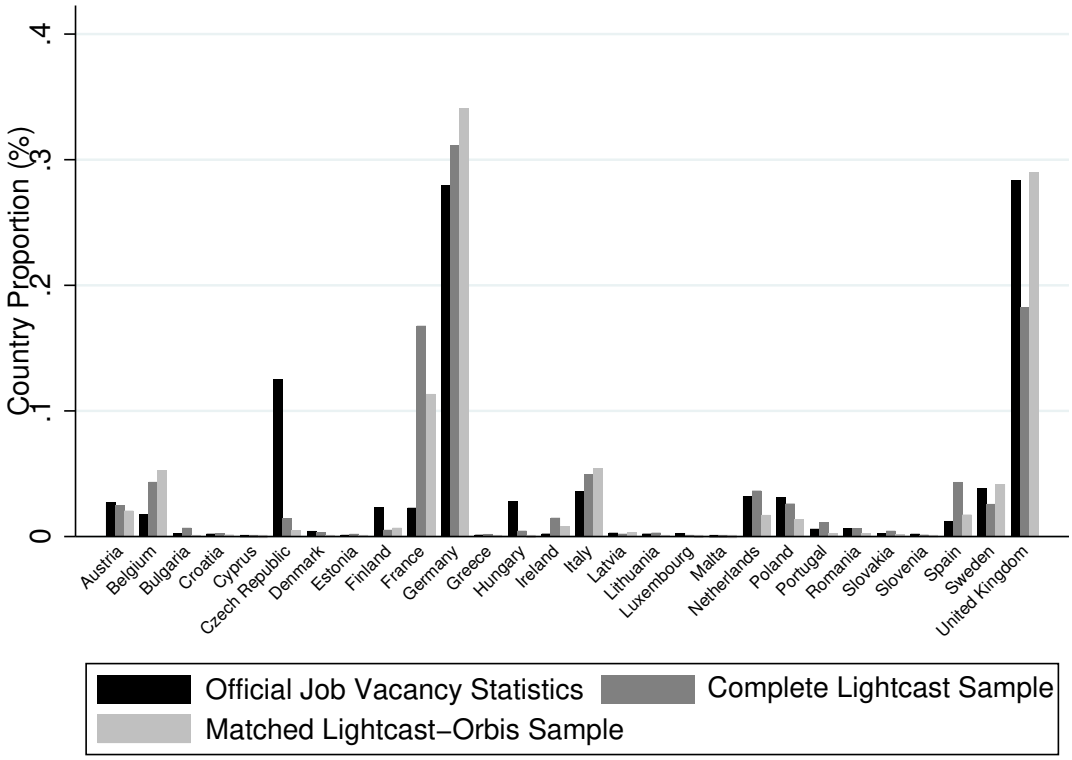


Figure 3: Sample Distribution by Country

Notes: We compare the country distribution of Lightcast job postings to that of official job vacancy statistics. Lightcast complete sample includes all job postings in 28 European countries, 2018-2021, collected by Burning Glass Technologies. Matched Lightcast-Orbis sample includes job postings by employers that have been matched with Bureau Van Dijk's Orbis database. Official Job Vacancy statistics are based on national surveys for the 28 countries produced by Eurostat and OECD Statistics. The y-axis shows each country's proportion of jobs out of the overall sample.

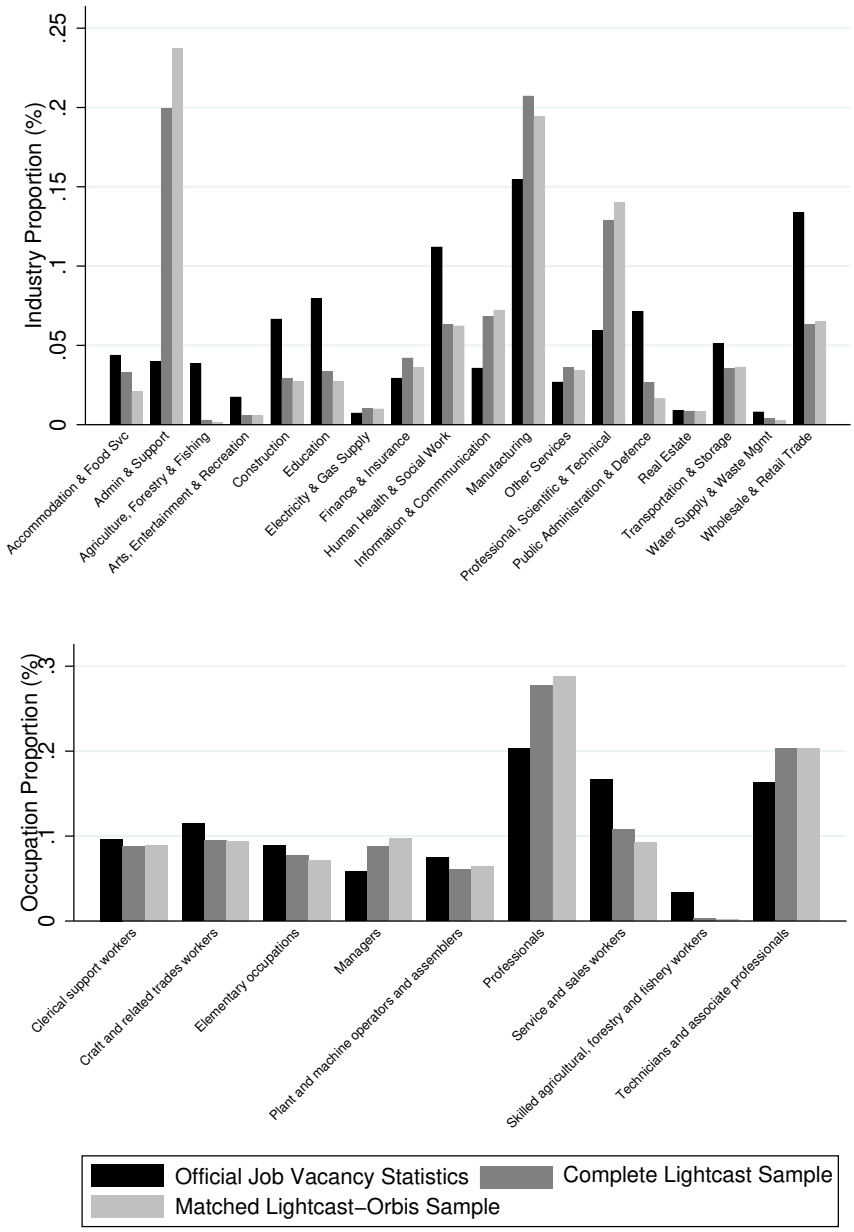


Figure 4: Sample Distribution by Industry and Occupation

Notes: We compare the industry and occupation distribution of Lightcast job postings to that of official employment statistics. These two barplots show the industry and occupation distribution for our job posting data. Lightcast Original Sample contains all job postings in 28 European countries, 2018-2021. Matched Sample is the sample of job postings that are matched with Bureau Van Dijk's Orbis database. Official employment statistics come from OECD Statistics and ILO. These are generally based on representative surveys of household in each country. The y-axis shows the proportion of sample under each industry and occupation.

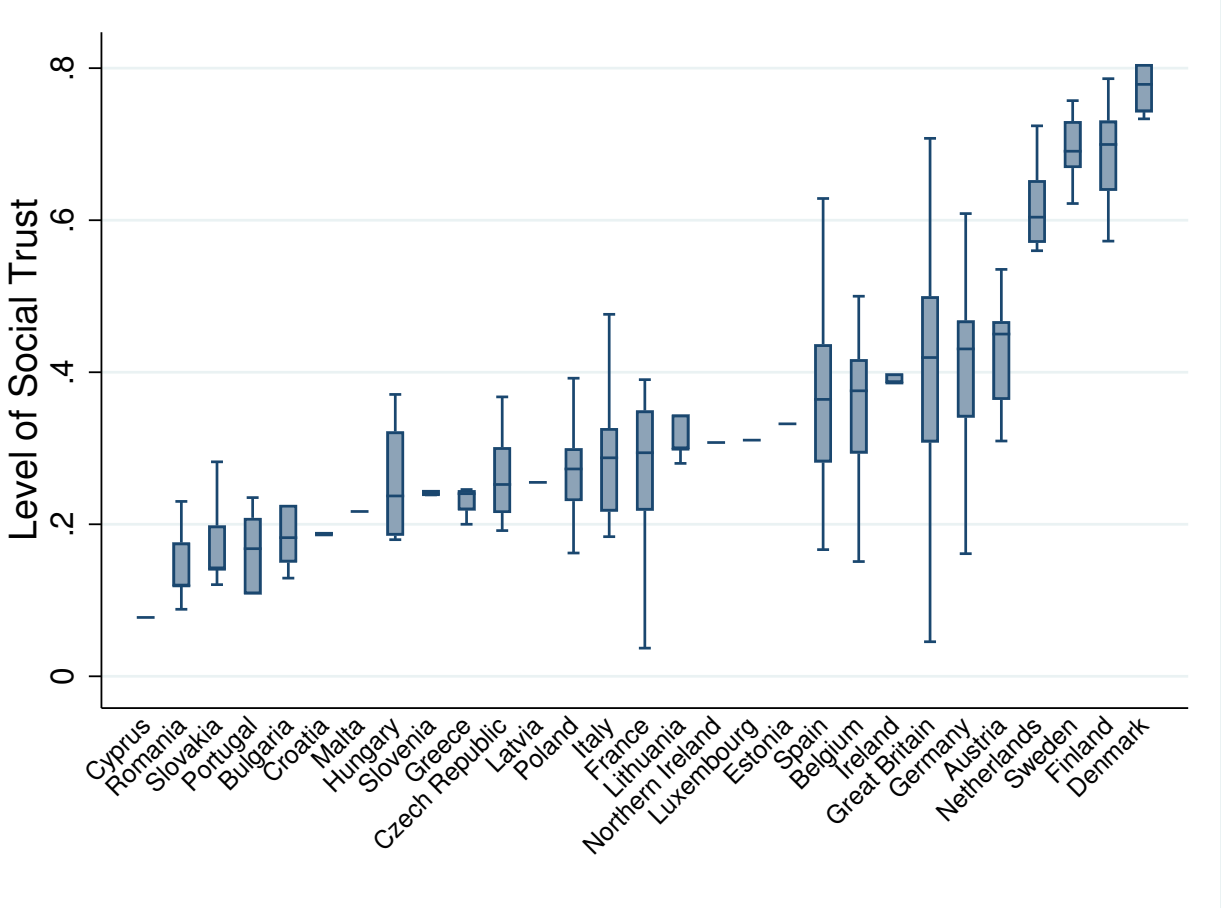


Figure 5: Social Trust by Country

Notes: The figure shows the level of social trust in each of our 28 EU countries. We show the regional trust value at the 25th percentile (lower hinge of the box), the median, and 75th percentile (upper hinge of the box). We measure social trust using European Values Study and the question is "Most people can be trusted". Social trust is the proportion of people in the country answering "Most people can be trusted" over all those who answered the question.

