

Trusting Talent: Cross-Country Differences in Hiring

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Abstract

This article argues that a society's level of social trust influences employers' hiring strategies. Employers can focus either on applicants' potential and select on foundational skills (e.g., social skills, math skills) or on their readiness and select on more-advanced skills (e.g., pricing a derivative). The higher (lower) the social trust—people's trust in their fellow members of society—the more (less) employers are willing to invest in employees and grant them role flexibility. Employers in higher-trust societies are therefore more attentive to applicants' potential, focusing more on foundational skills than on advanced skills. We empirically test this theory by using a novel dataset of more than 50 million job postings from the 28 European Union countries. We find that the higher a country's social trust, the more its employers require foundational skills instead of advanced skills. Our identification strategy takes advantage of multinational firms in our sample and uses measures of bilateral (country-to-country) trust 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.

Keywords: trust, hiring, employment practice, organizations, cross-country, skill, MNC

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The Swedish firm Spotify values foundational skills. For its human resource team, the ideal candidate has strong transversal skills such as adaptability, problem solving, creativity, and communication, all of which serve as a foundation on 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, adaptability 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 skills; the most-mentioned skills for entry-level software engineering and statistician positions in France and Italy include specific programming languages and types of software, such as SAS.¹

In-depth qualitative studies have often found different labor market practices across countries (e.g., Esping-Anderson, 1990; Thelen, 2004; Culpepper, 2007; Mayer and Solga, 2008; Di Stasio and van de Werfhorst, 2016). International surveys, such as the GLOBE project and CRANET, have found cross-country differences in leadership expectations (e.g., Chhokar, Brodbeck, and House, 2007), human resource management (e.g., Schuler and Tarique, 2007; Cooke et al., 2019), and workplace experiences (Lyness et al., 2012). More recently, the World Management Survey, a large-scale survey conducted in 35 countries, shows significant variation in management practices across different countries, including employers' recruiting strategies (Bloom, Sadun, and Van Reenen, 2016).

Scholars have largely resorted to markets, formal institutions, and individuals' cultural dispositions to explain these cross-country differences. First, market characteristics, such as market competition and the availability of human capital, could determine hiring processes. For instance,

¹ These statistics come from the job-posting data used in this study.

firms in more-competitive markets focus more on meritocracy, whereas family-run firms tend to have less-meritocratic hiring (Bloom and Van Reenen, 2007; Van Reenen, 2011). Similarly, the human capital in the local labor market could determine the qualifications and skills that employers require (Deming, 2022). Second, a country's institutions could shape its employers' approaches to hiring. According to the variety of capitalism approach, strong labor unions and active state intervention often promote a collective bargaining system that prioritizes workers' protection and training opportunities (Hall and Soskice, 2001; Farndale, Brewster, and Poutsma, 2008; Hall and Gingerich, 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 not know the optimal hiring strategies and, even if they do, may not have the resources to adopt them (Bloom et al., 2014). Finally, in more-micro approaches, a rich literature on cross-culture management has explained cross-country variations by focusing on individuals' cultural dispositions, such as each person's preference for individualism versus collectivism (e.g., Brewster, Mayrhofer, and Farndale, 2018; Allen and Vardaman, 2021).

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 importance of particularized trust between employers and employees (Brewster, Mayrhofer, and Farndale, 2018; Allen and Vardaman, 2021). 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 (Uslaner, 2002; Paxton, 2007; Delhey, Newton, and Welzel, 2011). This is a societal-level construct that captures people's goodwill toward strangers (e.g., Rotter, 1971; Yamagishi and Yamagishi, 1994;

Fukuyama, 1996; Inglehart, 1997; Kosugi and Yamagishi, 1998). Since the early days of sociology, social trust has occupied center stage and is considered the foundation of contemporary society; it is both the glue that holds a society together 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 (for exceptions, see Fukuyama, 1996; Bloom, Sadun, and Van Reenen, 2012).

This may be a consequential oversight, as differences in employers' generalized trust could result in different ways of screening candidates and investing in new employees. Because most hiring involves parties with little prior interaction, screening and hiring are inevitably influenced by employers' trust in strangers in general. With higher trust, employers may perceive their relationship with prospective employees to be on a longer-term basis and may grant employees more role flexibility. These tendencies could, in turn, determine the type of skills that employers expect in candidates. Social trust should therefore be an important factor in explaining cross-country differences in hiring. After all, most hiring involves evaluating strangers for long-term, high-stakes 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 as those that provide a foundation upon which people can develop other skills, while the more-advanced skills are those that require more skills as prerequisites. For example, before developing the highly advanced skill of derivative trading, one must have foundational skills such as analytical thinking and arithmetic. Foundational and advanced skills constitute two ends of a continuum.

Almost everyone possesses the most-foundational skills to some degree, but mastery of these skills could vary significantly. For example, everyone has some social skills, but some people are much more adept than others in social settings. The speed and the extent to which one can master more-advanced skills depend on one's command of the related foundational skills. For example, people with stronger backgrounds in analytical and mathematical skills can more quickly learn and master derivative trading, compared to those with weaker such backgrounds.

In the labor market, both advanced and foundational skills are valued but for different reasons. New hires who already have strong advanced skills could contribute to the firm right away. Those possessing strong foundational skills have 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 a variety of 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 strong skills in pricing derivatives or one who knows little about derivatives but has strong analytical and mathematical skills. The latter may have higher potential, but the former is more prepared to perform. Some firms, such as Spotify, focus more on employees' potential and base their hiring more on foundational skills. As we will show, this difference in priorities is highly salient across countries; employers in Denmark and Sweden focus much more on foundational skills than do employers in Poland and Italy. This difference could have implications for an organization's employee composition and could directly influence individuals' career opportunities.

We suggest that differences in social trust could explain some of these cross-country differences. Foundational skills are more valued when employers expect an employee to stay for a long time and/or to be given flexible roles. We expect employers in higher-trust societies to be more

trusting of candidates and to have more faith in their intentions (Granovetter, 2017). These employers may therefore be more willing to grant them flexible roles and may attach more importance to candidates' foundational skills. In contrast, employers in lower-trust societies may be more suspicious of candidates' long-term commitment and be reluctant to grant too much role flexibility, therefore attaching more importance to advanced skills that will allow new hires to become productive quickly.

We test this theory by using a unique dataset of more than 50 million job postings in the 28 European Union (EU) countries. These postings span all major industries and occupations and cover about 60 percent of the online EU vacancy market from 2018 to 2021. By analyzing the detailed content of each posting, we can observe the skills that employers require for each position. The cross-country design of our dataset allows us to compare how jobs with the same title are posted with different skill requirements across countries reflecting different levels of social trust, measured using trust questions in nationally representative cross-country surveys.

For our identification strategy, we take advantage of the multinational firms in the sample. First, we compare jobs with the same job title that are offered by the same firm in countries with different levels of social trust. This within-firm comparison helps to rule out organizational characteristics that could confound the effect of social trust. Second, we take advantage of differences in social trust across country-to-country dyads. Past Eurobarometer surveys have asked residents of each European country to rate the trustworthiness of residents of other European countries. This allows us to measure how much firms headquartered in one country trust local populations in another country. For instance, British firms may, for historical reasons, perceive the French to be less trustworthy than most other Europeans, while German firms may not have such perceptions. Thus, we use the trust level between a firm's headquarters country and the country

where the job is posted, while independently controlling for both countries and for firms and job titles. This stringent test allows us to rule out both country- and firm-level confounders. Third, we use somatic distance between countries, which captures genetic differences across populations, as an instrument because such traits should influence trust between countries but are unlikely to be directly associated with hiring requirements for these multinational 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 countries, a high-trust region, list more foundational skill requirements than do 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 include detailed occupation fixed effects and occupation-sector fixed effects, as well as individual job characteristics such as degree requirements. We also use more than 30 country-level variables as controls to ensure that our models are 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 investigate the extent to which multinational firms 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 other features that encourage employers to prioritize foundational over advanced skills. To account for country-

level confounders, we use bilateral trust between countries to examine how firms from one country set skill requirements in other countries, including fixed effects on both firms and local countries. This strategy helps to account for unobserved country characteristics. These models 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 somatic distance between two countries as an instrument for bilateral trust. Results from these analyses continue to support our theory: the more that people in country X trust those in country Y, the more that firms from country X emphasize foundational over advanced skills when hiring in country Y.

We conduct additional analyses to better understand the boundary conditions, test the mechanisms, and ensure the robustness of our results. For boundary conditions, we find that the association between social trust and hiring preferences is less pronounced for jobs requiring credentials. Credentials could provide individuating information and therefore serve as a substitute for social trust. To show evidence of mechanisms, we analyze 174 million LinkedIn profiles and a cross-country survey. We find that employees in higher-trust countries are more likely than their counterparts in lower-trust societies to stay with the same employer and are more likely to change roles while working for the same employer. We also show that employees in higher-trust societies receive more on-the-job training and employer-paid training than do those in lower-trust societies. Additional analyses include a battery of robustness checks, such as using self-administered trust games and surveys to measure social trust. We also have a placebo test that includes both the headquarter country's trust in the local country and the local country's trust in the headquarter country in the same model, and find that only the former predicts employers' skill preferences.

Social Trust in Hiring

Social trust has long been at the heart of sociological inquiry (Durkheim, 1893; Parsons, 1937; Simmel, 1950; Blau, 1964; Weber, 1968). Since the field's inception, sociologists have recognized that trust plays a key role in the functioning of a society (Coleman, 1994; Putnam, Leonardi, and Nanetti, 1994; Fukuyama, 1996). 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 van 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 is often seen as a core component of social capital and civil society (Putnam, Leonardi, and Nanetti, 1994; Inglehart, 1997; Paxton, 2007; Delhey, Newton, and Welzel, 2011). 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 humanity (Yamagishi and Yamagishi, 1994), and a moral obligation to assume that others are trustworthy (Uslaner, 2002). Although some scholars have treated social 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 believe this. These differences 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; Delhey and Newton, 2003; Bjørnskov, 2008).

Social trust has important consequences for 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 (Williamson, 1973; Arrow, 1974; Adler, 2001). In most premodern societies, social trust was perhaps the most important glue allowing large communities to engage in long-term collaboration. From European guilds to Chinese lineage groups, cooperation among strangers was not enforced by formal authority or market mechanisms but, rather, was based on social trust: one invests in others in the community, trusting that others will do the same in one's own time of need (Macy and Skvoretz, 1998). Social trust, rather than formal institutions, is still the basis for cooperation among strangers in a wide range of working relationships. For example, the widely used concept of agile teams features few formalized procedures, and team members are frequently replaced and may have no close personal ties. These teams work effectively only when members are willing to trust one another.

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 U.S. factories in the nineteenth century show that most workers hired by foremen were extended family members or others whom the foremen knew personally (Jacoby, 2004). As factories grew and demand for labor rose, however, this hiring strategy became increasingly infeasible. By the early twentieth century, many employers had established formalized hiring procedures and professional human resource management to guide 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 kinds of discretion, such as giving preference to some demographic groups. Therefore, hiring is often an interaction between strangers: most hiring managers have little prior personal connection with candidates.

Like most collaborations, the employer–employee relationship requires trust (Leana and van 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—depend on employers’ assumptions of candidates’ and employees’ trustworthiness. The more that employers believe most people in the society can be trusted, the more willing they may be to give workers autonomy 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.

Foundational and Advanced Skills

Employers generally evaluate candidates on their existing skill sets, using interviews, online assessments, and résumés. The types of skills employers use to make hiring decisions have long interested scholars studying labor markets, who generally bucket skills into 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: skills are prerequisites to other skills. 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 any given skill is. Figure 1 provides examples of skills and their positions on the foundational–advanced continuum.

[Insert Figure 1 about here]

A well-established concept is general versus firm-specific skills, with the former referring to skills widely used across fields and the latter referring to skills that apply only to a particular firm or occupation (Becker, 1964; Lazear, 2007). In the external labor market, however, employers rarely expect candidates to have firm-specific skills, i.e., those learned only after joining the firm. Since this study focuses on external hiring, our discussion does not apply to firm-specific skills: whether we discuss the more-foundational skills or the more-advanced skills, we refer to skills that are portable across firms.