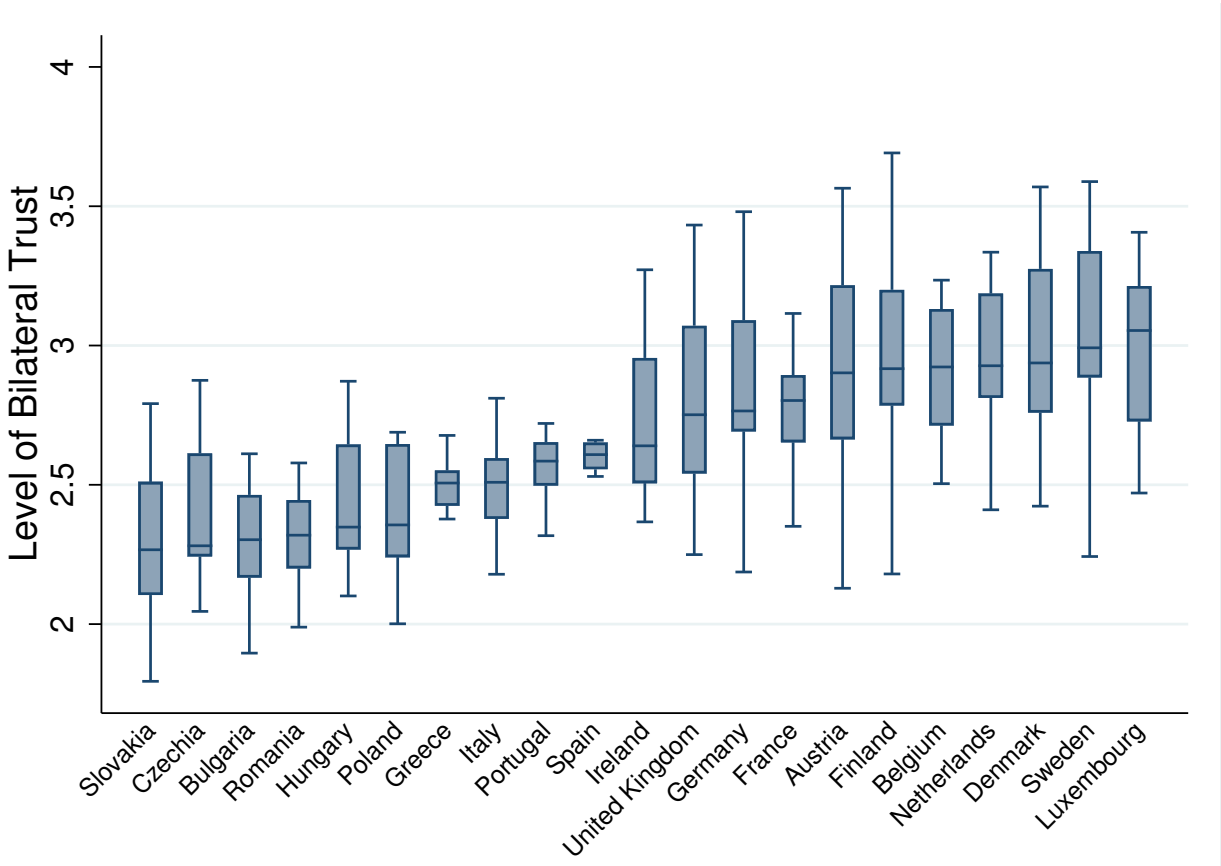


Figure 6: Bilateral Trust by Country

Notes: The figure shows how much people from 16 EU countries trust people in 21 receiving countries. We plot the trust scores by receiving countries and each receiving country has 16 trust scores. We show the trust scores of the receiving countries at the 25th percentile (lower hinge of the box), the median, and the 75th percentile (upper hinge of the box). We measure bilateral trust using the Eurobarometer survey and the question is "How much trust you have in people from the following countries?", where the list of countries is 21 receiving countries (which could include the respondent's home country). We first aggregate the survey waves and reverse code the survey question as 1 (no trust at all), 2 (not very much trust), 3 (some trust), 4 (lots of trust), we then calculate bilateral trust between countries X and Y as the mean value of the responses to each survey.

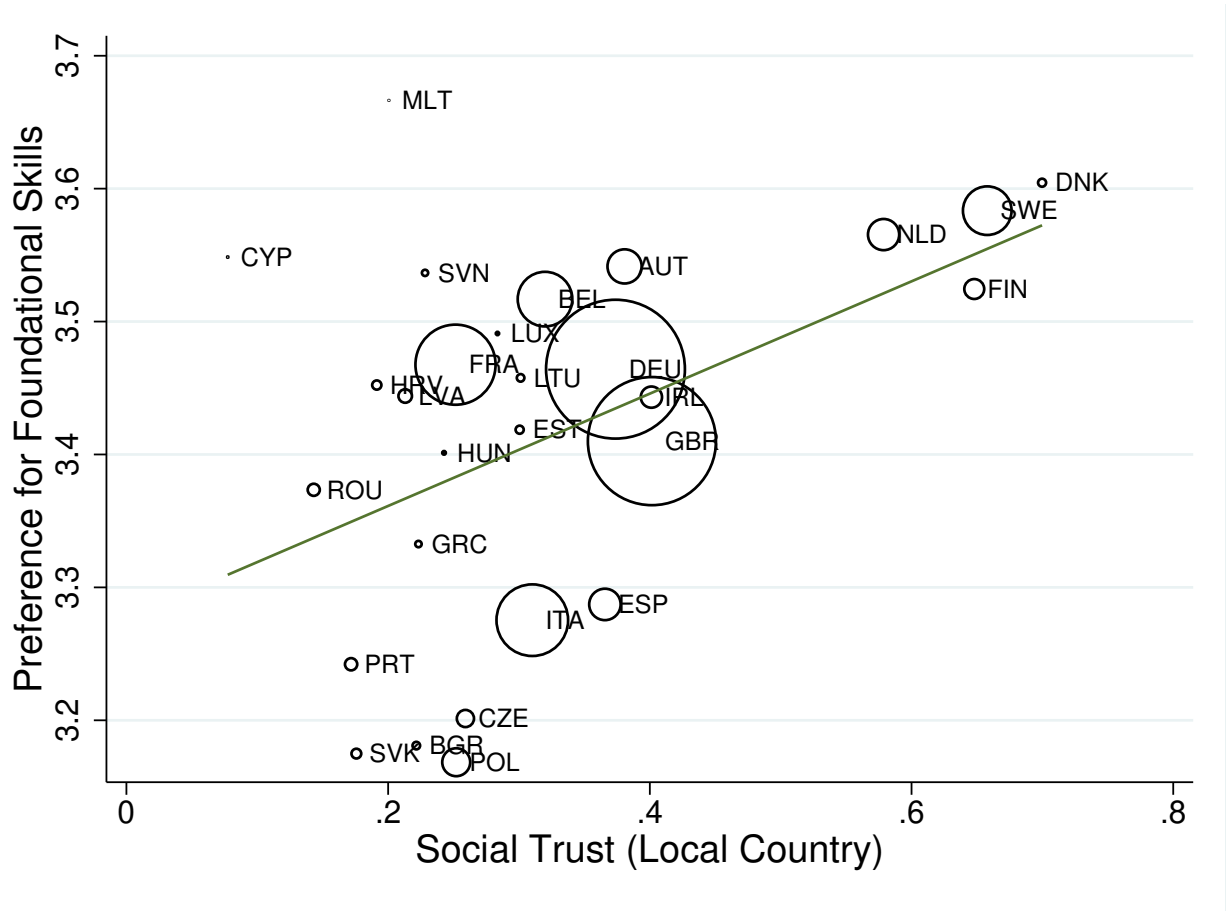


Figure 7: Association between Social Trust and Skill Preference in Hiring

Notes: The figure descriptively shows the association between a country's social trust and its employers' preference for foundational vs. advanced skills. Country level social trust is derived from the European Values Study (EVS). Employers' skill preference is based on their job postings. We aggregate job postings to country level, and the size of the circle indicates the number of job postings in that country.

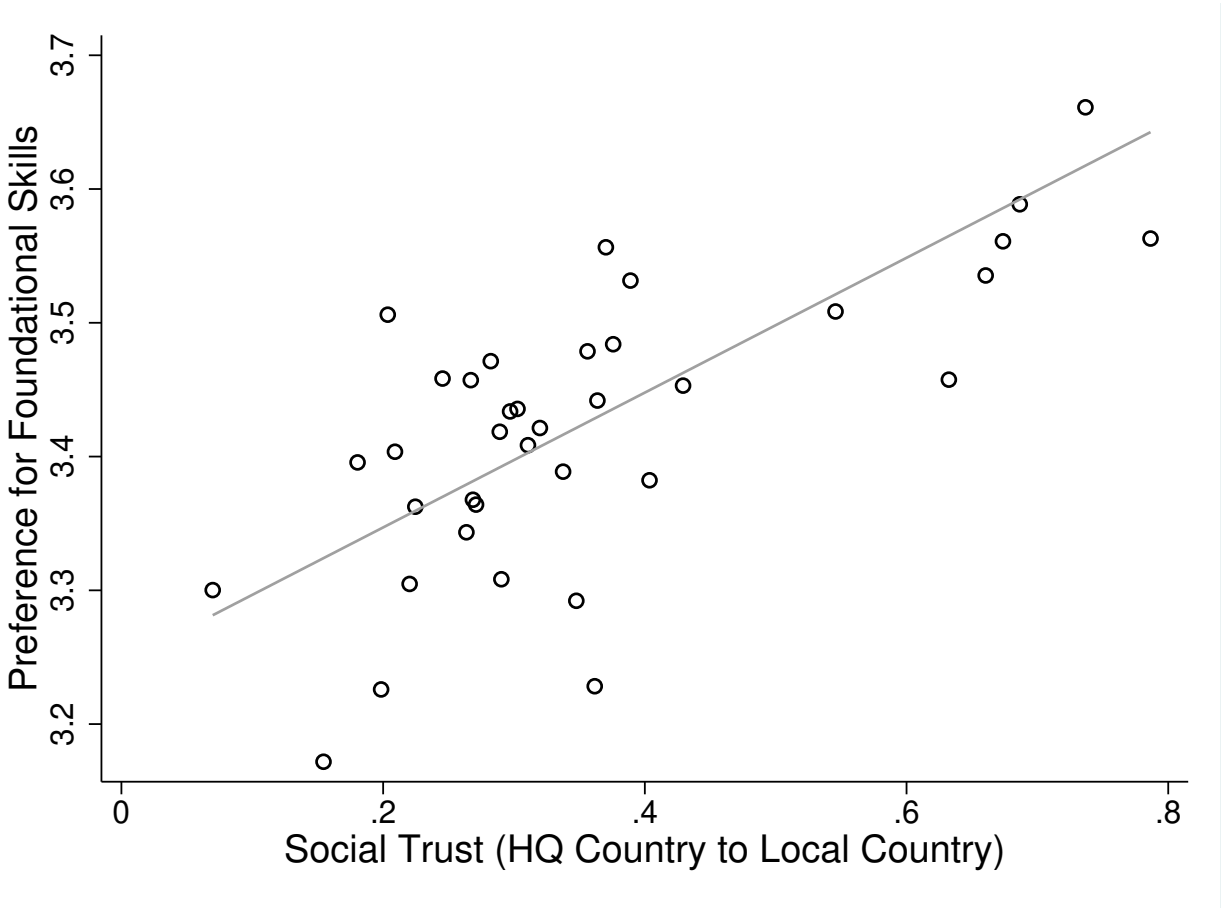


Figure 8: Association between Bilateral Trust and Skill Preference in Hiring

Notes: The figure descriptively shows the association between the social trust of people in country x towards people in country y, and the skill preference of employers from country x in country y. Bilateral social trust is derived from the Eurobarometer surveys. Employers' skill preference is based on their job postings. We include only job postings from foreign subsidiaries of multinational organizations. The plot is generated using the binscatter command that splits the sample into 70 equal size quantiles based on x values.

Table 1: Example ESCO Skills

	Most Foundational Skills		Most Advanced Skills	
	Skill	Foundational Score	Skill	Foundational Score
1	communication	4.82	ICT system programming	1.09
2	work in teams	4.60	architectural design	1.17
3	work efficiently	4.58	integrated development environment software	1.27
4	be attentive	4.55	technical drawings	1.45
5	make an effort	4.55	Java	1.50
6	attention to detail	4.50	JavaScript	1.50
7	adapt to change	4.45	SAP R3	1.55
8	communicate by telephone	4.45	Scala	1.55
9	direct customers to merchandise	4.45	Integration management	1.58
10	follow company standards	4.45	provide pharmaceutical advice	1.58
11	demonstrate enthusiasm	4.36	web programming	1.58
12	use spreadsheets	4.36	implement front-end website design	1.60
13	work in shifts	4.32	analyse software specifications	1.64
14	prioritise tasks	4.30	autocad	1.64
15	English	4.27	electrical wiring plans	1.64
16	identify customer's needs	4.27	pharmaceutical products	1.64
17	self-promote	4.27	tend CNC laser cutting machine	1.65
18	communicate with customers	4.25	electrical engineering	1.67
19	drive vehicles	4.25	html	1.70
20	tolerate stress	4.25	develop animations	1.73
21	delegate activities	4.18	medicines	1.73
22	maintain working relationships	4.18	design prototypes	1.75
23	proactivity	4.18	engine components	1.75
24	provide customer follow-up	4.18	execute feasibility study	1.80
25	provide information	4.18	tools for software configuration management	1.80
26	report facts	4.18	PHP	1.82
27	use positive language	4.18	cloud technologies	1.82
28	provide documentation	4.09	online analytical processing	1.82
29	liaise with managers	4.08	operate welding equipment	1.82
30	order supplies	4.08	computer programming	1.83
31	show responsibility	4.08	graphics editor software	1.83
32	assertiveness	4.00	Python	1.90
33	adapt to different roles	4.00	SQL	1.90
34	customer service	4.00	manage ICT system deployment	1.90
35	give advice to others	4.00	ABAP	1.91
36	hand gestures	4.00	accounting	1.91
37	mathematics	4.00	electricity	1.91
38	present menus	4.00	object-oriented modelling	1.91
39	problem solving	4.00	design user interface	1.92
40	communication principles	3.91	search engine optimisation	1.92
41	manage time	3.91	CSS	2.00
42	plan teamwork	3.91	automation technology	2.00
43	use communication techniques	3.91	business ICT systems	2.00
44	work independently	3.91	electricity principles	2.00
45	brainstorm ideas	3.90	install machinery	2.00
46	think creatively	3.86	mechanical systems	2.00
47	monitor customer service	3.83	mechanics	2.00
48	perform self-assessment	3.83	nursing principles	2.00
49	present reports	3.83	set production KPI	2.00
50	document management	3.82	social pedagogy	2.00

Notes: The table displays the most commonly mentioned ESCO skills (those appearing at least 50,000 times in our sample). Their corresponding foundational scores are based on our self-administered survey where each skill is evaluated by 20 respondents.