It is nevertheless important to highlight the difference between the two concepts. Foundational/advanced skills concern the order in which skills need to be learned, whereas general/firm-specific skills concern how widely used a particular skill is. We think of the latter concept as measuring a skill's breadth and the former as measuring its depth. Although many advanced skills are highly specific to a particular firm or occupation, some are also quite general. For example, many advanced statistical techniques require many prior skills yet are widely used across occupations and industries.

An obvious question is why employers do not simply select candidates who have both foundational and advanced skills. Skill acquisition is not a binary outcome: employers' concern is not just whether a candidate possesses a particular skill but, rather, the extent to which the candidate has mastered it. Almost everyone has some analytical skills but by no means to the same degree. 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 those of some other candidates. When we conceptualize skill acquisition as a scale instead of a binary outcome, it becomes clear that employers must first decide which skills to prioritize and then assess candidates' *levels* in those skills.

Prioritizing foundational over advanced skills has advantages. Because foundational skills are important for developing and mastering more-advanced skills, such a hiring strategy could generate a pool of high-potential employees. For example, some financial trading firms select candidates 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 with excellent communication skills; such a hire has 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.

Selecting candidates with strong foundational skills could also offer employers greater role flexibility. Given the frequent changes in an industry's environment, employers often must redefine employees' roles. Employees with strong foundational skills should be more adaptable—able to keep learning different advanced skills. For instance, a financial trader with strong (foundational) analytical skills likely could quickly learn different types of trades and rotate to new desks, depending on market conditions. Employers striving to maintain greater role flexibility may therefore select candidates on their foundational rather than advanced skills.

However, despite these advantages, selecting on foundational skills involves more uncertainty than does selecting on advanced skills. New hires with more-advanced skills could start contributing very quickly, whereas those with only strong foundational skills need time to develop the requisite advanced skills. Employee training is therefore important for those without advanced skills. Hiring this type of worker involves two types of risk. First, training takes time, and the employee may leave at any point; even worse, the employee might join a competitor. Second, workers who have only foundational skills may prove unable to master the advanced skills after all.

Hiring for foundational versus advanced skills thus reflects an employer's preference for potential versus readiness. We expect this preference to be contingent on (a) the employer's perception of employees' long-term commitment and (b) the employer's 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 foundational skills. Similarly, employers should prefer foundational skills when they want or need to give employees high role flexibility. Below, we discuss how employers' social trust could shape both their perception of employees' long-term commitment and their preference for role flexibility.

Social Trust and Skill Requirements

Hiring is often theorized as a matching process whereby employers search for candidates whose skill sets best fit the organization's needs. In practice, however, many employers select candidates not only on the skills they currently possess but also on their long-term commitment to the job and to the skills they might acquire. Most employers would favor a candidate who has shown a long-term commitment to the profession over one who has not, believing the former more likely to excel in the long run. However, whereas most skills can be immediately assessed, evaluating long-term commitment and career goals is much more difficult and involves greater subjectivity.

Social trust could play an important role in this evaluation process. To demonstrate their interest and commitment, candidates often must frame their stories and values in a way 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. When employers trust their candidates, they are more likely to buy into a candidate's story and intentions and to believe in their commitment. Thus, social trust helps create a deeper bond between employers and candidates.

When trust is low or 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 in the job and/or occupation. For example, studies of low-skilled labor markets in developing countries often find that employers and workers have 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 training and mentoring, but they also fire workers without hesitation. In markets characterized by high distrust, employers could believe workers to be deceptive and unpredictable, and therefore be less willing to commit to a longer-term relationship with them.

In addition to influencing long-term commitment, social trust could also dictate how much role flexibility employers are willing to give to employees. Role flexibility refers to how much 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 own skills and interests and on the organization's needs. Many cross-functional teams rely on ad hoc collaborations, and each person's roles and responsibilities are only loosely defined. Although high role flexibility could make an organization more adaptable and innovative, it could also reduce productivity if workers abuse the flexible arrangements. When workers have the autonomy to prioritize tasks and choose routines, it is harder to monitor their performance. Employers therefore need to trust that workers will not engage in free-riding and other counterproductive behaviors. Moreover, setting flexible roles means having weaker role boundaries, which, without strong trust, could lead to role conflict and coordination problems. For these reasons, employers in contexts of weaker trust insist

on more standardized processes and stricter role boundaries. In fact, formal bureaucracy, which limits role flexibility, is often seen as a replacement for social trust (Zucker, 1987; Uslander, 2017).

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 research and development process. This model is predicated on trust among employees, who must work with colleagues outside 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. Japan's Total Quality Control system relies on workers playing interdependent roles (Fukuyama, 1996); a worker may substitute for another worker when the need arises. Many observers have attributed the success of this manufacturing system to Japanese society's high level of social trust. This same system often fails in other parts of the world (Fukuyama, 1996).

Thus, social trust could shape employers' hiring strategies via two processes. First, it could influence their perception of candidates' long-term commitment. Without social trust, employers tend to view their relationships with employees as short-term transactions. Consequently, they may be less willing to invest in employees and may prefer candidates who already have the advanced skills required for the job. Second, higher social trust could encourage employers to grant employees more role flexibility and, in turn, to prefer candidates with strong foundational skills. Both processes suggest that greater social trust should result in greater preference for foundational instead of advanced skills. We therefore hypothesize as follows:

Hypothesis: The higher the social trust, the more that employers value job candidates' foundational skills over advanced skills.

Boundary Conditions

We expect social trust to matter more in some types of jobs than in others. Here, we hypothesize two boundary conditions: credentials and referrals. First, many jobs require credentials such as degrees,

certifications, and work experience. Over 30 percent of jobs in the EU in 2020 required a college degree or above (Statista, 2022), and about 22 percent required occupational certifications or licenses (Koumenta and Pagliero, 2019). Second, employers could encourage employees to refer qualified candidates 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 employers have limited information about candidates. But jobs that require more credentials provide key information that could help reduce employers' uncertainty about candidates' intentions and career objectives. For instance, employers could use candidates' subjects of study and their years of work experience to interpret their long-term orientation and to assess their fit with the job. Similarly, they could also obtain additional information about referred candidates from their referees, relying less on social trust.

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

Data and Method

For our main analysis, we used job postings from the 28 EU countries. To empirically examine the effect of social trust on hiring, we needed a sample with variation in social trust and ways to

quantitatively measure employers' hiring requirements. Because social trust is the overall level of trust in a society, it 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 write job requirements 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.

Cross-Country Job Posting Data

Our main data source is approximately 50 million job postings from the 28 EU countries from 2018 to 2021. The dataset was 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 and systematically scraped and parsed approximately 300 selected job portals daily, covering more than 60,000 websites across the EU countries. These job portals included 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 portal could contain links to several thousand websites. Table A.1 in the Online Appendix shows examples of job portals that Lightcast targeted in each country. The larger labor markets, such as Germany, contained over 100 such portals. Even the smallest labor market in our sample, Malta, had two major job portals. Such large coverage ensured that our sample contains a substantial portion of the job openings in the labor markets.

The 28 sampled countries include all EU member states. These countries are distributed quite evenly across regions of Europe, including eight in the western area (Austria, Belgium, France, Germany, Ireland, Luxembourg, Netherlands, the United Kingdom), 11 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, each with well over ten million. Austria, Belgium, Spain, Ireland, Italy, the 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 Online Appendix Table A.2 show our data coverage.

[Insert Figure 2 about here]

To understand the representativeness of our sample, we compared our job posting data with official job vacancy statistics from EU countries, as shown in Figure 3, Figure 4, and Section A of the Online Appendix. In Figure 3, we compare the country distribution of Lightcast job postings to that of official job vacancy statistics. In Figure 4, we compare the industry and occupation distribution of Lightcast job postings to that of official employment statistics.

[Insert Figure 3 and Figure 4 about here]

Overall, our dataset covers about 60 percent of the job vacancies in the 28 EU countries, with better representation in more-developed economies and in more-recent periods. In occupational composition, the dataset is overrepresented in professional and managerial occupations and underrepresented in service, sales, and agricultural occupations. It is also overrepresented in certain industries, including administrative and support; information and communication; and professional, scientific and technical services, while underrepresented in industries including construction, education, and wholesale and retail trade.

Matched Lightcast–Orbis Sample

Our main identification strategy relied on multinational corporations, so we needed to identify each employer’s headquarters country. To do so, we merged the Lightcast sample with the Orbis global database from Bureau Van Dijk (a Moody’s Analytics company), which is the largest cross-country,

firm-level database that includes ownership information. Our matching was based on employer name, industry, and location. We used a combination of machine-based and manual methods to make the correct matches. Section B of the Online Appendix describes our matching process in detail. Throughout this process, our priority was to avoid false positives; we determined a pair to be matched only if we had high certainty.

The matching process gave us a sample of more than 17 million job postings from 355,997 firms headquartered in 144 countries (see Figure 2). Of these, 6.2 million were posted by multinational firms, and about two million were posted by a firm's foreign subsidiaries. As Figures 3 and 4 show, the matched Lightcast–Orbis sample and the complete Lightcast sample have similar distributions by country, industry, and occupation.

Parsing the Skill Requirements

Skill requirements may be found throughout each job posting, especially in sections describing job duties and required qualifications (see Figure C.1 in the Online Appendix for examples). The Lightcast dataset uses the standardized European Skills, Competences, Qualifications, and Occupations (ESCO) skills in level 3. ESCO is a multilingual classification that identifies and categorizes skills and occupations relevant to the EU labor market (ESCO, 2022). 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 this set as the possible universe of skills. Section C of the Online Appendix details Lightcast's coding of skill requirements and our validation process.

The Lightcast team identifies all the ESCO skills required in each job posting. The median job posting listed seven required skills; 17 percent listed zero skills, and 47 percent required more

than 10 skills.² To validate the Lightcast skill coding, we aggregated the skill requirements coded by Lightcast to the occupation level and compared them to the ratings provided by the U.S. Bureau of Labor Statistics Occupational Information Network (O*NET). Across skill categories, we observed a relatively strong association between Lightcast’s coding and O*NET’s rating, with correlations ranging between 0.3 and 0.5. Figure C.2 in the Online Appendix provides more detail on this analysis.

In addition to providing detailed skill requirements, the Lightcast team also parses information on each posting’s education and work experience requirements, standardized EU industry codes (Nomenclature of Economic Activities, NACE, level 2), occupation codes (ESCO level 4), and locations (NUTS level 3). We included these as control variables in our model to ensure that we compared similar jobs across countries.

Dependent Variable: Foundational–Advanced Skills

Using the skills parsed by Lightcast, we examined each job posting’s skill requirements and measured the foundational versus advanced skills included. We created a foundational score that measures where a skill sits on the foundational–advanced scale for each ESCO skill and then took 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, via Prolific, to 1,120 people with hiring experience, asking them to rate where each skill sits on the foundational-versus-advanced scale. After defining foundational and advanced skills, we asked each respondent to rate 50 (or 51) randomly chosen ESCO skills on a five-point scale, in which 5

² Those jobs listing zero skills are mostly very short posts. For example, “Chef Manager-BI Contract Catering - Surrey - £32,000 - Monday to Friday. We are looking for a foodie Chef Manager.” Since these posts did not reveal skill requirements, we dropped them from the analyses.

indicated a highly foundational skill and 1 indicated a highly advanced skill. Each ESCO skill was rated by 20 respondents; we took the average of their scores as the foundational score for each skill.

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

[Insert Table 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 deviation of 0.57.

Independent Variable: Social Trust

We used nationally representative surveys to measure each country's level of social trust. Past research has captured social trust by 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 research has generally used one or the other to measure social trust. We used EVS to construct our trust measure because it covers all 28 countries in our 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 produced the same findings (see Figure E.1 in the Online Appendix).