Table 2: Linear Estimation Predicting Preference for Foundational Skills: Evidence from Cross-Country Job Postings

	Complete Sample			Matched Sample (With Orbis)			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Social Trust (Local Country)	0.300	0.401**	0.196**	0.456**	0.408***	0.292**	0.240***
	(0.194)	(0.116)	(0.0600)	(0.129)	(0.109)	(0.0800)	(0.0455)
Job Req. Bachelor Degree		-0.000886	0.0135	-0.00560	0.0302	0.0185	0.0191
		(0.0291)	(0.0168)	(0.0380)	(0.0201)	(0.0189)	(0.0195)
Job Req. Graduate Degree		0.0440	0.00835	0.0194	0.0344***	0.0214**	0.0211**
		(0.0230)	(0.0137)	(0.0151)	(0.00825)	(0.00718)	(0.00755)
Job Req. Short-Cycle Tertiary Degree		0.0407	-0.00590	0.00811	0.00898	0.00642	0.00652
		(0.0267)	(0.0106)	(0.0160)	(0.00815)	(0.00966)	(0.00957)
Job Req. Non-Tertiary Degree		0.0212	0.0134	0.0411**	0.0206	0.0277*	0.0283*
		(0.0217)	(0.00968)	(0.0144)	(0.0123)	(0.0107)	(0.0111)
Job Req. Work Experience		0.00969	0.00730	-0.0272	-0.0155	-0.00795	-0.00796
		(0.00986)	(0.00811)	(0.0178)	(0.00768)	(0.00559)	(0.00559)
Num of Skills Listed (log)		-0.0308*	-0.0328*	-0.132***	-0.0657***	-0.0316	-0.0317
		(0.0136)	(0.0124)	(0.0214)	(0.0176)	(0.0184)	(0.0184)
GDP per Capita (log) (Local Country)			0.120**				0.120**
			(0.0361)				(0.0374)
Human Capital Index (Local Country)			-1.519***				-1.371***
			(0.384)				(0.296)
Rule of Law (Local Country)			0.0613**				-0.0193
			(0.0217)				(0.0155)
Unemployment Rate (Local Country)			-1.495***				-0.822**
			(0.253)				(0.225)
% of Graduates from Vocational Education (Local Country)			-0.118				-0.161*
			(0.0845)				(0.0667)
Collective Bargaining Coverage (Local Country)			0.112***				0.121*
			(0.0217)				(0.0521)
Observations	51921230	51451739	49489507	14058056	13961595	14032340	14032340
R^2	0.008	0.296	0.334	0.244	0.418	0.600	0.600
Fixed Effects:							
Posting Year	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Posting Month	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Occupation		Yes			Yes		
Occupation x Sector			Yes				
Employer				Yes	Yes		
Occupation x Employer						Yes	Yes

Standard errors in parentheses

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Notes: The dependent variable is a job's foundational score, calculated using the average foundational score of all skills listed in the job posting. Social trust is the average level of generalized trust in the country. Occupation is based on the standard EU occupation code (ESCO level 4) and Sector is based on the standard EU industry code (NACE level 2). Employer for multi-national firms refers to the parent firm. Each job posting constitutes a unit of observation. The first three models include all postings in the Lightcast sample; the latter four models use employer fixed effects and thus include only postings in our matched Lightcast-Orbis sample. Standard errors clustered at the country level are in parentheses.

Table 3: Linear Estimation Predicting Preference for Fundamental Skills: Evidence from Job Postings in Foreign Subsidiaries

	OLS						IV	
	(1)	(2)	(3)	(4)	(5)	(6)	(7) First Stage	(8) Second Stage
Social Trust (HQ-Local)	0.227***	0.195***	0.290***	0.214***	0.223***	0.198***		0.361*
	(0.0464)	(0.0321)	(0.0430)	(0.0342)	(0.0419)	(0.0450)		(0.156)
Somatic Distacne (HQ-local)							-0.0273**	
							(0.00853)	
Job Req. College Degree		0.0490	0.0535	0.0623*	0.0568*	0.0566*	-0.000374	0.0349
		(0.0264)	(0.0360)	(0.0263)	(0.0268)	(0.0268)	(0.00103)	(0.0220)
Job Req. Graduate Degree		0.0315	0.0606	0.0548*	0.0489	0.0488	0.0000183	0.0318
		(0.0226)	(0.0330)	(0.0231)	(0.0257)	(0.0257)	(0.000870)	(0.0269)
Job Req. Short-Cycle Tertiary Degree		0.0261	0.0381	0.0332	0.0364	0.0363	-0.000415	0.00341
		(0.0239)	(0.0340)	(0.0242)	(0.0283)	(0.0283)	(0.000546)	(0.0133)
Job Req. Non-Tertiary Degree		0.0350	0.0810*	0.0414	0.0511	0.0506	-0.000791	0.0266
		(0.0249)	(0.0364)	(0.0249)	(0.0274)	(0.0275)	(0.000947)	(0.0212)
Job Req. Work Experience		0.00431	0.0240	0.00785	0.000754	0.000697	-0.000632	0.00619
		(0.00948)	(0.0155)	(0.00965)	(0.00971)	(0.00970)	(0.000399)	(0.0139)
Num. of Skills (log)		-0.0137	-0.1000***	-0.0242	0.00829	0.00814	0.0000772	-0.0196
		(0.0164)	(0.0234)	(0.0203)	(0.0233)	(0.0233)	(0.000218)	(0.0173)
Diff. in GDP per Capital (log) (HQ-Local)						0.0133*	0.0462**	0.00703
						(0.00643)	(0.0169)	(0.00798)
Common Legal Origin (HQ-Local)						0.00151	-0.0284	0.00223
						(0.0206)	(0.0271)	(0.0251)
Common Official Language (HQ-Local)						-0.0539**	-0.0451	-0.0666**
						(0.0193)	(0.0299)	(0.0229)
Physical Distance (log) (HQ-Local)						-0.0245	-0.0766*	-0.00775
						(0.0184)	(0.0353)	(0.0232)
F-statistic							F(42,177)=109.02	
Observations	1147735	1146002	1147735	1142637	1146002	1146002	869898	869898
R^2	0.043	0.345	0.192	0.397	0.558	0.558	0.993	0.557
Fixed Effects:								
Posting Year	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Posting Month	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Local Country	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
HQ Country	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Occupation		Yes		Yes				
Employer			Yes	Yes				
Occupation x Employer					Yes	Yes	Yes	Yes

Standard errors in parentheses

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Notes: The dependent variable is a job's foundational score, calculated using the average foundational score of all skills listed in the job posting. Social trust in these models refers to bilateral trust: the amount of trust from a firm's headquarter country to the local country, defined as the country where the job is posted. Each job posting constitutes a unit of observation. The sample includes all job posted by a firm's foreign subsidiaries in our matched Lightcast-Orbis sample. Standard errors clustered at the country dyad level are in parentheses.

Table 4: Linear Estimation Predicting Preference for Fundamental Skils: The Moderating Effect

	Local Model				Bilateral Model			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Social Trust (Local Country)	0.381***	0.361***	1.011***	0.930***				
	(0.0806)	(0.0646)	(0.223)	(0.204)				
Social Trust (Local Country)	-0.180	-0.175						
x Req. College Degree and Above	(0.0982)	(0.0985)						
Social Trust (Local Country)	-0.0675	-0.0660						
x Req. Work Experience	(0.0677)	(0.0677)						
Social Trust (Local Country)			-0.212**	-0.205***				
x Job Preparation Level			(0.0598)	(0.0536)				
Social Trust (HQ-Local)					0.274***	0.274***	0.392***	0.401***
					(0.0464)	(0.0464)	(0.0751)	(0.0734)
Social Trust (HQ-Local)					-0.118***	-0.118***		
x Req. College Degree and Above					(0.0347)	(0.0347)		
Social Trust (HQ-Local)					-0.0542*	-0.0542*		
x Req. Work Experience					(0.0226)	(0.0226)		
Social Trust (HQ-Local)							-0.0494*	-0.0551**
x Job Preparation Level							(0.0204)	(0.0196)
Req. College Degree and Above	0.0650	0.0628			0.358**	0.358**		
	(0.0443)	(0.0447)			(0.111)	(0.111)		
Job Req. Work Experience	0.0327	0.0321	0.00833	0.00835	0.164*	0.164*	0.00162	0.00162
	(0.0281)	(0.0281)	(0.00591)	(0.00592)	(0.0719)	(0.0719)	(0.0102)	(0.0102)
Num. of Skills (log)	-0.0315	-0.0316	-0.0324	-0.0324	0.00779	0.00779	0.00775	0.00769
	(0.0184)	(0.0184)	(0.0187)	(0.0187)	(0.0230)	(0.0230)	(0.0240)	(0.0240)
Observations	13965178	13965178	13300211	13300211	1141102	1141102	1075607	1075607
R^2	0.600	0.600	0.597	0.597	0.558	0.558	0.554	0.554
Fixed Effects:								
Posting Year	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Posting Month	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Occupation x Employer	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Local Country					Yes	Yes	Yes	Yes
Country-Level Controls		Included		Included				
Bilateral Country-Level Controls						Included		Included

Standard errors in parentheses

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Notes: This table includes several moderators. Model specification are consistent with our main models in Table 2 and 3. Education and work experience requirements are based on job postings. Job preparation level is based on O*NET's coding of occupations. Standard errors are clustered at the country level for the first four models and at the country dyad level for the latter four models.

Online Appendix Sections are available at
https://drive.google.com/file/d/1F-wvAA13brlX7-tjRsApl1J9Pgnrtu

Appendix Section A. Does the Headquarter Influence Job Postings in Its Foreign Subsidiaries?

An important assumption of our paper is that a multi-national firm's headquarter influences the job postings of its foreign subsidiaries. This influence could occur both directly and indirectly. The headquarter could shape the organizational design of its foreign subsidiaries, determining aspects such as structure, culture, and day-to-day practices. These organization design choices could in turn shape the content of job postings. We call this the indirect influence of the headquarter, and much prior work has provided evidence on this indirect influence (Roth and Nigh 1992; Jong et al. 2015; Haq, Drogendijk, and Holm 2017).

However, it is unclear to what extent the headquarter may directly influence job posting and hiring in foreign subsidiaries. To explore this question, in 2022 we surveyed 200 hiring managers from the platform Prolific. Our survey participants on average have over 5 years of hiring experience, and are mainly from the United States, the United Kingdom, Poland, Portugal, South Africa, Canada, Mexico, and Spain. To participate in the survey, we required participants to have conducted hiring in a foreign subsidiary of a multi-national firm. In the survey, we asked respondents: "In local hiring, does your HQ ___?" and gave them an yes/no option for the following five scenarios: "(a) Set hiring standards and procedures, (b) Review hiring requirements, (c) Review job postings, (d) Review applications, (e) Involve in hiring decisions."

Our survey suggests that in the vast majority of cases, the headquarter sets some standards and procedures in the local recruiting process (87.5 percent) and reviews hiring requirements (83.3 percent). In more than half of the cases, the headquarter reviews job postings and candidates' application, and is involved in hiring decisions (As shown in Appendix Figure A.1). These numbers are consistent with the findings from our qualitative interviews. Most respondents that we spoke to suggest that the headquarter imposes some policies, criteria, and standards on local hiring. Many respondents also mentioned that the headquarter would review job advertisements, wages, skill requirements, and the final hiring decision.

[Insert Appendix Figure A.1 about here]

We next empirically test for any correlation in hiring criteria between the headquarter and the local subsidiaries. Our strategy is to compare jobs with the same title, and are posted in the same country, but by firms with different foreign headquarters. We want to see whether the job requirements in the headquarter can predict job requirements in its foreign subsidiaries. As discussed in the main paper, Lightcast's research team has coded all the skills (ESCO level 4) required in each job posting. We focus on the four most commonly mentioned skills: (a) Quantitative skills (e.g., data science and programming); (b) Soft skills (e.g., communication); (c) Creativity (e.g. think creatively); (d). Problem-solving skills. Quantitative skills are quantified as a number based on the number of hours required to learn them, and the other skills are coded as binary. For each skill, we conduct an ordinary least squares regression to predict whether a job posting requires that particular skill, while including fixed effects on job title, country, and sector, as well as a robust set of controls such as degree and work experience requirements. Our independent variable of interest is the proportion of jobs in that firm's headquarter requiring that particular skill. If headquarters have no influence on their foreign subsidiaries' job postings, then we should not expect to see any association between the headquarter's skill requirements and that of the subsidiaries. However, as the Appendix Table A.1 shows, the association is quite strong. One standard deviation increase in the headquarter's skill requirements predicts a 0.06-0.17 standard deviation increase in foreign sub-

sidiaries' skill requirements. This result suggests that the headquarter has a substantial influence on its foreign subsidiaries' job postings.