The EVS is a nationally representative survey administered every nine years that covers an increasing number of European countries. We used all five waves currently available: 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 used

is, “Generally speaking, would you say that most people can be trusted, or that you can’t be too careful in dealing with people?” Respondents could select either “Most people can be trusted” or “Can’t be too careful.” For each country, we measured social trust as the number of people in that country choosing the option “Most people can be trusted” over the number of people who answered the question.

In calculating social trust, we could combine different waves of EVS since the social trust question was asked in all waves, or we could use the most recent waves only. Combining all waves could provide a larger sample size per country, but the older waves could misrepresent a country’s level of social trust if the level has changed significantly. As Figure E.2 in the Online Appendix shows, a country’s social trust in the 1980s is highly correlated with its social trust in 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 calculated each country’s level of social trust by combining all waves of EVS from 1981 to 2017. This gave us 151,449 respondents across 28 countries. The median country had 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 (Denmark, Finland, Sweden) have the highest social trust, with a mean of 0.67, more than two standard deviations above the entire sample mean of 0.31. 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 relatively low social trust, with a mean of 0.23. A centrally planned economy, with much of the social coordination formalized and managed, could have crowded out the role of social trust such that a low level of 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, scholars have recently expressed concern about their validity (Nannestad, 2008; Delhey, Newton, and Welzel, 2011; Robbins, 2021, 2022). For a robustness check, we constructed a country-level trust measure using trust games conducted online; the results produce consistent findings. Section E of the Online Appendix discusses this alternative measure of social trust and detailed steps on how we constructed social trust from surveys.

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 in 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 calculated bilateral trust between European countries by using Eurobarometer surveys, nationally representative surveys covering about 1,000 people per country since the 1970s. From 1970 to 1997, the survey asked 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 a list of countries, to rank their trust level on a four-point scale: "lots of trust," "some trust," "not very much trust," and "no trust at all." Respondents were asked about their trust toward people in 29 countries, including 21 of the EU countries in our sample. This bilateral-trust question was asked in 16 European countries, and our sample includes employers headquartered in all of them. We therefore have 336 bilateral dyads ($16 \times 21 = 336$) and bilateral-trust measures. Following Guiso,

Sapienza, and Zingales (2009), we aggregated the survey waves and calculated bilateral trust between countries 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.

Of these bilateral dyads, the median number of respondents from the Eurobarometer is 3,576; the dyad with the fewest respondents is Luxembourgers' trust of Bulgarians, with 211 respondents. The dyad with the most is Germans' trust of French people, with 15,178 respondents. Figure 6 shows the distribution of received trust in 21 European countries from people in 16 European countries. Consistent with the average level of trust in a society according to the EVS, people from Nordic countries 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 given country, with an average value of trust of 2.69 and a standard deviation of 0.31. The average level of trust ranges from a minimum of 1.94 (Germans' trust of Poles) to a maximum of 3.69 (Finns' trust of Finns). In general, it appears that people in countries with similar ethnic backgrounds and languages have higher trust in each other.

Analytical Strategy

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

$$Foundational_{jfcy} = \beta_1 \times Trust_c + \beta_2 \times X_{jfcy} + \beta_3 \times CX_{cy} + TimeFE_y + FirmFE_f + u_{jfcy} \quad (1)$$

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 social trust in country c . $FirmFE_f$ are occupation–employer fixed effects. Occupation is at the ESCO level 4, including detailed occupation titles such as human resource manager. X_{jfcy} are job-level controls, including degree requirement, work experience requirement, and number of skills listed. These controls, along with occupation fixed effects, ensured that we compared 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 socioeconomic development and institutional quality, both of which could influence employers' hiring strategies. In our context, the supply of labor is particularly relevant. We used the human capital index to account for the quality of labor in a country, the unemployment rate to reflect the labor supply, and the percentage of graduates from vocational programs to measure the types of skill that typical candidates possess. We expect that in countries with lower unemployment and fewer graduates from vocational programs, employers will focus more on foundational skills.

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

The cross-country model above cannot account for unobserved regional factors that drive both social trust and hiring strategies. Our second analytical strategy therefore used variations in

bilateral trust across countries. For example, British firms may be more trusting of German people than of French people, whereas Belgian firms may trust the French more than Germans. These variations in bilateral trust enabled us to explore cross-country differences in multinational employers' hiring strategies while including fixed effects on both countries and employers. The model is specified as follows:

$$\begin{aligned} \text{Foundational}_{jfc dy} = & \beta_1 \times BTrust_{cd} + \beta_2 \times X_{jfc dy} + \beta_3 \times BCX_{cdy} + \text{Country}FE_c \\ & + \text{Time}FE_y + \text{Firm}FE_f + u_{jfc dy} \quad (2) \end{aligned}$$

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

In these bilateral models, the only confounder is unobserved bilateral factors associated with both bilateral trust and 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 to 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 multinational firm's headquarters has strong influence on its foreign subsidiaries' hiring processes. To validate this, we surveyed 200 human resource managers who have worked in foreign subsidiaries of multinational firms. Our survey suggests that most headquarters help set requirements and standards for 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 for firms headquartered in different places, we found that the headquarters' hiring preferences strongly influenced its foreign subsidiaries' hiring (see Section H of the Online Appendix for greater detail).

We also conducted an instrumental variable (IV) analysis of the bilateral model. The extent to which people from one country trust those from another is often driven by ethnic similarity. We therefore used somatic distance between a given pair of 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 been used 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 and colleagues (2009).

We conducted all models by using ordinary linear squares (OLS). Local models are clustered by country and bilateral models by country-dyad.

Main Results

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

Cross-Country Findings

Figure 7 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 emphasis on foundational skills. Of the four countries

with the highest social trust—Denmark, Sweden, Finland, and the Netherlands—three have high average scores among their employers on the foundational–advanced scale, more than one standard deviation above the mean (mean = 3.45; standard deviation = 0.13). The exception is Finland: although it has high social trust, its employers show a stronger preference for advanced skills. In countries with low social trust, such as Romania, Slovakia, Portugal, and Hungary, employers prefer more-advanced skills. Two outliers are Cyprus and Malta; although they have low social trust, their employers show an extremely high preference for foundational skills. However, these 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 uses OLS models to examine this association. The dependent variable is a job’s foundational score. “Employer for multinational firms” refers to the parent firm. From left to right, we added increasingly strict 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 employer fixed effects. Model 5 uses both occupation and employer fixed effects. Model 6 uses occupation-employer–dyad fixed effects, and Model 7 adds country-level covariates as controls. In Models 1–3, we used the complete Lightcast sample; in Models 4–7, we used 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 hiring. 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 it. 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), we see that employers would increase their emphasis on foundational skills by 0.22–0.55 standard deviations, depending on model specifications. In general, a 1-standard-deviation increase in social trust leads to an approximately 0.1–0.15-standard-deviation increase in employers' preference for foundational skills. We find that among the control variables, employers in countries with lower unemployment, fewer graduates from vocational programs, and more collective bargaining coverage have a greater preference for foundational skills. Lower unemployment reflects a tighter labor market; focusing on foundational skills could provide 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 average length of an employer–employee relationship, which could encourage employers to focus on hiring for foundational skills and then training for advanced skills.

The findings from Table 2 are subject to endogeneity concerns at the country level. The employer fixed effects models show that a given employer requires more-foundational skills when recruiting in higher-trust countries. However, higher-trust countries could have other characteristics, so it is unclear whether 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.

Bilateral Findings

We next examine country-to-country trust and its impact on multinational employers' hiring strategies in different countries. In this analysis, we limited our sample to jobs posted by foreign subsidiaries of multinational organizations. As Table 3 shows, we have a sample of about 1.2 million such postings 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. The figure shows the association between (a) the social trust of people in country X toward people in country Y and (b) the skill preference of employers from country X hiring in country Y. 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 uses OLS models to explore this association. The dependent variable is a job's foundational score, calculated using the average foundational scores of all skills listed in the posting. Each job posting is a unit of observation. The sample includes all jobs posted by a firm's foreign subsidiaries in our matched Lightcast–Orbis sample. The first six models are mostly the same as those in Table 2. Moving from left to right, we increasingly added fixed effects on occupations and employers. The one notable difference between the two tables is that all models in Table 3 include country fixed effects; that is, we control for the country in which the job is posted. As a result, Model 6 includes several country-to-country-level control variables instead of country-level control variables.

[Insert Table 3 about here]

[Insert Figure 8 about here]

All six models in Table 3 show a positive and significant association between bilateral social trust and requiring more-foundational skills. The effect sizes vary moderately. Moving from a low

bilateral-trust pair such as Germans to Poles (bilateral trust = 1.94) to a high bilateral-trust pair such as Sweden to Denmark (bilateral trust = 3.57) would predict a 0.58–0.87-standard-deviation increase on the foundational–advanced scale. In general, a 1-standard-deviation increase in bilateral trust predicts a 0.11–0.17-standard-deviation increase in employers’ preference for foundational skills. These bilateral-model effect sizes are sizable, slightly larger than those in Table 2 using between-country comparisons.

An Instrumental Variable Approach

In Models 7 and 8 in Table 3, we used somatic distance as an instrument for bilateral social trust between two countries. Much research has shown that people tend to trust others with 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 Section I of the Online Appendix).

At the same time, somatic distance between the two countries captures long-standing cultural differences between them, as it reflects the ethnic origins of the two populations. Cross-country somatic differences generally reflect ethnic compositions from as early as the Neolithic Era (Guiso, Sapienza, and Zingales, 2009). Given its historical roots, we argue that somatic distance would not influence organizations’ strategies today through mechanisms other than social trust, a claim supported by past studies (Bloom, Sadun, and Van Reenen, 2012).

In this IV model, we also used the strictest set of controls, as in Model 6 of Table 3, including fixed effects on both occupation–firm and country and bilateral controls capturing economic differences and physical distance between two countries. As Section I of the Online Appendix shows, our instrument is quite strong and passes all 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 Germany to Poland to a high bilateral-trust pair

like Sweden to Norway would predict a 0.87-standard-deviation increase in employers' foundational skill preference (see Section I of the Online Appendix for more details on the IV model).

A Placebo Test

We conducted a placebo test that included both the headquarter country's trust in the local country and the local country's trust in the headquarter country. Given the reciprocal nature of trust, the two measures have a high correlation of 0.8. Nevertheless, the inclusion of both trust measures could serve as a placebo test. Many unobserved bilateral confounders, such as cultural similarity, affect both employers' trust in the local country and the local country's trust in the employer's country. But if our results are driven by employers' trust in the local country, then we should observe only the headquarter (HQ) country's trust in the local country to predict employers' skill preferences, not the local country's trust in the headquarter country. As Online Appendix Section J shows, this is exactly what we see: only HQ–local trust matters, and the relationship between local–HQ trust and employers' skill preferences is close to zero and statistically insignificant.

Moderators: Credentials

To better understand the boundary conditions of our theory, we examined the following four moderators measuring credential requirements: college degree, occupational certification, work experience, and job-preparation level. We suggest that credentials and referrals could substitute for social trust because they provide individuating information about candidates. We do not have data to test the moderating influence of referrals, so we focused on the moderating influence of credentials only. To do so, we included each of the four variables capturing credential requirements as moderators in both our between-country and bilateral-trust models. Because job-preparation level encapsulates other credential requirements, we included it in separate models. We also included occupational certification in separate models because of the large number of missing observations for

this variable. This analysis is shown in Table K.1 of the Online Appendix. Online Appendix Section K 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. Specifically, requiring a college degree reduces the effect size by 17 percent in between-country models and 16 percent in bilateral models; requiring work experience reduces the effect size by 6 percent in between-country models and 7 percent in bilateral models. One additional occupational certification reduces the effect size by 10 percent in between-country models and 12 percent in bilateral models; and one higher level of job preparation (out of five levels) reduces the effect size by 22 percent in between-country models and 9 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 level mitigate the consequences of lower social trust. Hence, the association between social trust and foundational skill preference is more concentrated in low-skill, entry-level jobs.