[Insert Appendix Table A.1 about here]

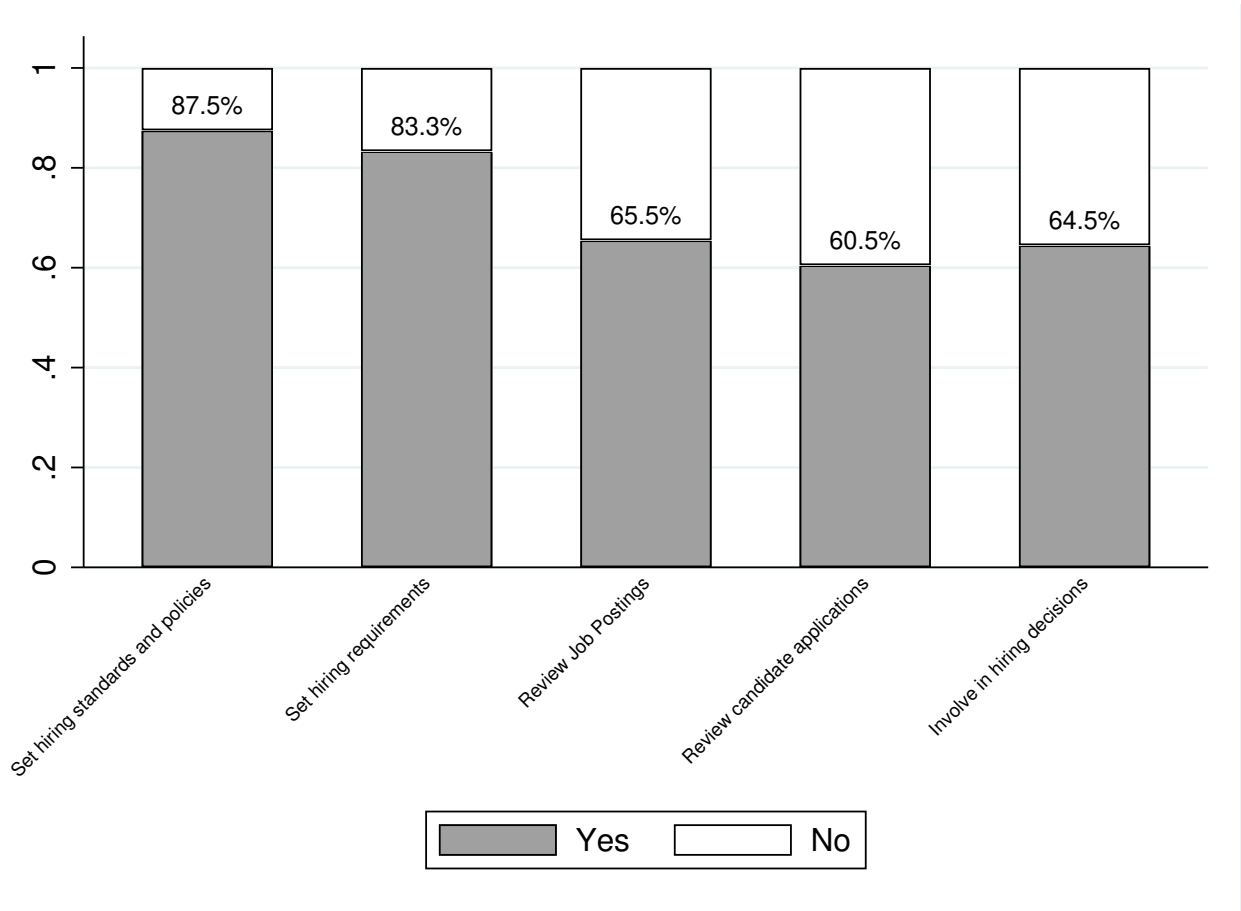


Figure A.1: Does the Headquarter Firm Influences Local Hiring?

Notes: We surveyed 200 respondents who have worked in a foreign subsidiary of a multi-national firm. Respondents are asked: "In local hiring, does your HQ ___?" and are given the "yes/no" option for the following five scenarios: (a) Set hiring standards and procedures, (b) Review hiring requirements, (c) Review job postings, (d) Review applications, (e) Involve in hiring decisions.

Table A.1: Linear Estimation Predicting Headquarter Effects: Evidence from Job Postings in Foreign Subsidiaries

	Technical Skills		Social Skills		Creativity Skills		Provlem Solving Skills	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Headquarter's Average	0.0972**	0.0723***	0.0554**	0.0546***	0.201***	0.191***	0.137***	0.102**
Skill Level	(0.0316)	(0.0185)	(0.0178)	(0.0148)	(0.0355)	(0.0405)	(0.0346)	(0.0330)
Job Req. College	0.0953*	0.129**	0.0626*	0.0880**	0.0172	0.00637	0.0713*	0.0802**
Degree	(0.0349)	(0.0434)	(0.0259)	(0.0252)	(0.0164)	(0.0158)	(0.0291)	(0.0276)
Job Req. Graduate	0.0835*	0.147***	0.136*	0.151*	-0.0301	-0.0296	0.135	0.149
Degree	(0.0396)	(0.0230)	(0.0502)	(0.0567)	(0.0232)	(0.0258)	(0.0782)	(0.0899)
Job Req. Short-Cycle	-0.0372	0.0167	0.00202	0.0155	0.00254	0.00281	-0.00874	0.000768
Tertiary Degree	(0.0306)	(0.0158)	(0.0197)	(0.0199)	(0.0103)	(0.00818)	(0.0161)	(0.0169)
Job Req.	0.0130	0.0459	0.0474*	0.0651***	-0.00149	-0.00742	0.0551***	0.0705***
Non-Tertiary Degree	(0.0332)	(0.0347)	(0.0184)	(0.0159)	(0.0117)	(0.0108)	(0.0145)	(0.0118)
Job Req. Work	0.00110	0.0109	-0.0555***	-0.0399*	-0.00684	-0.0115*	-0.0397*	-0.0395*
Experience	(0.0591)	(0.0580)	(0.0115)	(0.0150)	(0.00498)	(0.00431)	(0.0146)	(0.0171)
Num of Skills Listed	0.731***	0.733***	0.132***	0.114***	0.119***	0.112***	0.140***	0.139***
(log)	(0.0245)	(0.0335)	(0.00778)	(0.00710)	(0.00775)	(0.00753)	(0.00699)	(0.0101)
Observations	215728	215728	215728	215728	215728	215728	215728	215728
R^2	0.675	0.756	0.347	0.540	0.356	0.518	0.300	0.470
Fixed Effects:								
Posting Year	Yes		Yes		Yes		Yes	
Local Country	Yes		Yes		Yes		Yes	
Occupation x Sector	Yes		Yes		Yes		Yes	
Occupation x Sector x Country x Year		Yes		Yes		Yes		Yes

Standard errors in parentheses

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Notes: These models examine the extent to which skill requirements in a multi-national firm's headquarter country can predict skill requirements in its foreign subsidiaries. We focus on four types of commonly listed skills. Our sample includes all jobs posted by foreign subsidiaries of multi-national firms and each job posting constitutes a unit of observation. The dependent variables are binary outcomes, indicating whether a particular type of skill is mentioned in the job posting. Independent variable, Headquarter's Average Skill Level, is the proportion of jobs in that firm's HQ country that require that type of skill. Standard errors clustered at the country level are in parentheses.

Appendix Section B. Sample Distribution

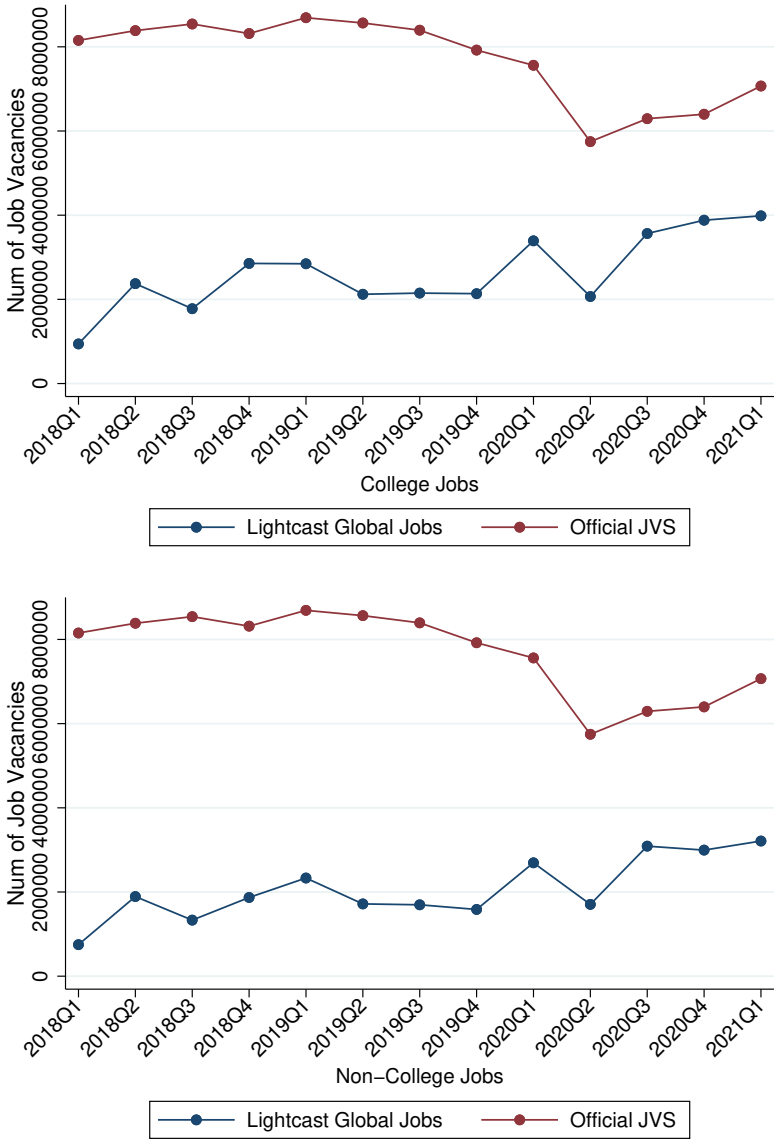


Figure B.1: Number of Job Postings by Quarter

Notes: The figures compare the number of job postings in the Lightcast sample and the number of job openings from Job Vacancy Statistics provided by Eurostat. We separate high-skilled jobs from low-skilled jobs in Lightcast. The former includes managerial and professional positions and the latter includes the rest. Job vacancy information in JVS is derived using employer surveys and could underestimate the total number of job vacancies because it does not cover many small employers. We aggregate data across the 28 EU countries and plot the numbers quarter by quarter.

Table B.1: Number of Job Postings, Sorted by Country

	Complete Sample		Matched Lightcast-Orbis Sample		Foreign Subsidiaries Only	
Austria	1,371,833	2.19%	335,693	1.99%	38,800	3.04%
Belgium	3,069,948	4.91%	854,691	5.08%	152,981	11.97%
Bulgaria	361,137	0.58%	16,407	0.10%	3,929	0.31%
Cyprus	27,835	0.04%	414	0.00%	0	0.00%
Czech Republic	509,239	0.81%	84,560	0.50%	7,586	0.59%
Germany	18,267,440	29.21%	5,531,931	32.87%	419,656	32.85%
Denmark	71,028	0.11%	18,521	0.11%	630	0.05%
Spain	2,925,078	4.68%	283,834	1.69%	37,510	2.94%
Estonia	160,032	0.26%	19,186	0.11%	0	0.00%
Finland	282,364	0.45%	113,279	0.67%	10,959	0.86%
France	10,992,257	17.57%	1,846,789	10.97%	185,632	14.53%
United Kingdom	11,936,300	19.08%	4,706,597	27.97%	78,798	6.17%
Greece	140,525	0.22%	11,615	0.07%	1,626	0.13%
Croatia	124,003	0.20%	24,418	0.15%	0	0.00%
Hungary	181,070	0.29%	3,671	0.02%	1,754	0.14%
Ireland	911,670	1.46%	128,866	0.77%	23,061	1.81%
Italy	4,666,598	7.46%	1,471,574	8.74%	147,651	11.56%
Lithuania	213,937	0.34%	16,476	0.10%	0	0.00%
Luxembourg	66,113	0.11%	3,095	0.02%	1,106	0.09%
Latvia	135,813	0.22%	52,445	0.31%	0	0.00%
Malta	18,157	0.03%	90	0.00%	0	0.00%
Netherlands	2,284,906	3.65%	279,297	1.66%	16,447	1.29%
Poland	1,199,517	1.92%	224,350	1.33%	77,793	6.09%
Portugal	617,027	0.99%	42,874	0.25%	9,223	0.72%
Romania	293,750	0.47%	42,038	0.25%	15,343	1.20%
Slovakia	111,223	0.18%	27,509	0.16%	6,298	0.49%
Slovenia	78,947	0.13%	11,146	0.07%	0	0.00%
Sweden	1,528,033	2.44%	677,236	4.02%	40,735	3.19%
Total	62,545,780	100.00%	16,828,602	100.00%	1,277,518	100.00%