Evidence on Mechanisms

We provide some preliminary evidence to support our purported mechanisms. First, our argument assumes that social trust determines how employers perceive candidates' long-term commitment. Although we cannot directly measure employers' perceptions, we can compare how long workers stay in an organization across countries. To measure organizational tenure, we analyzed the entire sample of 174 million LinkedIn profiles spanning 104 countries. Although LinkedIn use is biased toward those with at least a bachelor's degree, its global coverage allows us to conduct cross-country comparisons. We find that when we control for job title and employer, workers in higher-trust

countries stay 0.7–1.3 months longer in one organization than do workers in lower-trust countries (see Section L of the Online Appendix for more details). These findings suggest that social trust is associated with longer-term collaboration between employers and employees.

Second, we explored the relationship between a country’s social trust and the role flexibility of its workers. To measure role flexibility, we used the European Skills and Job Survey (ESJS), a survey of representative samples of adult employees in the 28 EU countries. The survey asks each employee, “Have any of the following changes in your role taken place?” and offers three yes/no possibilities: “I moved to a different unit/department”; “I have not been promoted or moved department but the nature of my tasks and responsibilities has changed”; and “No changes, my role has remained the same.” We ran OLS models clustered at the country level to predict each of these three outcomes, using a country’s social trust, including occupation fixed effects, and controlling for employees’ basic characteristics. We find that workers in higher-trust countries are more likely to both move into a different unit/department and to experience a change in their tasks and responsibilities and less likely to experience no role change (see Section M of the Online Appendix). These findings suggest that social trust is associated with higher role flexibility.

Finally, our theory implies that employers in higher-trust societies are more willing to train employees, compared to employers in lower-trust societies. Using the ESJS survey, we find that employees in higher-trust societies are indeed more likely to receive on-the-job training and employee-paid training than are those in lower-trust societies (see Section N of the Online Appendix for more details). These findings suggest that employers in higher-trust societies invest more in employee training.

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 an instrument for

social trust. Although we explain the validity of our instrument, somatic distance, such an 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 multinational firms’ hiring strategies in different countries. We would then find an association between social trust and hiring strategies, but it would be caused by other mechanisms and not, as we hypothesize, by the immediate consequences of social trust.

Another possibility is that a construct highly correlated with social trust, such as similarity in cultural values, is driving the observed patterns. Our inclusion of several bilateral controls and the placebo test should mitigate though not eliminate this concern. Similarly, our dependent variable, foundational versus advanced skills, may be conflated with related concepts. One notable possibility is that it simply reflects social skills, which are highly foundational and are commonly mentioned in job postings. For a robustness check, we excluded all social skills from the calculation of the foundational score, and the results are substantially similar.

Second, using job postings to study labor markets has both advantages and disadvantages. While such data are 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 our sample overrepresented in higher-end occupations and industries. In addition, although job postings provide a window into employers’ hiring preferences, they reflect only the intention to hire, which could deviate from the employer’s actual practices.

Although our theory should apply to most countries, our analyses focus only on the 28 EU countries. This is largely due to data availability. Data on bilateral trust are available only for certain European countries, and at the time of this study, we did not have job postings in most other countries.

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) a country's social trust, the more its employers select candidates on their foundational (advanced) skills. To account for endogeneity concerns, we replicate the pattern by using multinational employers and bilateral-trust measures, as well as using an instrumental variable approach.

Cross-Country Differences in Employment Practices

Hiring, promotion, and management practices vary significantly across countries. Past scholarship has largely attributed cross-country differences in employment practices to differences in institutional arrangements, market conditions, and people's individual cultural dispositions. Moving away from these approaches, this study uses a macro 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 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 (Bloom and Van Reenen, 2007; Van Reenen, 2011). This literature tends to assume an optimal set of management practices that could be applied universally. Employers do not adopt them in some countries because of either weak market competition or a lack of awareness. By emphasizing how employment practices are culturally contingent, we argue that cross-country differences in

employment practices may be highly sticky: they may not change easily as a result of greater information flows or increased market competition.

Using Culture to Explain Cross-Country Differences

It is perhaps intuitive to attribute many cross-country differences to culture. Vast literatures in cross-culture psychology and cross-culture management take such an approach, using a set of cultural dimensions to predict the behavior of organizations and employees in different countries (see Allen and Vardaman, 2021 as an example). These rich literatures have used many cultural dimensions; the prominent ones include Hofstede's six cultural dimensions, Schwarz's seven cultural values, 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 outcomes related to organizations, markets, and employees.

Our focus on social trust certainly shares some similarities with these well-established micro literatures. However, these cultural dimensions, such as individualism and uncertainty avoidance, are individual dispositions, whereas social trust is typically seen as a relational construct that is highly contingent on societal norms. For instance, the same individual could show varying levels of generalized trust in different societies and could be more trusting of strangers from one country than of those from another country. This relational nature of social trust probably explains why it is generally studied in more-macro fields such as sociology, economics, and political science.

Historically, culture is widely studied in sociology. Earlier sociologists, from Emile Durkheim 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 an explanatory variable, sociologists have increasingly emphasized culture as a toolkit from which individuals can draw specific cultural components based on their contexts, needs, and goals.

In short, we are both shaped by our culture and use culture as a resource. In our case, although we see a country's social trust driving its employers' hiring behaviors, it is also important to keep in mind possible heterogeneity within a country. Employers from the same country may employ different hiring strategies, depending on the challenges they face. This is a topic that we leave to future research.

Organizational Consequences of Social Trust

Our study also speaks to the literatures on trust. First, a voluminous line of research in social psychology and micro-organizational behavior has tried to understand the role of trust in the workplace (Klotz et al., 2013; Dirks and de Jong, 2022). This line of work considers both the antecedents and consequences of trust. For example, studies of antecedents have examined how various types of leadership influence employees' trust, while those studying consequences have explored how employees' trust shapes performance, knowledge sharing, and job satisfaction at both the 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. Regardless of the trustor and the trustee, these studies address a fundamentally different type of trust. They focus on particularized trust that takes place between specific actors, whereas we are interested in social or generalized trust, which captures trust toward strangers in general.

The study of social trust takes place in more-macro-oriented fields such as sociology, political science, and economics. This line of research has a long history. Early sociologists, including Emile Durkheim, Max Weber, and George Simmel, treated social trust as a fundamental component of well-functioning societies. Many intellectuals in the late nineteenth century lamented the erosion of social trust as industrialization rapidly expanded and traditional communities

disbanded. At the time, this decline in trust was 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. In 1763, Adam Smith (1978: 538) pointed out that social trust could explain the Dutch's success in commerce, stating that the Dutch are "the most faithful to their word." John Stuart Mill (1848: 132) also attributed the difficulty of conducting large-scale business 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." More recently, Robert Putnam (1993), building on Coleman's (1988) work, argued that differences in social trust between northern and southern Italy could explain the different levels of economic development in the two regions. Fukuyama further pushed this idea. His book attributes a nation's well-being to "a single, pervasive cultural characteristic: the level of trust inherent in the society" (Fukuyama, 1996: 7). Using qualitative comparisons across countries, he argued that the low level of social trust in some countries prevents the formation of effective large-scale businesses in those countries.

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, 2008; 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 do

little good. This logic applies to many other collective 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). Social trust helps to reduce the crime rate and curbs corruption (Uslaner, 2017). 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, including hiring new employees, serving clients and customers, and working with suppliers and partners. Social trust could significantly influence these activities, as they generally involve interactions between people with limited priorities. Our study takes a step forward by showing the relationship between social trust and hiring strategies. Future studies could do more to reveal how social trust influences organizations' various interactions 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 work frequently with unfamiliar coworkers from other units and divisions. Hence, social trust could potentially shape not only organizations' external interactions but also their internal dynamics.

Foundational and Advanced Skills

We introduce a new concept in this paper: foundational versus advanced skills. 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 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 how quickly

and how well one learns the more-advanced skills. This concept therefore captures hiring employers' preference for candidates' readiness versus potential. 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 increasingly complex in their task environment and technologies, skill acquisition has become a more layered process. Many advanced skills require additional layers of foundational skills. Taking our own field as an example, quantitative social science research today requires sophisticated methodologies, from causal inference methods to machine-learning tools, all of which require first spending years to attain mastery, from the most to the least foundational skills. As skills become increasingly differentiated on the foundational–advanced scale, we believe that the concept of foundational versus advanced skills will become more important in 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 them. This is often the rationale for 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 types of skills higher education should focus on has long been debated, with various universities and colleges taking different stances. 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 contribute to this important debate. If, as we find, employers in different countries value foundational and advanced

skills differently, then perhaps higher education should focus more on foundational skills in some countries and more on advanced skills in others.

Employers' preferences for foundational versus advanced skills could also have implications for labor market inequality. First, although foundational skills are important, their evaluation can be quite subjective. Because some commonly mentioned foundational skills, such as social skills and creativity, are context-dependent and difficult to measure directly, the subjectivity of evaluating them could invite bias. Second, the more-foundational skills are often learned early; mathematical and writing skills are largely influenced by one's pre-college education, and social skills are strongly associated with family influence. Thus, it is possible that greater emphasis on foundational skills would disproportionately benefit people 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 perceptions of their employees and different hiring strategies. By introducing social trust into the hiring process, we hope to stimulate research that further explores cross-national differences in labor markets.

REFERENCES

Adler, P. S.

2001 "Market, hierarchy, and trust: The knowledge economy and the future of capitalism." *Organization Science*, 12(2): 215–234.

Aghion, P., Y. Algan, P. Cahuc, and A. Shleifer

2010 "Regulation and distrust." *The Quarterly Journal of Economics*, 125(3): 1015–1049.

Akchurin, M., and C. Lee

2013 "Pathways to empowerment: Repertoires of women's activism and gender earnings equality." *American Sociological Review*, 78(4): 679–701.

Allen, D. G., and J. M. Vardaman

2021 *Global Talent Retention: Understanding Employee Turnover and Retention from a Global Perspective*. Bingley: Emerald Publishing Limited.

Arrow, K. J.

1974 *The Limits of Organization*. New York: W.W. Norton & Company.

Becker, G. S.

1964 *Human Capital: A Theoretical and Empirical Analysis with Special Reference to Education*, 1st ed. New York: National Bureau of Economic Research.

Berg, K.

2020 “Spotify’s people strategy.” HR Blog, Nov. 25.
<https://hrblog.spotify.com/2020/11/25/spotify-people-strategy/>.

Bjørnskov, C.

2008 “Social trust and fractionalization: A possible reinterpretation.” *European Sociological Review*, 24(3): 271–283.

Blau, P. M.

1964 *Exchange and Power in Social Life*. Piscataway: Transaction Publishers.

Bloom, N., R. Lemos, R. Sadun, D. Scur, and J. Van Reenen

2014 “JEEA-FBBVA Lecture 2013: The new empirical economics of management.” *Journal of the European Economic Association*, 12(4): 835–876.

Bloom, N., R. Sadun, and J. Van Reenen

2012 “The organization of firms across countries.” *The Quarterly Journal of Economics*, 127(4): 1663–1705.

Bloom, N., R. Sadun, and J. Van Reenen

2016 “Management as a technology?” National Bureau of Economic Research working paper 22327.

Bloom, N., and J. Van Reenen

2007 “Measuring and explaining management practices across firms and countries.” *The Quarterly Journal of Economics*, 122(4): 1351–1408.

Brewster, C., W. Mayrhofer, and E. Farndale

2018 *Handbook of Research on Comparative Human Resource Management*, 2nd ed. Northampton: Edward Elgar Publishing.

Chang, L. T.

2008 *Factory Girls: From Village to City in a Changing China*, 1st ed. New York: Spiegel and Grau.

Chhokar, J. S., F. C. Brodbeck, and R. J. House

2007 *Culture and Leadership Across the World: The GLOBE Book of In-Depth Studies of 25 Societies*. London: Routledge.

Choi, S. Y. P., and R. David

2012 “Lustration systems and trust: Evidence from survey experiments in the Czech Republic, Hungary, and Poland.” *American Journal of Sociology*, 117(4): 1172–1201.

Citrin, J.

1974 “Comment: The political relevance of trust in government.” *The American Political Science Review*, 68(3): 973–988.

Coleman, J. S.