Table B.2: Major Online Portals Included in the Lightcast Sample

Country	Website	Country	Website
Austria	https://at.indeed.com/	Ireland	https://ie.indeed.com/
	https://www.job.at/		https://www.irishjobs.ie/
	https://www.karriere.at/		https://www.jobs.ie/
	https://www.monster.at/		https://www.jobsireland.ie/
	https://www.stepstone.at/		https://www.monster.ie/
Belgium	https://www.actiris.brussels/fr/citoyens/	Italy	https://www.adecco.it/
	https://be.indeed.com/		https://www.manpower.it/
	https://be.jobrapido.com/		https://www.monster.it/
	https://www.optioncarriere.com/		https://www.randstad.it/
	https://www.vdab.be/		http://www.wollybi.com/en/
Bulgaria	http://buljobs.bg./	Latvia	https://cv.lv/lv/
	https://www.jobs.bg/		https://www.visidarbi.lv/
	https://rabota.bg/	Luxembourg	https://www.adecco.lu/en-gb/
	http://www.sofiajobs.com/		https://lu.indeed.com/
	https://www.zaplata.bg/		https://en.jobs.lu/
Croatia	https://burzarada.hzz.hr/		https://www.monster.lu/
	https://www.moj-posao.net		https://www.moovijob.com/
	https://www.posao.hr/	Malta	https://jobsplus.gov.mt/
Cyprus	https://aggeliesergasias.com/		http://www.maltapark.com/jobs/jobs.aspx
	https://www.ergodotisi.com/en/	Netherlands	https://www.indeed.nl/
	https://www.pescps.dl.mlsi.gov.cy/		https://www.jobbird.com/nl
Czech Republic	https://www.jobs.cz/		www.monsterboard.nl
	https://www.prace.cz/		https://www.nationalevacaturebank.nl/
Denmark	https://www.jobindex.dk/		https://www.werk.nl/
	https://job.jobnet.dk/	Poland	https://www.gumtree.com/pl/
	https://www.ofir.dk/		https://www.infopraca.pl/
Estonia	https://www.cvkeskus.ee/		https://www.monsterpolska.pl/
	https://www.cv.ee		https://www.olx.pl/
	https://www.leia.ee/		https://www.pracuj.pl/
	https://www.palkamind.ee/	Portugal	https://pt.indeed.com/
	https://www.tootukassa.ee		https://pt.jobrapido.com/
Finland	https://duunitori.fi/		https://www.net-empregos.com/
	https://www.jobilla.com/en/		https://www.net-empregos.com
	https://www.monster.fi/		https://emprego.sapo.pt/
	https://www.oikotie.fi/	Romania	http://www2.card-profesional.ro/
	https://toimistot.te-palvelut.fi/		http://posturi.gov.ro/
France	https://fr.indeed.com/		https://www.ejobs.ro/
	https://www.leboncoin.fr/	Slovakia	https://www.careerjet.sk/
	https://www.meteojob.com/		https://www.istp.sk/
	https://www.monster.fr/		https://kariera.zoznam.sk/
	https://www.pole-emploi.fr/accueil/		https://praca.sme.sk/
Germany	https://de.indeed.com/		https://www.profesia.sk/
	https://www.jobware.de/	Spain	http://www.empleate.com/venezuela/
	https://www.jobworld.de/		https://es.indeed.com/
	https://www.monster.de/		https://www.infoempleo.com/
	https://www.stepstone.de/		https://www.infojobs.net/
Greece	https://www.kariera.gr/en		https://www.monster.es/
	https://www.skywalker.gr/	Sweden	https://jobbsafari.se/
	https://www.xe.gr/		https://www.metrojobb.se/
Hungary	https://jobline.hu/		https://arbetsformedlingen.se/platsbanken/
	https://www.monster.hu/	United Kingdom	https://www.adzuna.co.uk/
	https://www.profession.hu/		https://www.gov.uk/find-a-job
	http://vmp.munka.hu/		https://www.indeed.co.uk/
	https://www.workania.hu/		http://www.reed.co.uk/
			http://www.totaljobs.com/

Notes: The table shows the major job portals in each country that Lightcast uses to collect job postings. It does not include all job portals, for larger economies like Germany and the United Kingdoms, there are over hundreds of job portals, we only include a few examples.

Table B.3: Descriptive Statistics (Cross-Country Sample)

	Mean	SD	Min	Max
Foundational Skill Level	3.44	0.57	1.00	4.82
Social Trust (Local Country)	0.32	0.16	0.08	0.70
Job Req. College Degree	0.10	0.30	0.00	1.00
Job Req. Graduate Degree	0.05	0.23	0.00	1.00
Job Req. Short-Cycle Tertiary Degree	0.38	0.49	0.00	1.00
Job Req. Non-Tertiary Degree	0.46	0.50	0.00	1.00
Job Req. Work Experience	0.53	0.50	0.00	1.00
Num of Skills Listed (log)	2.03	1.03	0.00	5.17
Human Capital Index (Local Country)	0.75	0.05	0.60	0.81
GDP per Capita(log) (Local Country)	10.17	0.67	8.83	11.56
Rule of Law (Local Country)	1.09	0.59	-0.01	2.05
Vocational Education(%) (Local Country)	0.48	0.16	0.17	0.71
Collective Bargaining(%) (Local Country)	0.56	0.28	0.00	0.98
Unemployment Rate (Local Country)	0.06	0.03	0.02	0.16

Pairwise Correlation (Cross-Country Sample)

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
Foundational Skill Level	1.00													
Social Trust (Local Country)	0.07	1.00												
Job Req. College Degree	-0.09	-0.01	1.00											
Job Req. Graduate Degree	-0.02	-0.06	-0.08	1.00										
Job Req. Short-Cycle Tertiary Degree	0.03	-0.24	-0.26	-0.19	1.00									
Job Req. Non-Tertiary Degree	0.03	0.27	-0.30	-0.22	-0.73	1.00								
Job Req. Work Experience	0.05	-0.02	-0.09	-0.06	0.15	-0.07	1.00							
Num of Skills Listed (log)	-0.20	0.12	0.16	0.05	-0.20	0.08	-0.31	1.00						
Human Capital Index (Local Country)	0.06	0.49	-0.15	-0.05	0.22	-0.10	0.08	0.01	1.00					
GDP per Capita(log) (Local Country)	0.10	0.39	-0.08	0.03	0.14	-0.10	0.02	0.02	0.65	1.00				
Rule of Law (Local Country)	0.11	0.40	-0.11	-0.02	0.24	-0.16	0.01	0.14	0.59	0.56	1.00			
Vocational Education(%) (Local Country)	-0.00	-0.09	-0.05	0.03	0.05	-0.03	0.10	-0.27	0.03	-0.07	-0.20	1.00		
Collective Bargaining(%) (Local Country)	0.05	-0.16	-0.08	0.12	0.26	-0.26	0.13	-0.35	-0.14	0.32	-0.17	0.23	1.00	
Unemployment Rate (Local Country)	-0.04	-0.20	0.13	0.05	-0.18	0.07	-0.06	-0.12	-0.52	-0.08	-0.60	-0.17	0.58	1.00

Table B.4: Descriptive Statistics (Bilateral Country Sample)

	Mean	SD	Min	Max
Foundational Skill Level	3.42	0.56	1.00	4.82
Social Trust (HQ Country to Local Country)	3.04	0.38	1.98	3.83
Job Req. College Degree	0.12	0.33	0.00	1.00
Job Req. Graduate Degree	0.08	0.27	0.00	1.00
Job Req. Short-Cycle Tertiary Degree	0.41	0.49	0.00	1.00
Job Req. Non-Tertiary Degree	0.38	0.49	0.00	1.00
Job Req. Work Experience	0.53	0.50	0.00	1.00
Num of Skills Listed (log)	2.03	1.01	0.00	5.02
Diff. in GDP per Capital (log) (HQ-Local)	9.62	1.02	5.99	11.49
Common Legal Origin (HQ-Local)	0.17	0.38	0.00	1.00
Physical Distance (log) (HQ-Local)	6.95	0.67	4.20	8.13

Pairwise Correlation (Bilateral Country Sample)

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
Foundational Skill Level	1.00										
Social Trust (HQ Country to Local Country)	0.14	1.00									
Job Req. College Degree	-0.06	-0.05	1.00								
Job Req. Graduate Degree	-0.03	-0.01	-0.11	1.00							
Job Req. Short-Cycle Tertiary Degree	0.06	0.06	-0.31	-0.24	1.00						
Job Req. Non-Tertiary Degree	-0.01	-0.02	-0.30	-0.23	-0.66	1.00					
Job Req. Work Experience	0.03	0.01	-0.12	-0.12	0.09	0.05	1.00				
Num of Skills Listed (log)	-0.16	-0.04	0.12	0.08	-0.07	-0.05	-0.30	1.00			
Diff. in GDP per Capital (log) (HQ-Local)	0.02	0.10	-0.06	-0.10	-0.03	0.13	0.10	-0.09	1.00		
Common Legal Origin (HQ-Local)	0.06	0.31	0.06	-0.01	-0.06	0.03	-0.02	-0.01	-0.12	1.00	
Physical Distance (log) (HQ-Local)	-0.10	-0.19	0.05	-0.09	-0.20	0.22	0.05	-0.00	0.03	-0.18	1.00

Appendix Section C. Validating the Concept of Foundational and Advanced Skills

This appendix section validates the concept of foundational and advanced skills. Foundational skills are those with fewer prerequisites to learn, while advanced skills require more prerequisites. We use an online survey to place all skills on a continuous spectrum, from most foundational to most advanced. To validate this construct, we compare each skill's foundational score with its average years of work experience and job preparation requirement. The higher the skill's advancement level, the more years of work experience and preparation it should necessitate.

First, for each skill, we examine all job postings in our sample that require this skill and average the required years of work experience in those jobs. Figure C.1 plots the correlation between a skill's position on the foundational-advanced spectrum and its average years of work experience. Consistent with our expectation, we find a strong linear relationship: the more foundational skills require fewer years of work experience.

[Insert Appendix Figure C.1 about here]

Second, we compare O*NET's job preparation levels to a skill's position on our foundational-advanced scale. O*NET's job zones categorize occupations based on their specific preparation requirements, ranging from Zone 1 for jobs with minimal formal training to Zone 5 for occupations demanding extensive training and experience. These job zones are available for each O*NET occupation. Similar to above, we aggregate a skill's average preparation level by measuring the average preparation level for all occupations including that skill. As Figure C.2 shows, a skill with higher foundational score is associated with much smaller preparation level.

[Insert Appendix Figure C.2 about here]

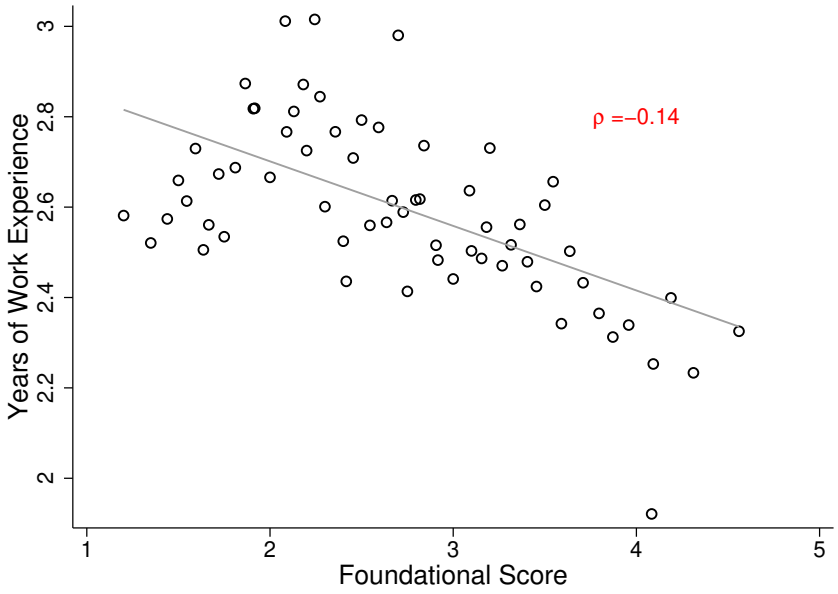


Figure C.1: Correlation between ESCO Skill's Average Level of Work Experience and Foundational Score

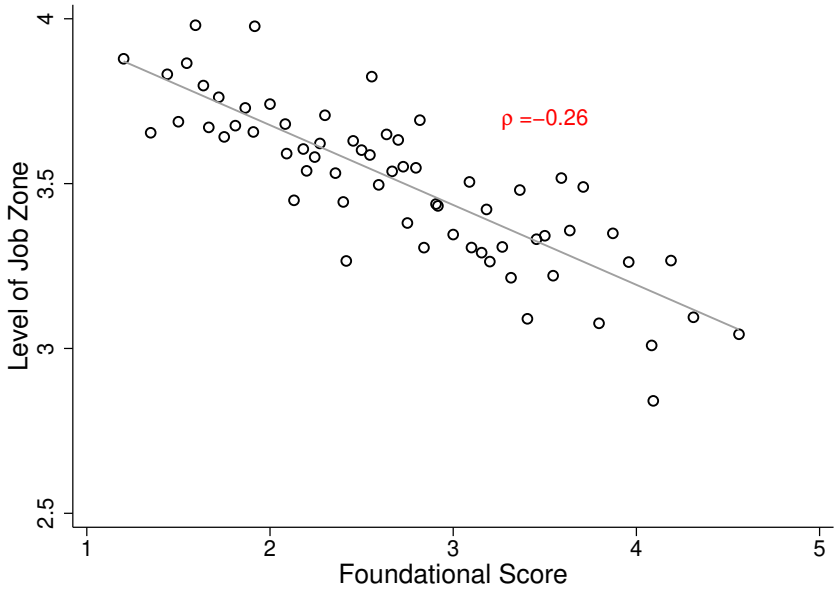


Figure C.2: Correlation between ESCO Skill's Average Level of Job Zone and Foundational Score

Notes: These two figures show the correlation between ESCO skills' foundational score and (1) their work experience requirement and (2) job zone level. Each ESCO skill constitutes a unit of observation. Foundational score comes from our self-administered online survey. For each skill, its work experience requirement is the average years of work experience required for all jobs that list that skill. Its job zone level is the average O*NET job zone level for all jobs that list that skill.