1988 “Social capital in the creation of human capital.” *American Journal of Sociology*, 94: S95–S120.

Coleman, J. S.

1994 *Foundations of Social Theory*. Cambridge, MA: Harvard University Press.

Cooke, F. L., G. Wood, M. Wang, and A. Veen

2019 “How far has international HRM travelled? A systematic review of literature on multinational corporations (2000–2014).” *Human Resource Management Review*, 29(1): 59–75.

Culpepper, P. D.

2007 “Small states and skill specificity: Austria, Switzerland, and interemployer cleavages in coordinated capitalism.” *Comparative Political Studies*, 40(6): 611–637.

Dalton, R. J.

2004 “Democratic challenges, democratic choices.” In R. J. Dalton (ed.), *Democratic Challenges, Democratic Choices: The Erosion of Political Support in Advanced Industrial Democracies*, 1st ed.: 191–208. Oxford: Oxford University Press.

DeBruine, L. M.

2002 “Facial resemblance enhances trust.” *Proceedings of the Royal Society B: Biological Sciences*, 269(1498): 1307–1312.

Delhey, J., and K. Newton

2003 “Who trusts? The origins of social trust in seven societies.” *European Societies*, 5(2): 93–137.

Delhey, J., K. Newton, and C. Welzel

2011 “How general is trust in ‘most people’? Solving the radius of trust problem.” *American Sociological Review*, 76(5): 786–807.

Deming, D. J.

2017 “The growing importance of social skills in the labor market.” *The Quarterly Journal of Economics*, 132(4): 1593–1640.

Deming, D. J.

2022 “Four facts about human capital.” *Journal of Economic Perspectives*, 36(3): 75–102.

- DiPrete, T. A., T. Bol, C. Ciocca Eller, and H. G. Van De Werfhorst
2017 “School-to-work linkages in the United States, Germany, and France.” *American Journal of Sociology*, 122(6): 1869–1938.
- Dirks, K. T., and B. de Jong
2022 “Trust within the workplace: A review of two waves of research and a glimpse of the third.” *Annual Review of Organizational Psychology and Organizational Behavior*, 9(1): 247–276.
- Di Stasio, V., and H. G. van de Werfhorst
2016 “Why does education matter to employers in different institutional contexts? A vignette study in England and the Netherlands.” *Social Forces*, 95(1): 77–106.
- Dobbin, F., and J. R. Sutton
1998 “The strength of a weak state: The rights revolution and the rise of human resources management divisions.” *American Journal of Sociology*, 104(2): 441–476.
- Durkheim, E.
1893 *The Division of Labor in Society*. New York: Simon and Schuster.
- ESCO
2022 “About ESCO.” <https://esco.ec.europa.eu/en/about-esco>.
- Esping-Andersen, G.
1990 *The Three Worlds of Welfare Capitalism*. Princeton: Princeton University Press.
- Farndale, E., C. Brewster, and E. Poutsma
2008 “Coordinated vs. liberal market HRM: The impact of institutionalization on multinational firms.” *The International Journal of Human Resource Management*, 19(11): 2004–2023.
- Fukuyama, F.
1996 *Trust: The Social Virtues and the Creation of Prosperity*. New York: Free Press.
- Gauchat, G.
2012 “Politicization of science in the public sphere: A study of public trust in the United States, 1974 to 2010.” *American Sociological Review*, 77(2): 167–187.
- Granovetter, M.
2017 *Society and Economy: Framework and Principles*, 1st ed. Cambridge, MA: Harvard University Press.
- Guiso, L., P. Sapienza, and L. Zingales
2009 “Cultural biases in economic exchange?” *The Quarterly Journal of Economics*, 124(3): 1095–1131.
- Hall, P. A., and D. W. Gingerich

2009 “Varieties of capitalism and institutional complementarities in the political economy: An empirical analysis.” *British Journal of Political Science*, 39(3): 449–482.

Hall, P. A., and D. Soskice

2001 *Varieties of Capitalism: The Institutional Foundations of Comparative Advantage*. Oxford: Oxford University Press.

Hamano, T., Y. Fujisawa, Y. Ishida, S. V. Subramanian, I. Kawachi, and K. Shiwaku

2010 “Social capital and mental health in Japan: A multilevel analysis.” *PLOS ONE*, 5(10): e13214.

Hammar, H., S. C. Jagers, and K. Nordblom

2009 “Perceived tax evasion and the importance of trust.” *The Journal of Socio-Economics*, 38(2): 238–245.

Hershbein, B., and L. B. Kahn

2018 “Do recessions accelerate routine-biased technological change? Evidence from vacancy postings.” *American Economic Review*, 108(7): 1737–1772.

Inglehart, R.

1997 “Modernization, postmodernization and changing perceptions of risk.” *International Review of Sociology*, 7(3): 449–459.

Iyigun, M. F., and A. L. Owen

1998 “Risk, entrepreneurship, and human-capital accumulation.” *The American Economic Review*, 88(2): 454–457.

Jacoby, S. M.

2004 *Employing Bureaucracy: Managers, Unions, and the Transformation of Work in the 20th Century*. London: Psychology Press.

Klotz, A. C., S. P. da Motta Veiga, M. R. Buckley, and M. B. Gavin

2013 “The role of trustworthiness in recruitment and selection: A review and guide for future research.” *Journal of Organizational Behavior*, 34(S1): S104–S119.

Kobayashi, T., E. Suzuki, M. Noguchi, I. Kawachi, and S. Takao

2015 “Community-level social capital and psychological distress among the elderly in Japan: A population-based study.” *PLOS ONE*, 10(11): e0142629.

Kosugi, M., and T. Yamagishi

1998 “General trust and judgments of trustworthiness.” *Shinrigaku Kenkyu: The Japanese Journal of Psychology*, 69(5): 349–357.

Koumenta, M., and M. Pagliero

2019 “Occupational regulation in the European Union: Coverage and wage effects.” *British Journal of Industrial Relations*, 57(4): 818–849.

Kwon, S. W., C. Heflin, and M. Ruef

2013 “Community social capital and entrepreneurship.” *American Sociological Review*, 78(6): 980–1008.

Lazear, E. P.

2007 “Firm-specific human capital: A skill-weights approach.” *Journal of Political Economy*, 117(5): 914–940.

Leana, C. R., and H. J. van Buren

1999 “Organizational social capital and employment practices.” *Academy of Management Review*, 24(3): 538–555.

Lifshitz-Assaf, H.

2018 “Dismantling knowledge boundaries at NASA: The critical role of professional identity in open innovation.” *Administrative Science Quarterly*, 63(4): 746–782.

Lyness, K. S., J. C. Gornick, P. Stone, and A. R. Grotto

2012 “It’s all about control: Worker control over schedule and hours in cross-national context.” *American Sociological Review*, 77(6): 1023–1049.

Macy, M. W., and J. Skvoretz

1998 “The evolution of trust and cooperation between strangers: A computational model.” *American Sociological Review*, 63(5): 638–660.

Mayer, K. U., and H. Solga

2008 “Skill formation: Interdisciplinary and cross-national perspectives.” In H. Solga and K. U. Mayer (eds.), *Skill Formation: Interdisciplinary and Cross-National Perspectives*: 1–18. Cambridge, UK: Cambridge University Press.

Mill, J. S.

1848 *Principles of Political Economy: With Some of Their Applications to Social Philosophy*. London: John W. Parker, West Strand.

Misztal, B.

2013 *Trust in Modern Societies: The Search for the Bases of Social Order*. Hoboken: John Wiley & Sons.

Mizrachi, N., I. Drori, and R. R. Anspach

2007 “Repertoires of trust: The practice of trust in a multinational organization amid political conflict.” *American Sociological Review*, 72(1): 143–165.

Nannestad, P.

2008 “What have we learned about generalized trust, if anything?” *Annual Review of Political Science*, 11(1): 413–436.

- Parsons, T.
1937 *The Structure of Social Action*. New York: Free Press.
- Paxton, P.
2007 "Association memberships and generalized trust: A multilevel model across 31 countries." *Social Forces*, 86(1): 47–76.
- Putnam, R. D.
1993 "The prosperous community: Social capital and public life." *The American Prospect*, 4: 35–42.
- Putnam, R. D.
2000 "Bowling alone: America's declining social capital." In L. Crothers and C. Lockhart (eds), *Culture and Politics*: 223–234. New York: Palgrave Macmillan.
- Putnam, R. D.
2007 "E pluribus unum: Diversity and community in the twenty-first century, the 2006 Johan Skytte Prize lecture." *Scandinavian Political Studies*, 30(2): 137–174.
- Putnam, R. D., R. Leonardi, and R. Y. Nanetti
1994 *Making Democracy Work: Civic Traditions in Modern Italy*. Princeton: Princeton University Press.
- Rivera, A. L., and A. Tilsik
2016 "Class advantage, commitment penalty: The gendered effect of social class signals in an elite labor market." *American Sociological Review*, 81(6): 1097–1131.
- Robbins, B. G.
2021 "An empirical comparison of four generalized trust scales: Test–retest reliability, measurement invariance, predictive validity, and replicability." *Sociological Methods Research*, DOI: 10.1177/004912412111055.
- Robbins, B. G.
2022 "Measuring generalized trust: Two new approaches." *Sociological Methods Research*, 51(1): 305–356.
- Rothstein, B.
2011 *The Quality of Government: Corruption, Social Trust, and Inequality in International Perspective*. Chicago: University of Chicago Press.
- Rotter, J. B.
1971 "Generalized expectancies for interpersonal trust." *American Psychologist*, 26(5): 443–452.
- Schilke, O., M. Reimann, and K. S. Cook
2021 "Trust in social relations." *Annual Review of Sociology*, 47: 239–259.

Schneider, M. R., and M. Paunescu

2012 “Changing varieties of capitalism and revealed comparative advantages from 1990 to 2005: A test of the Hall and Soskice claims.” *Socio-Economic Review*, 10(4): 731–753.

Scholz, J. T., and M. Lubell

1998 “Trust and taxpaying: Testing the heuristic approach to collective action.” *American Journal of Political Science*, 42(2): 398–417.

Schuler, R. S., and I. Tarique

2007 “International human resource management: A North American perspective, a thematic update and suggestions for future research.” *The International Journal of Human Resource Management*, 18(5): 717–744.

Simmel, G.

1950 *The Sociology of Georg Simmel*. New York: Free Press.

Smith, A.

1978 *Lectures on Jurisprudence*. Oxford: Oxford University Press.

Statista

2022 “Europe share of population with a degree 2022.”

<https://www.statista.com/statistics/1084737/eu-28-adults-with-tertiary-education-attainment/>.

Thelen, K.

2004 *How Institutions Evolve: The Political Economy of Skills in Germany, Britain, the United States, and Japan*. Cambridge, UK: Cambridge University Press.

Tingvall, J. B.

2021 “Cultivate your adaptability.” *HR Blog*, Sept. 9.

<https://hrblog.spotify.com/2021/09/09/cultivate-your-adaptability/>.

Topa, G.

2011 “Labor markets and referrals.” In J. Benhabib, A. Bisin, and M. O. Jackson (eds.), *Handbook of Social Economics*: 1193–1221. Amsterdam: North Holland.

Uslaner, E. M.

2002 “The moral foundations of trust.” SSRN, <https://ssrn.com/abstract=824504>.

Uslaner, E. M.

2008 “The foundations of trust: Macro and micro.” *Cambridge Journal of Economics*, 32(2): 289–294.

Uslaner, E. M.

2017 *The Oxford Handbook of Social and Political Trust*. Oxford: Oxford University Press.

Van Reenen, J.

2011 “Does competition raise productivity through improving management quality?” *International Journal of Industrial Organization*, 29(3): 306–316.

Weber, M.

1968 *The Religion of China: Confucianism and Taoism*. New York: Free Press.

Williamson, O. E.

1973 “Markets and hierarchies: Some elementary considerations.” *The American Economic Review*, 63(2): 316–325.

Xiao, Z. X., and A. S. Tsui

2007 “When brokers may not work: The cultural contingency of social capital in Chinese high-tech firms.” *Administrative Science Quarterly*, 52(1): 1–31.

Yamagishi, T., K. S. Cook, and M. Watabe

1998 “Uncertainty, trust, and commitment formation in the United States and Japan.” *American Journal of Sociology*, 104(1): 165–194.

Yamagishi, T., and K. Sato

1986 “Motivational bases of the public goods problem.” *Journal of Personality and Social Psychology*, 50(1): 67–73.

Yamagishi, T., and M. Yamagishi

1994 “Trust and commitment in the United States and Japan.” *Motivation and Emotion*, 18(2): 129–166.

Zucker, L. G.

1987 “Institutional theories of organization.” *Annual Review of Sociology*, 13(1): 443–464.

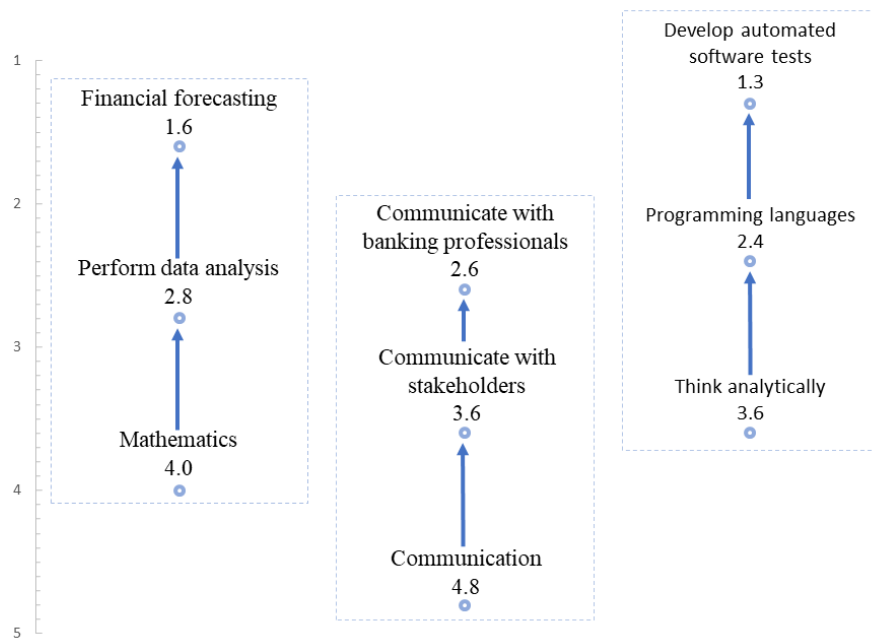
Authors’ Biographies

Letian (LT) Zhang is an assistant professor at Harvard Business School. He is currently exploring (1) how a society’s social structure and culture predict organization/job design and (2) how such design choices are associated with workplace inequality. He earned a Ph.D. in sociology from Harvard University and a B.S. in mathematics from Stanford University.

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Figure 1. Examples of Skills on the Foundational–Advanced Continuum*

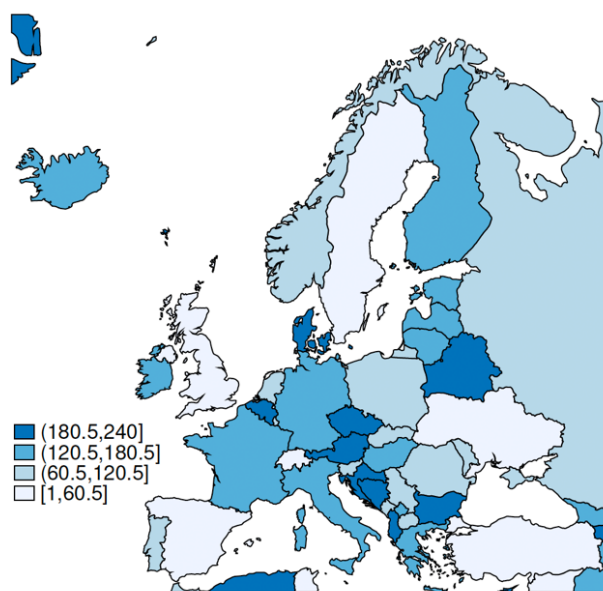
The More-Advanced Skill: Skills that require other skills as prerequisites



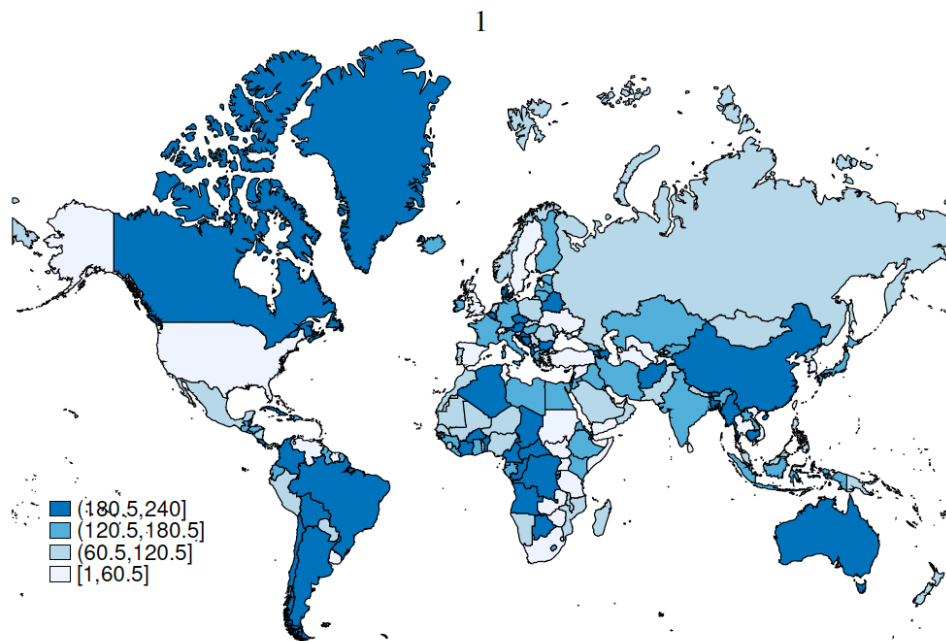
The More-Foundational Skill: Skills that provide the building blocks upon which individuals could develop other skills

* The figure shows three sets of skills on the foundational–advanced continuum: analytical skills, social skills, and programming skills. The number listed below each skill is the foundational score derived from our dataset.

Figure 2. Employer by Country*



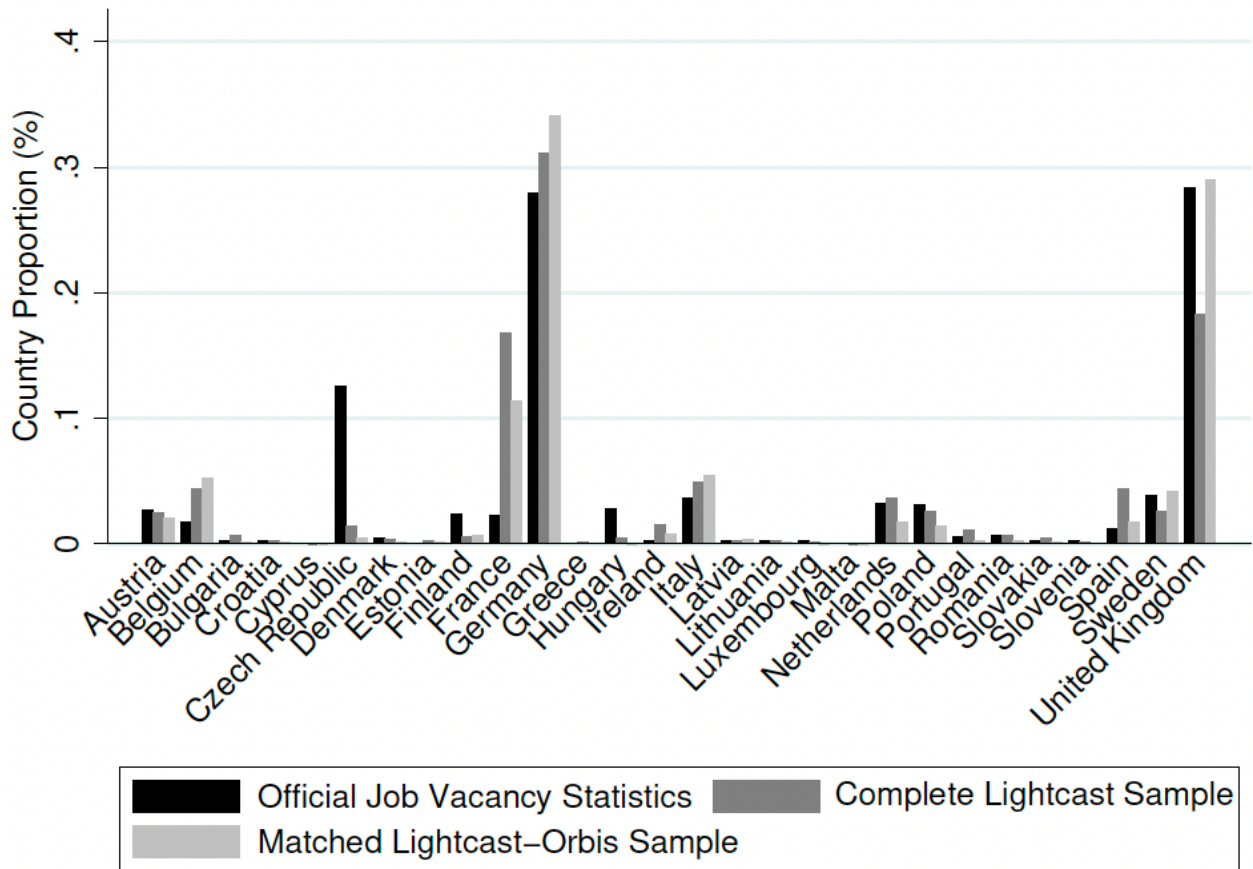
(a) Employer Distribution by Local Country



(b) Employer Distribution by Headquarter Country

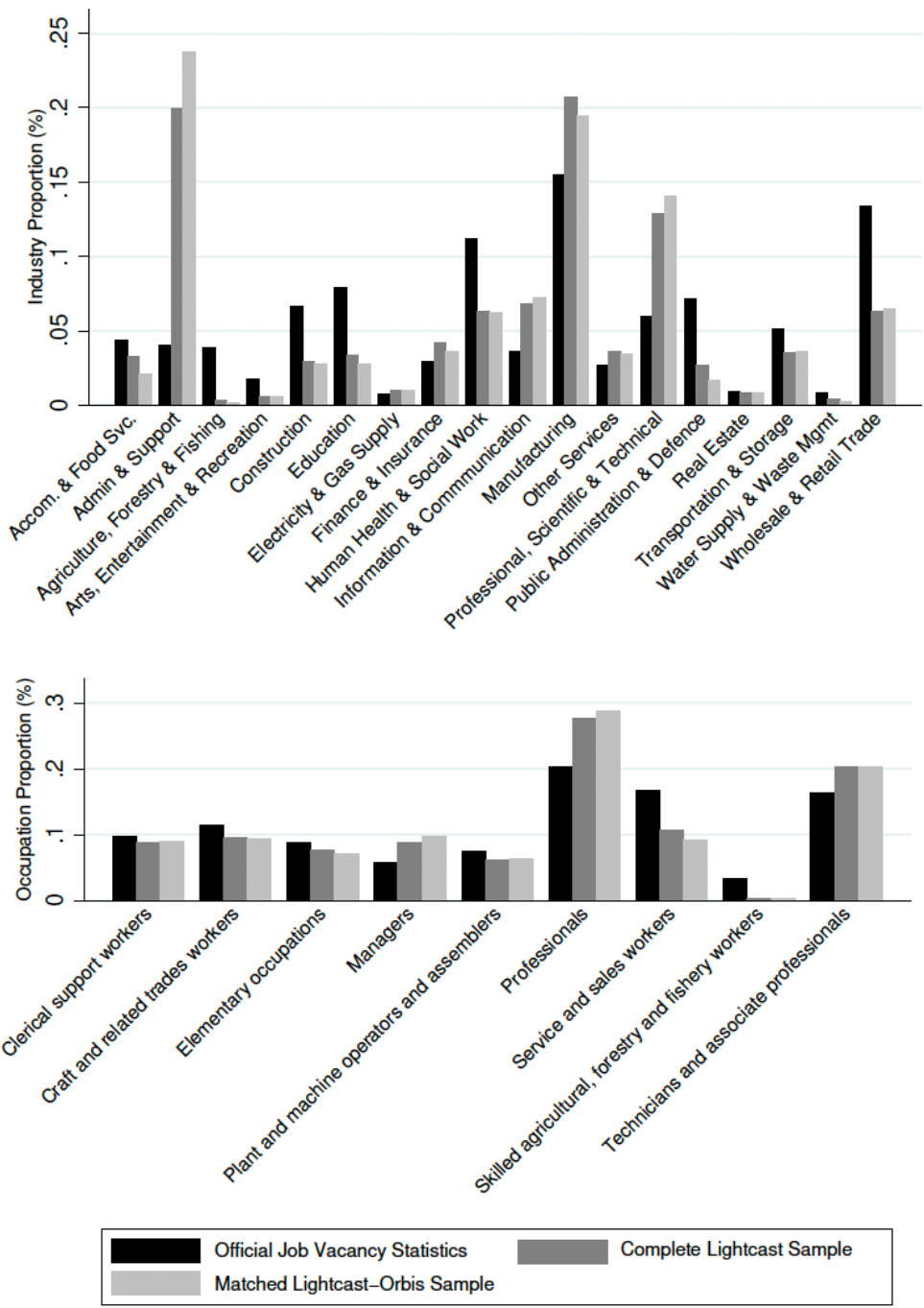
* Figure (a) includes all employers in the complete Lightcast sample and shows country variation in where the job is posted. Figure (b) includes employers in the matched Lightcast–Orbis sample and shows variation in the job employers’ headquarters country. The gradients on the maps indicate the number of employers in each country, with darker shades representing a greater number of employers.