Appendix Section D. Measures of Generalized Trust

The EVS is a large-scale longitudinal survey administered every nine years that covers an increasing number of countries. It is a random sample survey, which gives full coverage of the target population aged 18 years or older and living in private households, regardless of nationality or language. Respondents are interviewed face-to-face for approximately one hour. The EVS provides insights into the ideas, beliefs, preferences, attitudes, values, and opinions of citizens all over Europe. Topics include how Europeans think about life, family, work, religion, politics, and society (EVS, 2017).

There are five waves of EVS surveys currently available; these surveys were taken in 1981, 1990, 1999, 2008, and 2017. The combined EVS surveys cover more than 223,000 respondents from 48 countries/regions, including all 28 EU countries in our Lightcast sample. The exact question we use is "Generally speaking, would you say that most people can be trusted, or that you can't be too careful in dealing with people?" and respondents can select one of the two options: "Most people can be trusted" or "Can't be too careful." For each country, we measure social trust as the number of people in that country choosing the option "Most people can be trusted" over the total number of people who answered the question.

An alternative option to measure a country's generalized trust is the World Values Survey, a global survey of basic values and beliefs in over 100 countries. It is also a nationally representative survey, as it uses a stratified multistage random sampling approach in each country. Compared to the EVS, however, the WVS does not cover all 28 EU countries in our sample. In particular, it does not cover Austria, Belgium, Denmark, Ireland, Luxembourg, Malta, and Portugal. For the remaining 21 countries, the WVS asks respondents the following question: "Generally speaking, would you say that most people can be trusted or that you need to be very careful in dealing with people?" Respondents can answer from one of the three choices: "Most people can be trusted," "Need to be very careful," or "Don't know." This question was asked in all seven waves of the WVS since 1981. We measure a country's social trust as the number of people in that country choosing the option "Most people can be trusted" over the total number of people who chose either that option or the option "Need to be very careful."

Appendix Figure D.1 compares the social trust measure calculated using the EVS and that calculated using the WVS in our 21 EU countries. In this comparison, we aggregated responses from all waves, since the two surveys share similar time frames. As the figure shows, results from the two surveys are highly consistent, with a correlation of over 0.9. Not surprisingly, we produce the same set of conclusions when using WVS in place of EVS to measure social trust.

[Insert Appendix Figure D.1 about here]

In calculating social trust, we combined different waves of EVS. An important assumption is that a country's social trust does not change significantly over time (Gauchat 2012; Kwon, Heflin, and Ruef 2013). This is validated in Appendix Figure D.2, where we compare each country's social trust in 1980s to that in 2010s based on the EVS survey. We find a strong correlation, over 0.9, suggesting country-level social trust is highly stable over time.

[Insert Appendix Figure D.2 about here]

Despite the widespread use of the survey-based trust measures, there is growing doubt about the validity and equivalence of conventional measures of generalized trust. For example, Nannestad (2008) reviews the limitations of using survey-based studies to measure generalized trust, and suggests that one major issue is the wording of the question, which doesn't specify the parties

involved and the matters being trusted. To address these concerns, Robbins (2022, 2023) advances trust research and develops two novel trust measures—the Stranger Face Trust scale (SFT) and the Imaginary Stranger Trust scale (IST). These two trust measures are assessed in a person-specific and domain-specific manner, capturing the average trust across a variety of situations, trustees, behaviors, and contexts. Similarly, Delphy, Newton and Welzel (2011) and van Hoorn (2014) also question the validity of the standard survey question's use of "most people". They emphasize the importance of considering the width of the imagined circle of "most people" and point out that the radius of "most people" varies considerably across countries.

To better alleviate some of these concerns, we validate the survey-based trust measure using a standard economic experiment commonly referred to as the "trust game" (Berg, Dickhaut, and McCabe 1995). In this two-party game, the "trustor" is given a choice of sending some, all, or none of his or her $1 experimental payment to an anonymous partner, the "trustee". The experimenter then triples any money sent. The trustee then decides how much of his or her total wealth ($1 experimental payment plus the tripled money) to return to the trustor. Our focus is solely on measuring trust and not reciprocity, so all participants were assigned the role of trustor. At the end of the experiment, they were paid based on a random number generator whose distribution follows standard trustee responses from previous studies.

Using the online platform Prolific, we conducted a lab experiment of 1,173 participants from 20 countries, with 60 respondents per country except for Denmark where we had 33 participants. We had difficulty recruiting people in 8 smaller EU countries, including Bulgaria, Cyprus, Croatia, Lithuania, Luxembourg, Malta, Romania, and Slovakia.

In our trust game, we followed Berg, Dickhaut, and McCabe (1995)'s experiment design. Participants were provided with instructions on the procedure of the trust game, and were asked to make a decision: "You will play this game with a randomly assigned Prolific participant in your country. You will enter your decision as Player A, and a randomly assigned participant will see your choice a few days later and play the role of Player B. As Person A, what amount would you like to give to Person B? You will be rewarded real money for the final payoff." Respondents were given the option to choose any amount from $0 to $1 in increments of $0.1.

We then calculated the average dollar amount given by our participants in each country. The correlation between the trust measure based on our trust-game lab experiment and that based on EVS trust surveys is 0.7. Since this correlation is not as high as we would like, we conducted an additional analysis using the trust measure from our trust as the main independent variable. Appendix Table D.1 shows that results using this trust game measure produce substantively similar findings as Table 1, with a slightly smaller effect size of around 0.8 standard deviations.

[Insert Appendix Table D.1 about here]

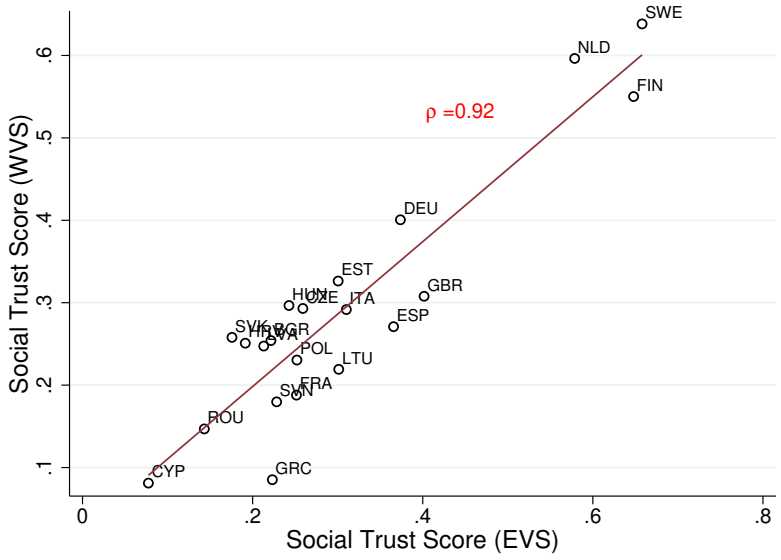


Figure D.1: Comparing EVS and WVS

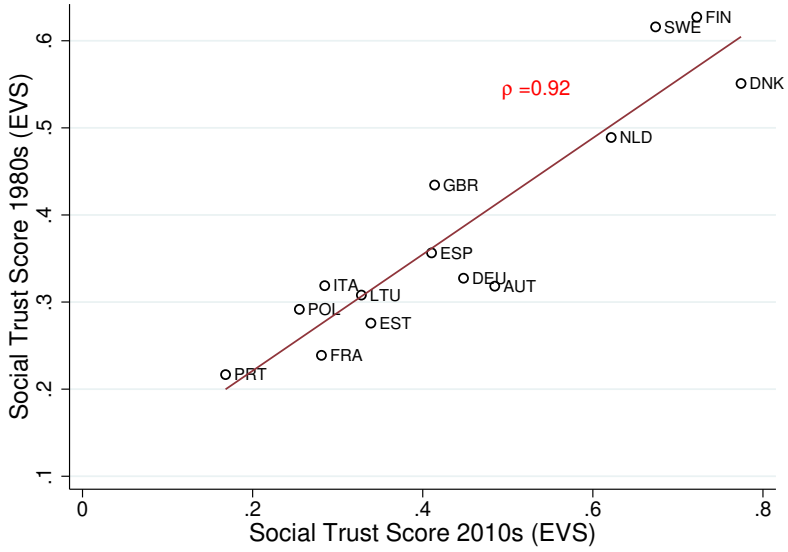


Figure D.2: Temporal Trend in Social Trust

Notes: Figure D.1 compares country-level social trust calculated by the European Values Study (EVS) and the World Values Survey (WVS). Both the EVS and WVS have the question "Most people can be trusted" and we calculate the proportion of people answered "most people can be trusted" over all those who answered the question. 21 EU countries are covered by both the EVS and WVS, we plot the social trust measures derived from both surveys. Figure D.2 compares social trust scores derived from the EVS in the 1980s and those in the 2010s. The 1980s EVS survey wave took place between 1980-1984, the 2010s EVS survey wave took place between 2017-2020.

Table D.1: Linear Estimation Predicting Preference for Foundational Skills: Using Trust Game Measures

	Matched Sample (With Orbis)						
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Social Trust: Trust Game Measure	1.462***	1.213*	0.347*	0.412	0.537	0.532*	0.368*
	(0.331)	(0.429)	(0.124)	(0.352)	(0.274)	(0.247)	(0.172)
Job Req. College Degree		0.00603	0.0336	-0.00486	0.0308	0.0189	0.0191
		(0.0140)	(0.0216)	(0.0390)	(0.0209)	(0.0196)	(0.0202)
Job Req. Graduate Degree		0.0138	0.0272	0.0196	0.0347***	0.0216*	0.0214*
		(0.0187)	(0.0148)	(0.0156)	(0.00866)	(0.00760)	(0.00783)
Job Req. Short-Cycle Tertiary Degree		0.00607	0.0162	0.00763	0.00876	0.00640	0.00653
		(0.0152)	(0.0107)	(0.0161)	(0.00817)	(0.00976)	(0.00967)
Job Req. Non-Tertiary Degree		0.00319	0.0246	0.0430**	0.0223	0.0287*	0.0292*
		(0.0288)	(0.0186)	(0.0149)	(0.0128)	(0.0109)	(0.0115)
Job Req. Work Experience		0.0105	0.00209	0.0273	0.0154	0.00793	0.00785
		(0.00911)	(0.00756)	(0.0180)	(0.00779)	(0.00566)	(0.00567)
Num. of Skills (log)		-0.0249	-0.0378*	-0.132***	-0.0656**	-0.0316	-0.0319
		(0.0151)	(0.0157)	(0.0218)	(0.0178)	(0.0186)	(0.0186)
GDP per Capita (log) (Local Country)			0.186***				0.188***
			(0.0459)				(0.0424)
Human Capital Index (Local Country)			-0.851				-0.801
			(0.425)				(0.666)
Rule of Law (Local Country)			0.0892**				-0.0199
			(0.0259)				(0.0233)
Unemployment Rate (Local Country)			-0.672**				-0.0512
			(0.227)				(0.322)
% of Graduates from Vocational Education (Local Country)			-0.0638				-0.0751
			(0.0811)				(0.0492)
Collective Bargaining Coverage (Local Country)			0.0212				0.0262
			(0.0333)				(0.0543)
Observations	13971502	13945823	13290080	13971502	13878536	13945823	13945823
R^2	0.015	0.319	0.360	0.243	0.417	0.598	0.598
Fixed Effects:							
Posting Year	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Posting Month	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Occupation		Yes			Yes		
Occupation x Sector			Yes				
Employer				Yes	Yes		
Occupation x Employer						Yes	Yes

Standard errors in parentheses

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Notes: These models use the same model specification as in Table 3. Instead of measuring social trust using surveys, we conduct online trust games in 20 countries to measure social trust. Standard errors clustered at the country level are in parentheses.

Appendix Section E. Measure of Bilateral Trust

Measures of Bilateral Trust An important independent variable is bilateral trust between countries. Bilateral trust refers to the amount of generalized trust that people from one country have regarding people from another country. We measure bilateral trust among European countries using the Eurobarometer surveys, designed to monitor the social and political attitudes of citizens of the European Union. Since 1970, they have been conducted annually on a representative sample of individuals over 16 years old. Each survey samples about 1,000 individuals per country and the list of covered countries varies slightly from year to year. Its overall geographic coverage has been increasing from only five countries in 1970 to 16 countries in the late 1990s.

The survey question we use is: "I would like to ask you (a question) about how much trust you have in people from various countries." Respondents were asked, regarding each country on a list of countries, their trust level on a four-point scale: "lots of trust," "some trust," "not very much trust," and "no trust at all." This question on bilateral trust was asked in 1970, 1976, 1980, 1982, 1986, 1990, 1991, and every year from 1993 to 1996. Similar to generalized trust, we could measure bilateral trust using either responses from the latest survey wave or aggregated responses from all waves. Whether or not to combine the waves largely depends on how much change bilateral trust experiences over time. As Appendix Figure E.1 shows, bilateral trust measures in 1970s are that in 1990s are highly correlated, with a correlation of over 0.8. This suggests that bilateral trust, like generalized trust, is also highly stable over time. We therefore aggregate responses from all survey waves to create our bilateral trust measures. This approach is consistent with previous studies (e.g., Guiso, Sapienza, and Zingales 2009).

[Insert Appendix Figure E.1 about here]

The Eurobarometer survey asks respondents to indicate their bilateral trust on a four-point scale. We simply averaged the responses such that the bilateral trust ranges from 1 to 4, 4 being the highest. An alternative approach is to calculate (a) the proportion of individuals answering "lots of trust," and (b) the proportion answering either "lots of trust" or "some trust." Measures using these alternative approaches are highly similar to our main approach of using a four-point scale, with correlations over 0.9.

We focus on bilateral trust toward people of EU countries in our job posting sample. The Eurobarometer surveys ask respondents about their trust in people from 29 countries, including 24 European countries, the United States, China, Russia, Japan, and Turkey. Out of these 24 European countries, 21 are in our job posting sample: Austria, Belgium, Bulgaria, Czechia, Denmark, Finland, France, Germany, Greece, Hungary, Ireland, Italy, Luxembourg, Netherlands, Poland, Portugal, Romania, Slovakia, Spain, Sweden, and Great Britain. The Eurobarometer surveys in 16 European countries includes the bilateral trust question, and we have employers headquartered in all 16 of these countries in our job posting sample. These are Austria, Belgium, Denmark, Finland, France, Germany, Greece, Ireland, Italy, Luxembourg, Netherlands, Norway, Portugal, Spain, Sweden and United Kingdom. We therefore have 336 bilateral dyads (16 x 21=336) and bilateral trust measures.

One concern with Eurobarometer's bilateral trust measure is the timing of the surveys. These surveys were conducted from 1970 to 1996, whereas our job posting sample is mostly from 2018 to 2021. This temporal gap of two decades could introduce temporal mismatch if bilateral trust shifted since the 1990s. To better address this issue, we administered a cross-country survey in 2023 to replicate the bilateral trust measure. Using the online platform Prolific, we surveyed 1,173

individuals in 20 countries, with 60 respondents per country except for Denmark where we had 33 participants.

In this self-administered survey, we followed the exact same design as the Eurobarometer surveys, with the question: "I would like to ask you (a question) about how much trust you have in people from various countries," and respondents were given the four choices: "lots of trust," "some trust," "not very much trust," and "no trust at all," toward people in each of the target countries. We then averaged the trust scores for each country-to-country dyad to replicate the bilateral trust measure. As Appendix Figure E.2 shows, the correlation between the bilateral trust measure based on our self-administered survey and that based on Eurobarometer surveys is around 0.7. Since this correlation is not as high as we would like, we conduct an additional analysis using our self-administered bilateral trust measures as the main independent variable. Appendix Table E.1 shows that results using this bilateral trust measure produces substantively similar findings as Table 2, with comparable effect size.

[Insert Appendix Figure E.2 about here]

[Insert Appendix Table E.1 about here]

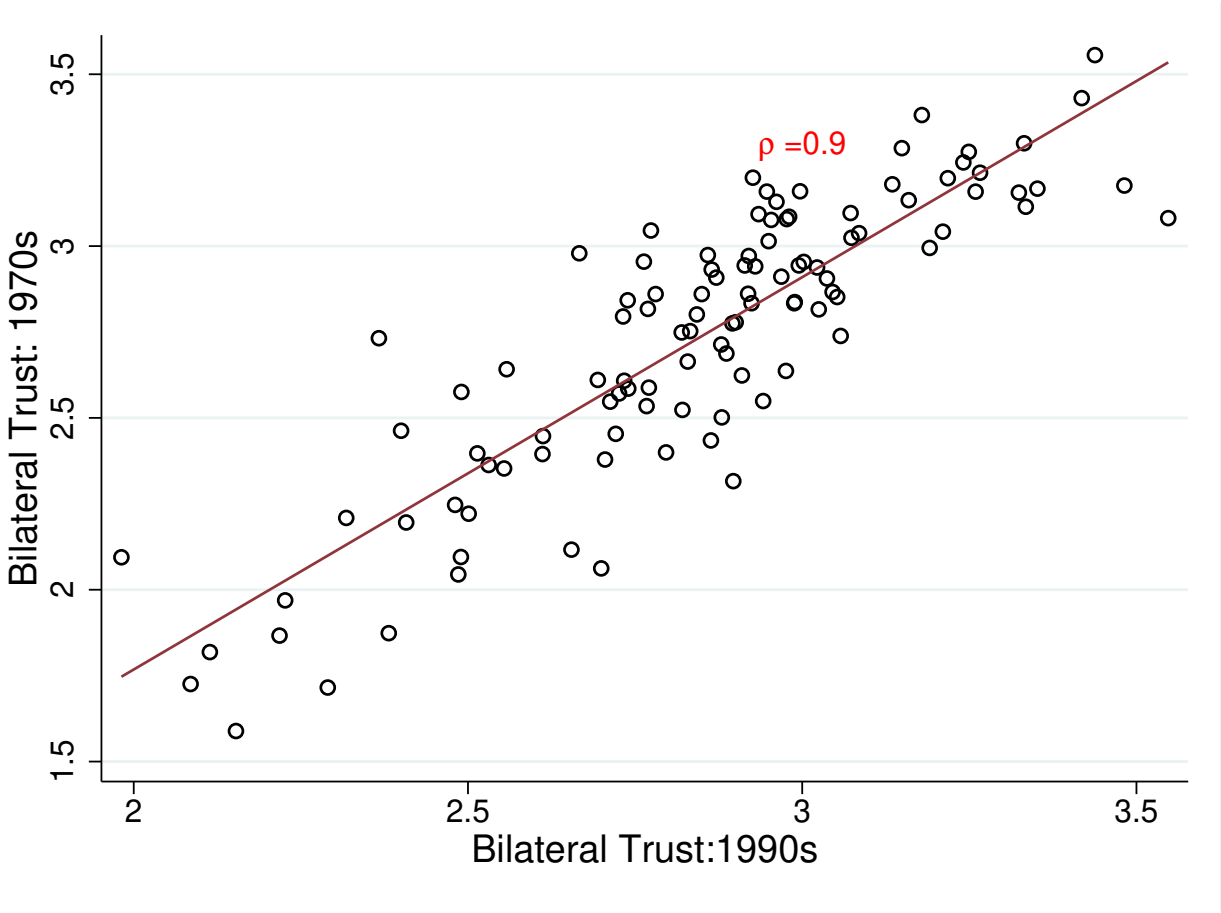


Figure E.1: Correlation between Bilateral Trust 1970 and 1990

Notes: The figure plots Eurobarometer's bilateral trust measures in the 1970s and 1990s. The unit of observation is country dyad. We averaged the bilateral trust level in the 1970s and then in the 1990s and plot their correlation using Stata command *binscatter*.

Figure E.2: Correlation between Eurobarometer Bilateral Trust and Self-administered Bilateral Trust Survey

Notes: The figure plots Eurobarometer's bilateral trust measures (averaged over the years from 1976 to 1996) and our self-administered bilateral trust measure. The unit of observation is country dyad and the correlation is shown using Stata command *binscatter*

Table E.1: Linear Estimation Predicting Preference for Fundamental Skills: Using Self-Administered Survey

	OLS						IV
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Social Trust 2022	0.226**	0.177***	0.292***	0.234***	0.268***	0.265***	0.644***
(HQ-Local)	(0.0701)	(0.0465)	(0.0631)	(0.0445)	(0.0435)	(0.0549)	(0.142)
Job Req. College		0.0222	0.0256	0.0397	0.0349	0.0345	0.0331***
Degree		(0.0220)	(0.0320)	(0.0226)	(0.0212)	(0.0211)	(0.00783)
Job Req. Graduate		0.00643	0.0326	0.0345	0.0286	0.0284	0.0289***
Degree		(0.0200)	(0.0339)	(0.0235)	(0.0265)	(0.0265)	(0.00785)
Job Req. Short-Cycle		-0.00705	-0.00322	0.00204	0.00258	0.00248	0.00328
Tertiary Degree		(0.0129)	(0.0212)	(0.0131)	(0.0134)	(0.0134)	(0.00767)
Job Req.		0.00712	0.0427	0.0184	0.0267	0.0261	0.0256***
Non-Tertiary Degree		(0.0194)	(0.0257)	(0.0206)	(0.0208)	(0.0208)	(0.00773)
Job Req. Work		0.00404***	0.00858***	0.00463***	0.00355*	0.00357*	0.00345***
Experience		(0.00112)	(0.00206)	(0.00136)	(0.00154)	(0.00155)	(0.000186)
Num. of Skills (log)		-0.0320**	-0.125***	-0.0463**	-0.0173	-0.0175	-0.0223***
		(0.0116)	(0.0149)	(0.0142)	(0.0151)	(0.0151)	(0.000799)
Diff. in GDP per						0.0221**	0.0293***
Capital (log) (HQ-Local)						(0.00688)	(0.00410)
Common Legal Origin						0.0407	0.0877***
(HQ-Local)						(0.0239)	(0.0194)
Common Official						-0.0649**	-0.0623***
Language (HQ-Local)						(0.0213)	(0.00871)
Physical Distance						-0.00577	0.0341
(log) (HQ-Local)						(0.0150)	(0.0191)
Observations	959361	957730	959361	954637	957730	957730	814009
R^2	0.038	0.358	0.207	0.414	0.575	0.576	0.009
Fixed Effects:							
Posting Year	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Posting Month	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Local Country	Yes	Yes	Yes	Yes	Yes	Yes	Yes
HQ Country	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Occupation		Yes		Yes			
Employer			Yes	Yes			
Occupation x Employer					Yes	Yes	Yes

Standard errors in parentheses

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Notes: These models use the same model specification as in Table 3. Instead of measuring bilateral trust using old Eurobarometer surveys, we measure bilateral trust using our self-administered online survey. Standard errors clustered at the country dyad level are in parentheses.

Table E.2: Bilateral Trust Matrix

	USA	RUS	ITA	DEU	CHN	GBR	FRA	CHE	IRL	BEL	LUX	NLD	DNK	ESP	GRC	PRT
AUT	2.57	1.76	2.43	3.09		2.59	2.62	3.24	2.55	2.95	3.07	2.95	2.95	2.58	2.52	2.50
BEL	2.72	1.94	2.38	2.70	1.78	2.81	2.87	3.10	2.71	3.21	3.23	2.84	2.96	2.55	2.42	2.50
DEU	2.93	1.81	2.18	3.48	1.87	2.74	2.70	3.25	2.52	2.74	2.86	2.84	2.90	2.53	2.44	2.40
DNK	2.89	2.27	2.51	3.10	2.53	3.18	2.83	3.21	2.99	3.13	3.19	3.28	3.35	2.63	2.55	2.63
ESP	2.23	2.21	2.56	2.70	2.35	2.29	2.35	2.74	2.55	2.71	2.70	2.83	2.72	3.24	2.42	2.49
FIN	2.86	1.90	2.51	2.89		3.18	2.92	3.37	2.92	3.07	3.06	3.14	3.30	2.61	2.68	2.67
FRA	2.61	1.98	2.38	2.69	1.94	2.52	3.12	3.01	2.69	3.03	3.05	2.90	2.93	2.64	2.50	2.56
GBR	2.65	2.31	2.46		2.17	2.81	2.39	2.81	2.49	2.72	2.75	2.80	2.80	2.40	2.42	2.60
GRC	2.06	2.25	2.28	2.19	2.25	2.25	2.69	2.74	2.46	2.50	2.47	2.41	2.42	2.66	3.15	2.56
IRL	2.90	2.10	2.63	2.75	2.20	2.76	2.78	2.98	3.27	2.90	2.93	2.96	2.95	2.61	2.48	2.63
ITA	2.82	2.10	2.74	2.58	2.03	2.50	2.61	2.83	2.37	2.63	2.61	2.75	2.69	2.61	2.38	2.32
LUX	2.97	2.00	2.55	2.77	1.93	2.56	2.82	3.03	2.59	2.81	3.41	2.96	2.86	2.66	2.51	2.57
NLD	2.91	2.15	2.33	2.81	1.98	2.96	2.68	3.21	2.77	3.13	3.25	3.23	3.25	2.62	2.56	2.72
NOR	3.14	2.52	2.65	2.99		3.27	2.93		3.01	3.18	3.20	3.26	3.53	2.56	2.52	2.60
PRT	2.68	2.08	2.51	2.44	2.28	2.62	2.84	2.67	2.48	2.62	2.68	2.66	2.62	2.54	2.38	3.20
SWE	3.20	2.45	2.81	3.13		3.43	3.04	3.50	3.26	3.23	3.31	3.33	3.57	2.86	2.88	2.97