Figure 3. Sample Distribution by Country*



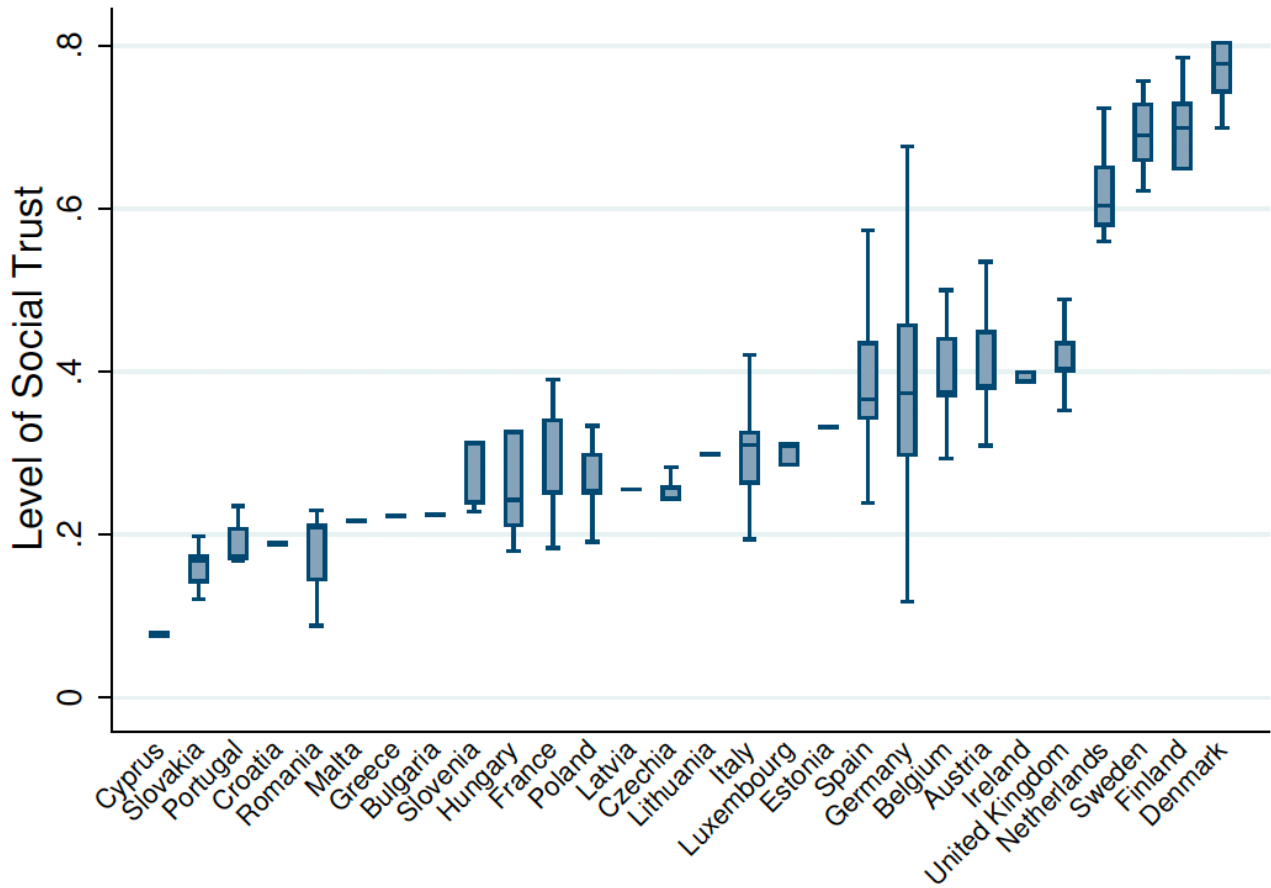
* The complete Lightcast sample includes all job postings in the 28 European countries, 2018–2021. The matched sample contains postings that are matched with Bureau Van Dijk’s Orbis database. Official job vacancy statistics are based on national surveys for the 28 countries, produced by Eurostat and 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*



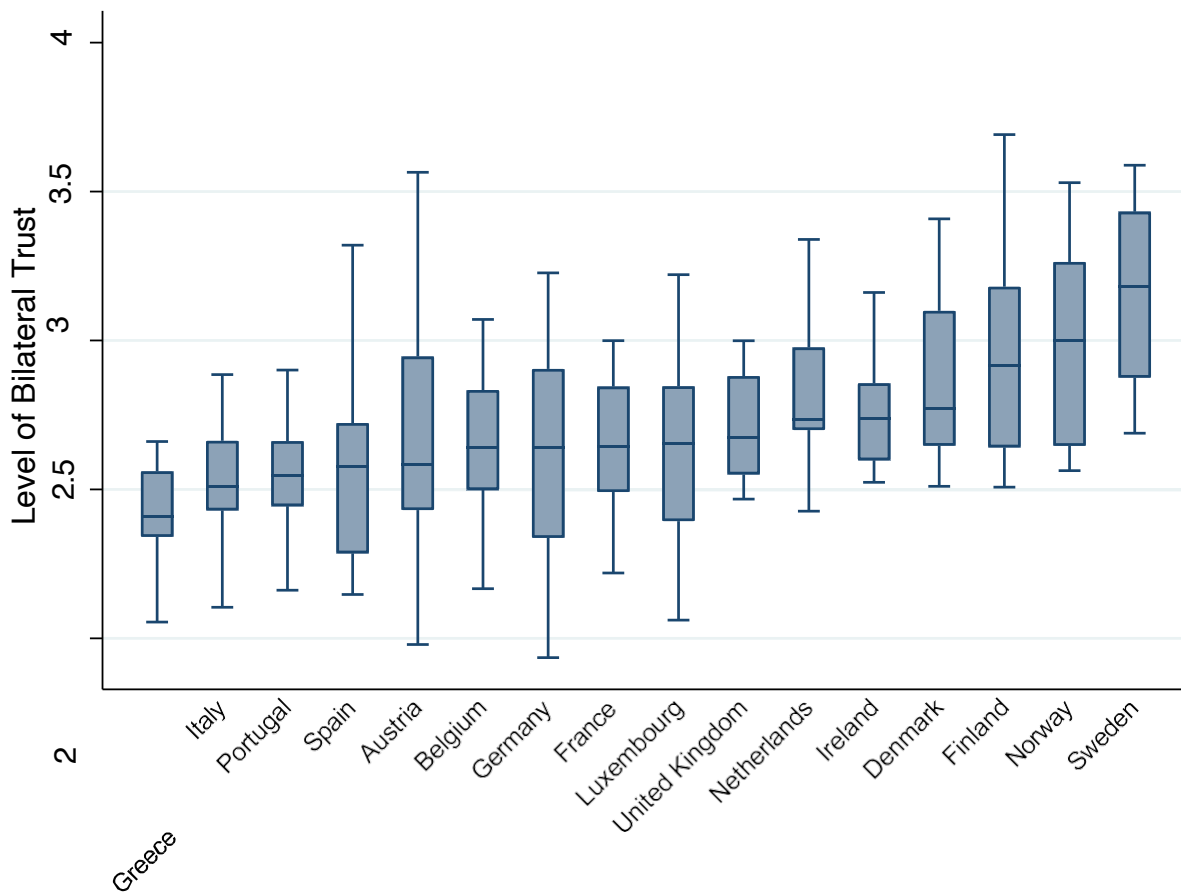
* Official employment statistics come from Eurostat and OECD Statistics. The y-axis shows the proportion of the sample accounted for by each industry and occupation.

Figure 5. Social Trust by Country*



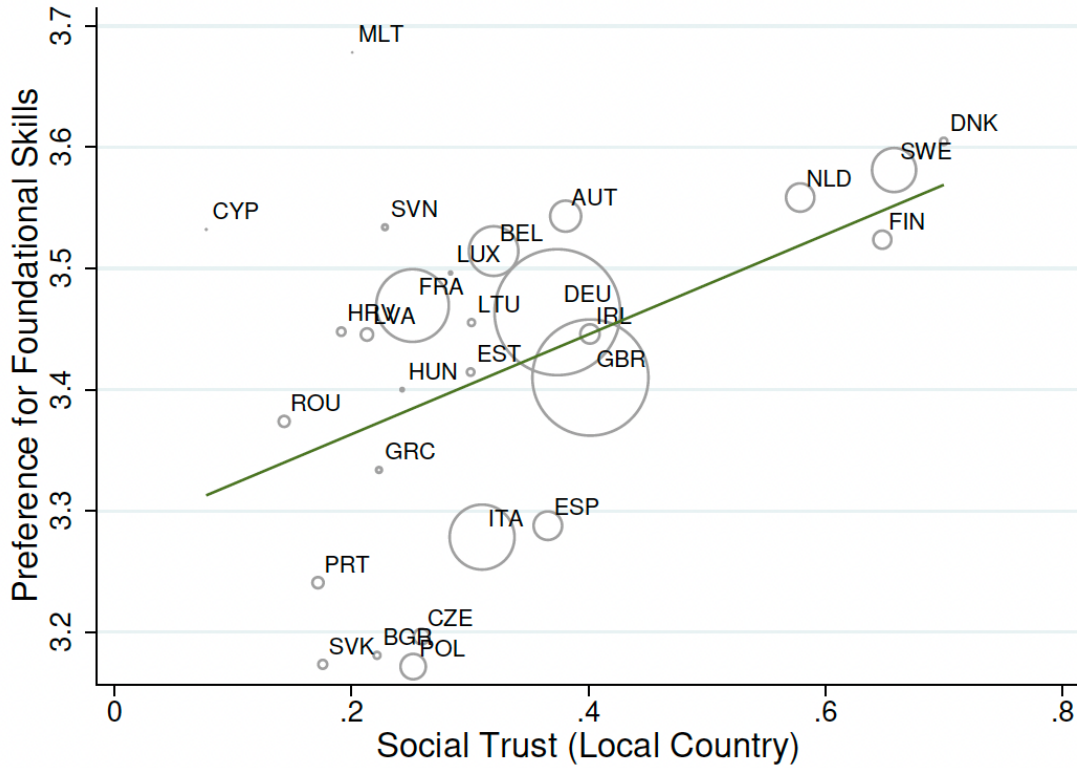
* We show the regional trust value at the 25th percentile (lower hinge of the box), the median, and 75th percentile (upper hinge of the box).