	JPN	TUR	DEW	POL	HUN	ROU	CZE	DEE	BGR	YUG	AUT	FIN	SWE	NOR	SVK
AUT	2.49	1.78		2.07	2.31		2.05				3.56	2.94	3.05	3.00	1.98
BEL	2.30	1.85	2.59	2.36	2.34	2.31	2.28	2.35	2.28	2.38	2.83	2.92	2.99	2.91	2.17
DEU	2.61	2.12	2.82	2.00	2.35	1.99	2.19	2.60	2.09	2.19					
DNK	2.89	2.16	2.79	2.64	2.65	2.50	2.61	2.68	2.54	2.55	3.22	3.20	3.41	3.50	2.51
ESP	2.57	1.93	2.39	2.29	2.20	2.18	2.25	2.30	2.10	2.16	2.65	2.71	2.84	2.79	2.27
FIN	3.05	2.13		2.59	2.87		2.64				3.29	3.69	3.35	3.48	2.53
FRA	2.28	1.90	2.61	2.45	2.43	2.32	2.35	2.38	2.33	2.37	2.70	2.91	2.99	2.97	2.22
GBR	2.24	2.13	2.56	2.65	2.58	2.49	2.56	2.47	2.46	2.58					
GRC	2.52	1.30	2.31	2.24	2.26	2.15	2.27	2.32	1.90	1.78	2.32	2.42	2.51	2.40	2.27
IRL	2.55	2.14	2.64	2.65	2.59	2.40	2.52	2.53	2.47	2.52	2.93	2.92	2.92	2.93	2.52
ITA	2.76	1.73	2.49	2.32	2.30	2.31	2.26	2.41	2.23	2.25	2.66	2.78	2.89	2.78	2.10
LUX	2.46	1.89	2.50	2.24	2.27	2.22	2.24	2.32	2.26	2.34	2.95	2.94	2.98	2.91	2.06
NLD	2.63	2.27	2.72	2.65	2.64	2.58	2.65	2.64	2.61	2.65	2.90	3.25	3.34	3.30	2.43
NOR	3.09														
PRT	2.39	1.98	2.62	2.13	2.10	2.34	2.11	2.45	2.37	2.41	2.13	2.18	2.24	2.22	1.79
SWE	3.19	2.39		2.69	2.87		2.88				3.53	3.49	3.59	3.65	2.79

Notes: These values come from Eurobarometer surveys, averaged from 1976 to 1996. The country dyad in row x and column y refers to the country x's trust of country y.

Appendix Section F. Evidence on Employee Training

In this appendix section, we examine whether employees in higher trust countries receive more employer training. According to our theory, employers in higher trust societies prefer more foundational skills because they expect to train employees more. We use the European Skills and Job Survey (ESJS) to compare the degree to which employers in each country provide job training. While the survey cannot causally pinpoint our mechanisms, it could provide some suggestive evidence supporting our story.

ESJS is a survey of representative samples of adult employees (aged 25-65) in 28 member states of the European Union. The survey collects individuals' qualifications and skills to examine the match between their skills and the skill needed in their jobs. We obtained the first and only published wave of the survey, conducted in Spring 2014. This includes a total of 48,676 adult employees in the 28 EU countries. The median country, Hungary, has 1,500 respondents, with Cyprus, Malta and Luxembourg having the fewest at 500 and Poland having the most at 4,017.

Two questions are particularly relevant for our purpose. The first is "In the last 12 months, have you undergone any of the following types of training for your current job? (Q33). (1) Training courses attended mostly or only during work hours; (2) Training courses attended mostly or only outside of work hours; (3) Training while performing your regular job; (4) I have not undergone any training." These four answer choices are not mutually exclusive; respondents are asked to select all that apply. We use this question because it not only indicates whether employees have received any training (Q33.4), but also the source of this training. This source could be systematic training during work hours (Q33.1), on-the-job training (Q33.3), or systematic training outside of work hours (Q33.2). According to our theory, workers in higher-trust countries should receive more training opportunities at work.

The second question is "Who paid for this training? (Q34). (1) You paid; (2) Your employer paid; (3) Your employer paid part of the cost; (4) The government or other public sector organization paid; (5) Someone else/another organization paid. We combine the second (Your employer paid) and the third (Your employer paid part of the cost) options to indicate that the respondent's employer at least partially paid for training. Our theory predicts that employers in higher-trust countries are more likely to contribute to the cost of worker training.

We conduct individual-level OLS regressions to predict outcomes related to these three questions. Our key independent variable is social trust in the country. Since this variable is at the country level, we use country-level clustering in all our models. To make sure we are comparing respondents with similar occupational and industry backgrounds, we include occupation and industry fixed effects across all models.

We include relevant individual level control variables including respondent's age, gender, number of years working for current employer, and education attainment. Consistent with our main model, we also include country level controls, including logged GDP per capita, unemployment rate, and the number of ties to international organizations to control for a country's economic and social development, which might be associated with trust and employee trainings at work.

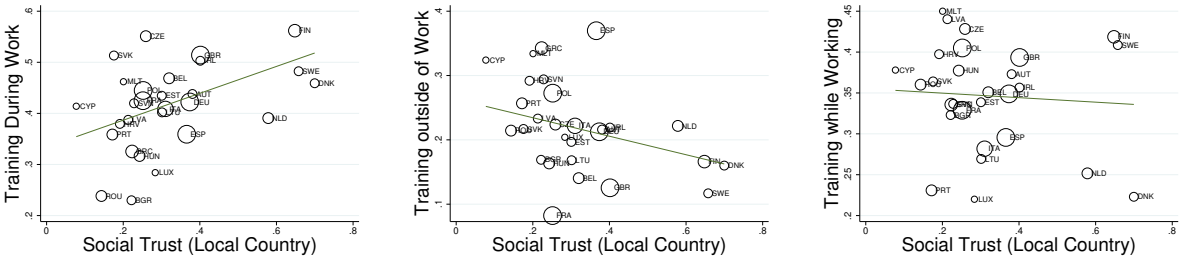
Figures F.1 descriptively show the association between a country's social trust and its employee training. A country's social trust positively predicts the likelihood of employees receiving on-the-job training (Figure a) and employers' paying for the training (Figure e). It negatively predicts the likelihood of attending training outside of work (Figure b) and receiving no training at all (Figure e). These associations are consistent with our theoretical prediction that employees in higher-trust

countries receive more employer-sponsored training.

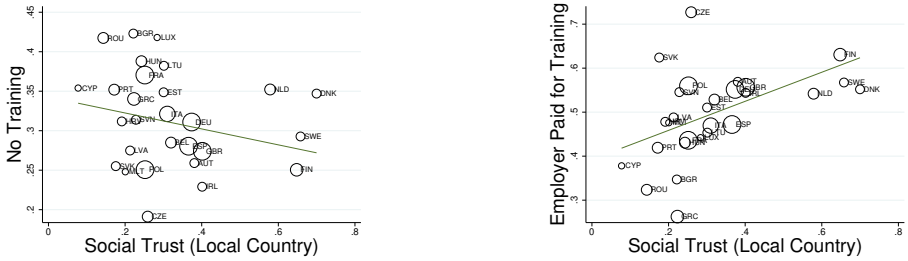
[Insert Appendix Figure F.1 about here]

Table F.1 runs these associations using OLS models. First, we find that employees in higher-trust countries are indeed more likely to receive training opportunities from their employers. Moving from a low-trust country (Cyprus) to a high-trust country (Denmark), employees are 15.6 percentage points more likely to receive training during work hours (Model 1), 11.4 percentage points less likely to attend training outside of work (Model 3), and 22.4 percentage points more likely to have employers paying for their training. These effect sizes decline after including country-level controls and become statistically insignificant in some models. Our country-level controls are highly correlated with social trust; hence it is unclear if the associations we observe are due to social trust or some other country characteristics. Nevertheless, these analyses provide another data point on potential mechanisms underlying our theory.

[Insert Appendix Table F.1 about here]



(a) Training during Work (b) Training outside of Work (c) Training while Working



(d) No Training (e) Employer-paid Training

Figure F.1: Association between Social Trust and Employee Training

Notes: The figures descriptive show the association between a country's social trust and its employee training. Information on employee training comes from the European Skills and Jobs Survey, conducted in 2014 in 28 EU countries and include 48,676 respondents. In Figures a-d, respondents are asked "In the last 12 months, have you undergone any of the following types of training for your current job" and asked to select among (a) "Training courses attended mostly or only during work hours" (b) "Training courses attended mostly or only outside of work hours" (c) "Training while performing your regular job" (d) "I have not undergone any training". In Figure (e), respondents are asked "Who paid for this training?" and could choose from employers or other sources.

Table F.1: Linear Estimation Predicting Employees' Training: Evidence from Additional Analysis

	During Work		Outside Work		While Working		No Training		Employer Paid	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Social Trust (Local Country)	0.248*	0.155	-0.182*	0.0174	-0.0244	0.0366	-0.0762	-0.108	0.413***	0.356***
	(0.0901)	(0.0963)	(0.0762)	(0.136)	(0.0975)	(0.120)	(0.0713)	(0.0957)	(0.0906)	(0.0599)
Age	-0.0299***	-0.0309***	-0.0163**	-0.0147**	-0.0285***	-0.0307***	0.0439***	0.0445***	-0.000326	-0.00477
	(0.00460)	(0.00484)	(0.00588)	(0.00442)	(0.00642)	(0.00639)	(0.00588)	(0.00542)	(0.00480)	(0.00481)
Gender	-0.0194**	-0.0202**	-0.00254	-0.00160	0.0193**	0.0159*	0.0145*	0.0147*	-0.0276***	-0.0328***
	(0.00632)	(0.00590)	(0.00504)	(0.00597)	(0.00690)	(0.00629)	(0.00636)	(0.00605)	(0.00709)	(0.00720)
Years in Job	0.00437***	0.00436***	0.000505	0.000579	-0.00109*	-0.000786	-0.00188***	-0.00197***	0.00361***	0.00386***
	(0.000442)	(0.000442)	(0.000444)	(0.000332)	(0.000395)	(0.000386)	(0.000377)	(0.000358)	(0.000472)	(0.000477)
College Degree	0.235**	0.247**	0.0856	0.0606	0.141*	0.139*	-0.00297	0.00352	0.270*	0.276*
	(0.0766)	(0.0769)	(0.0493)	(0.0464)	(0.0582)	(0.0591)	(0.0971)	(0.0976)	(0.110)	(0.108)
Graduate Degree	0.239**	0.238**	0.0269	0.0270	0.142*	0.144*	0.0196	0.0276	0.266*	0.259*
	(0.0717)	(0.0699)	(0.0626)	(0.0539)	(0.0583)	(0.0585)	(0.0846)	(0.0883)	(0.108)	(0.107)
Short-cycle Tertiary Degree	0.199*	0.215**	0.0849	0.0528	0.120*	0.119*	0.0195	0.0232	0.282*	0.294*
	(0.0733)	(0.0762)	(0.0550)	(0.0506)	(0.0560)	(0.0577)	(0.101)	(0.100)	(0.108)	(0.106)
Non-Tertiary Degree	0.189*	0.194*	0.0204	0.00879	0.123*	0.119	0.0581	0.0645	0.287*	0.278*
	(0.0750)	(0.0751)	(0.0465)	(0.0446)	(0.0589)	(0.0590)	(0.0980)	(0.0987)	(0.113)	(0.111)
Unemployment Rate (Local Country)		-0.459**		0.857**		-0.348***		0.0464		-1.031**
		(0.153)		(0.252)		(0.0942)		(0.187)		(0.309)
GDP per Capita (log) (Local Country)		0.0169		-0.0446		-0.0401		0.0278		-0.0223
		(0.0401)		(0.0361)		(0.0217)		(0.0338)		(0.0290)
INGO Ties (Local Country)		0.00456		0.00619		0.0131		-0.0767		0.0248
		(0.0892)		(0.0952)		(0.0718)		(0.0701)		(0.0707)
Observations	48306	48306	48306	48306	48306	48306	48306	48306	33038	33038
R^2	0.053	0.056	0.058	0.074	0.018	0.020	0.056	0.057	0.048	0.065
Fixed Effects:										
Occupation	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Sector	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

Standard errors in parentheses
* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

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