Figure 6. Bilateral Trust by Country*



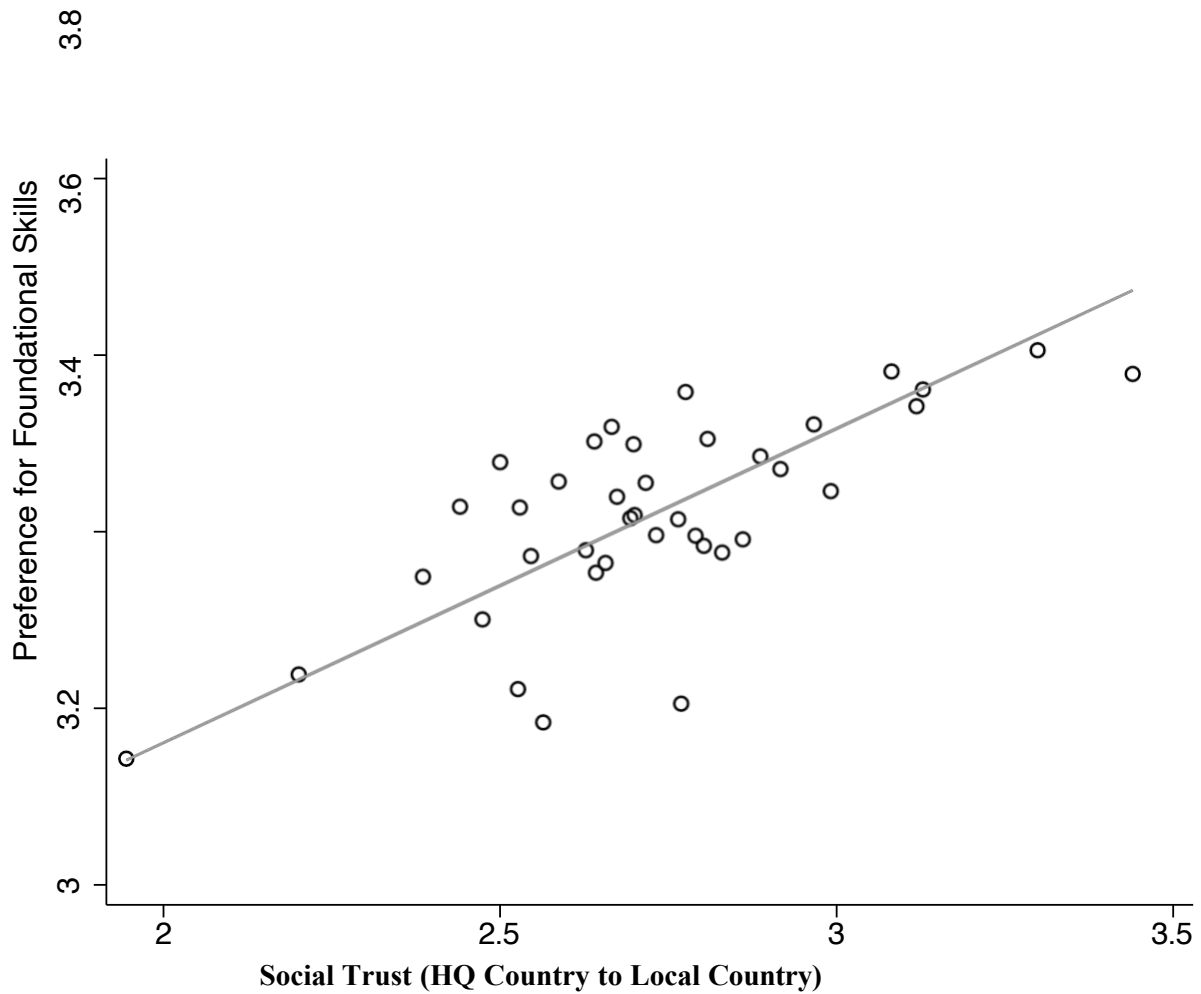
* The figure shows how much people from 16 EU countries trust people in 21 receiving countries (including the respondent's own). We plot the trust scores by the survey countries. We show the trust scores of the survey countries at the 25th percentile (lower hinge of the box), the median, and the 75th percentile (upper hinge of the box).

Figure 7. Association Between Social Trust and Skill Preference in Hiring*



* We aggregated job postings to the country level; 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*



* 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. Sample 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	Liase 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

* The table displays the most commonly mentioned ESCO skills (those appearing at least 50,000 times in our sample). Their foundational scores are based on our self-administered survey in which 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 (0.194)	0.401** (0.116)	0.196** (0.0600)	0.480*** (0.130)	0.431*** (0.108)	0.314*** (0.0804)	0.232*** (0.0490)
Job req. college Degree		-0.000886 (0.0291)	0.0135 (0.0168)	-0.0442 (0.0291)	0.00481 (0.0161)	-0.00531 (0.0146)	-0.00510 (0.0150)
Job req. graduate degree		0.0440 (0.0230)	0.00835 (0.0137)	-0.0188 (0.0202)	0.0102 (0.0129)	-0.00140 (0.0103)	-0.00235 (0.0105)
Job req. short-cycle tertiary degree		0.0407 (0.0267)	-0.00590 (0.0106)	-0.0271* (0.0119)	-0.0138 (0.00819)	-0.0150 (0.00887)	-0.0156 (0.00879)
Job req. non-tertiary degree		0.0212 (0.0217)	0.0134 (0.00968)	0.00330 (0.0167)	-0.00422 (0.0108)	0.00432 (0.00891)	0.00473 (0.00880)
Job req. work experience		0.00969 (0.00986)	0.00730 (0.00811)	0.0270 (0.0172)	0.0149 (0.00759)	0.00770 (0.00552)	0.00772 (0.00552)
Num. of skills (log)		-0.0308* (0.0136)	-0.0328* (0.0124)	-0.133*** (0.0204)	-0.0664*** (0.0169)	-0.0327 (0.0175)	-0.0328 (0.0174)
GDP per capita (log) (local country)			0.120** (0.0361)				0.130** (0.0360)
Human capital index (local country)			-1.519*** (0.384)				-1.457*** (0.275)
Rule of law (local country)			0.0613** (0.0217)				-0.0121 (0.0172)
Unemployment rate (local country)			-1.495*** (0.253)				-0.785** (0.241)
% of graduates from vocational education (local country)			-0.118 (0.0845)				-0.150* (0.0722)
Collective bargaining coverage (local country)			0.112*** (0.0217)				0.126* (0.0529)
Observations	51921230	51451739	49489507	14777059	14669064	14750280	14750280
R ²	0.008	0.296	0.334	0.246	0.417	0.599	0.599
Fixed effects:							
Posting year	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Posting month	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Occupation		Yes			Yes		
Occupation × Sector			Yes				
Employer				Yes	Yes		
Occupation × Employer						Yes	Yes

* $p < .05$; ** $p < .01$; *** $p < .001$

* The dependent variable is a job's foundational score, calculated using the average foundational scores of all skills listed in the job posting. Social trust is the average level of generalized trust in the local country. Each job posting is a unit of observation. Standard errors clustered at the country level are in parentheses.

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

	OLS						IV	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Social trust (HQ–local)	0.194*** (0.0404)	0.171*** (0.0324)	0.272*** (0.0406)	0.201*** (0.0366)	0.216*** (0.0515)	0.271*** (0.0449)		0.275* (0.108)
Somatic distance (HQ–local)							–0.0464*** (0.00821)	
Job req. college degree		0.0422* (0.0210)	–0.00131 (0.0296)	0.0319 (0.0205)	0.0240 (0.0202)	0.0239 (0.0202)	–0.000232 (0.000964)	0.0213 (0.0188)
Job req. graduate degree		0.0279 (0.0157)	0.00798 (0.0283)	0.0281 (0.0184)	0.0182 (0.0202)	0.0183 (0.0202)	0.000738 (0.000796)	0.0206 (0.0220)
Job req. short-cycle tertiary degree		0.0203 (0.0140)	–0.0132 (0.0215)	0.00502 (0.0147)	0.00546 (0.0197)	0.00543 (0.0197)	–0.0000576 (0.000623)	–0.00791 (0.00777)
Job req. non-tertiary degree		0.0286 (0.0150)	0.0270 (0.0249)	0.0112 (0.0163)	0.0179 (0.0188)	0.0172 (0.0189)	–0.0000256 (0.000911)	0.0131 (0.0151)
Job req. work experience		0.00447 (0.00913)	0.0245 (0.0150)	0.00792 (0.00941)	0.00106 (0.00944)	0.00102 (0.00944)	–0.000715 (0.000372)	0.00658 (0.0133)
Num. of skills (log)		–0.0147 (0.0160)	–0.101*** (0.0228)	–0.0254 (0.0199)	0.00663 (0.0228)	0.00639 (0.0229)	–0.000108 (0.000199)	–0.0214 (0.0170)
Diff. in GDP per capita (log)						0.0258*** (0.00741)	0.0224 (0.0151)	0.0197* (0.00797)
Common legal origin (HQ–local)						–0.00953 (0.0219)	0.0112 (0.0263)	–0.0183 (0.0258)
Physical distance (log) (HQ–local)						–0.0199 (0.0151)	0.00534 (0.0190)	–0.0281 (0.0165)
Observations	1209302	1206989	1194123	1188701	1192355	1192355	906252	906252
R ²	0.042	0.343	0.193	0.396	0.560	0.560	0.990	0.558
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
Occupation		Yes		Yes				
Employer			Yes	Yes				
Occupation × Employer					Yes	Yes	Yes	Yes

* $p < .05$; ** $p < .01$; *** $p < .001$

* 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. Standard errors clustered at the country-dyad level are in parentheses.

Table 4. Linear Estimation Predicting Preference for Foundational Skills: The Moderating Effect*

	Local Model				Bilateral Model			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Social trust (local country)	0.397*** (0.0806)	0.346*** (0.0668)	1.088*** (0.221)	0.965*** (0.205)				
Social trust (local country) × Req. college degree and above	-0.171 (0.0905)	-0.166 (0.0909)						
Social trust (local country) × Req. work experience	-0.0684 (0.0644)	-0.0666 (0.0644)						
Social trust (local country) × Job preparation level			-0.229*** (0.0607)	-0.220*** (0.0536)				
Social trust (HQ–local)					0.264*** (0.0612)	0.279*** (0.0607)	0.495*** (0.0869)	0.541*** (0.0788)
Social trust (HQ–local) × Req. college degree and above					-0.156*** (0.0421)	-0.156*** (0.0419)		
Social trust (HQ–local) × Req. work experience					-0.0704* (0.0276)	-0.0711* (0.0275)		
Social trust (HQ–local) × Job preparation level							-0.0839** (0.0272)	-0.0935*** (0.0258)
Req. college degree and above	0.0609 (0.0415)	0.0587 (0.0419)			0.431*** (0.121)	0.430*** (0.121)		
Job req. work experience	0.0326 (0.0265)	0.0319 (0.0266)	0.00811 (0.00584)	0.00814 (0.00584)	0.193* (0.0784)	0.195* (0.0783)	0.00193 (0.00991)	0.00187 (0.00991)
Num. of skills (log)	-0.0326 (0.0174)	-0.0327 (0.0174)	-0.0334 (0.0177)	-0.0335 (0.0177)	0.00580 (0.0227)	0.00571 (0.0227)	0.00603 (0.0236)	0.00594 (0.0236)
Observations	14683212	14683212	13983513	13983513	1187489	1187489	1118534	1118534
R ²	0.599	0.599	0.596	0.596	0.560	0.560	0.557	0.557
Fixed effects:								
Posting year	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Posting month	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Occupation × 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

* $p < .05$; ** $p < .01$; *** $p < .001$

* This table includes several moderators. Model specifications are consistent with our main models in Tables 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.