Received: 18 May 2023 | Revised: 31 May 2024 | Accepted: 1 July 2024

DOI: 10.1111/apce.12479

Annals of Public and Cooperative Economics
Annales de l'économie publique, sociale et coopérative

WILEY

ORIGINAL ARTICLE

How do business associations support contract enforcement? Evidence from Hungary

Károly Mike[1] | **István Boza**[2] | **Gábor Tamás Molnár**[3]

[1]Department of Economics and Statistics, Faculty of Law, Eötvös Loránd University, Budapest, Hungary

[2]Institute of Economics, HUN-REN Centre for Economic and Regional Studies, Budapest, Hungary

[3]Institute of Social and Political Sciences, Corvinus University of Budapest, Budapest, Hungary

Correspondence
Károly Mike, PhD, Associate Professor, Department of Economics and Statistics, Faculty of Law, Eötvös Loránd University, Egyetem tér 1–3, Budapest, H-1053, Hungary.
Email: karoly.mike@ajk.elte.hu

Funding information
Széchenyi 2020 program framework, Grant/Award Number: EFOP-3.6.1-16-2016-00013

Abstract

Business associations (BAs) are often mentioned among formal private-order institutions that support contract enforcement. Despite their ubiquity, evidence about their actual roles is still very limited. We explore empirically four mechanisms through which they can support the credibility of contractual commitments: member selection, norm enforcement, dispute resolution and information sharing. In a developed legal context, firm-level data from an economy-wide managerial survey show that BAs support contractual trust among members, in members by outsiders as well as in outsiders by members. Member selection and information sharing stand out as the most important mechanisms: They help all three relationship types. Dispute resolution helps overcome opportunism between members only. Formalized norm enforcement is a signal of trustworthiness for outsiders. Economic theory suggests that BAs can help establish trust beyond personal and local networks. We find strong evidence that they indeed do.

KEYWORDS
business associations, contract enforcement, formal and informal institutions

JEL CLASSIFICATION
D71, K40, L14, O17

1 | INTRODUCTION

There is a growing recognition that business and trade associations contribute to the enforcement of business contracts. As formal private-order institutions, they can potentially fill a gap between informal mechanisms and state law. Economic theory suggests that they can extend sanctions beyond personal ties but without incurring the high costs of legal enforcement (Dixit, 2003; Greif, 2008; Prüfer, 2016). While case studies show that this *can* happen, we still know very little about how often and by what means business associations (BAs) fulfil this role. A few studies have presented some supporting evidence from countries with weak or dysfunctional legal orders. It is unclear, however, if BAs continue to have this function on a large scale as courts become more effective. There are several mechanisms they could use to support contract enforcement, including member selection, norm enforcement, information sharing and dispute resolution. We also know very little about the relative importance and effectiveness of different mechanisms.

In this article, we explore whether and how BAs support the enforcement of business contracts under a developed legal order. Using an economy-wide, representative sample of small and middle-sized firms, we investigate how their memberships in such associations influence the levels of contractual trust they experience in their business relationships. The survey data enable us to present a more comprehensive and fine-grained picture than previous studies. Our contributions to the literature are threefold. First, this is the first study using a firm-level national dataset under a developed, well-functioning order of contract law. A few studies explored similar data from transitional and developing countries but all of them emphasized the special circumstances of weak legal systems (see Section 2.3). As the 'enforcement gap' is closed by strengthened courts, BAs may no longer need to fill that gap. In a broader perspective, associational activity seems to be less important for business support at higher stages of economic development (Danis et al., 2011; De Clercq et al., 2010). But there is also some evidence to the contrary: At least some BAs help enforce contracts in developed countries (Bennett, 1998, 1995; Habersetzer et al., 2019; Lane & Bachmann, 1997). So how often and with what effectiveness do they fulfil this role? We find strong evidence in our survey among managers that BAs effectively contribute to contract enforcement for a broad range of business relationships.

Our second contribution is taking a comprehensive view of how BAs can contribute to contract enforcement. Large-sample studies have focussed on their roles in dispute resolution and information sharing in aid of reputational incentives (Hendley & Murrell, 2003; Johnson et al., 2002; McMillan & Woodruff, 2000; Pyle, 2005, 2006). While these two functions are important, an exclusive focus on them provides a constrained view of what BAs can contribute. They can also engage in member selection by ethical and professional criteria, which enables them to send credible signals about their members' trustworthiness. They can also articulate and enforce moral and professional norms among their members, which can furnish effective sanctions for contractual breach or underperformance. We examine all these potential contract-enforcement mechanisms of BAs explicitly. We find that all of them are used but information sharing and member selection are especially important. Moreover, some mechanisms are effective for increasing trust between association members, while others raise trust in members by outsiders or in outsiders by members.

Our third contribution is about the effects of BAs on contracts with distant and initially unknown business partners. In theory, formalized private-order institutions are assumed to be especially important for such relationships because of the relative weakness of informal enforcement mechanisms (Dixit, 2003; Prüfer, 2016). They can help firms reach beyond local markets and communities. The limited empirical evidence so far is mixed (McMillan & Woodruff, 2000; Pyle, 2005, 2006). We use our data to isolate whether BAs and their various contract-enforcement mechanisms contribute to higher contractual trust between firms that are geographically distant or started doing business together without any previous (even indirect) links or knowledge about each other. We find that BAs that engage in ethical selection and control or information sharing do have such effects.

Our study fits into the broader literature on the economic roles of business and trade associations. While interest-group theory describes them as rent seekers (Olson, 1982), they are increasingly seen in a more positive light as providers of self-regulation, knowledge generation, property rights protection and contract enforcement (Doner & Schneider, 2000; Putnam, 1993). In a pointed fashion, Knack (2003) contrasts the 'Olson hypothesis' that private associations pursue special interests, largely to the detriment of social welfare, and the 'Putnam hypothesis' that they tend to support value-creating cooperation. To the extent we find positive effects of BAs on contractual trust, our results add some more weight to the Putnam hypothesis. Of course, contract-supporting BAs may, at the same time, pursue wasteful rent-seeking, too. What we can show is that they also fulfil a different, welfare-enhancing function.

BAs are intertwined with informal mechanisms of contract enforcement, including morality, social norms and reputation. There is a debate about the relative importance of such informal mechanisms in developed legal systems (Macaulay, 1963; Mike & Kiss, 2018; Peng, 2003; Trebilcock & Leng, 2006). We can examine them here only from a narrow perspective: How much can BAs build upon them? Nonetheless, our findings do shed some light on their relative effectiveness in different types of business relationships.

Section 2 introduces the economy theory of how BAs can contribute to contractual trust through various mechanisms. It also reviews the existing empirical evidence. Section 3 describes our dataset. Section 4 presents the regression models that capture the mechanisms identified and the estimation results. Section 5 summarizes the results and concludes.

2 | BUSINESS ASSOCIATIONS AND CONTRACTUAL TRUST: THEORY AND EXISTING EVIDENCE

2.1 | BAs as designed, private-order institutions of contract enforcement

Two firms will not enter a contractual relationship unless they have sufficient trust in each other's promises. While contractual trust has its non-rational aspects (Williamson, 1993), it reflects the credibility of the promise, that is, the expectation that the promise will be kept with high probability (Kreps, 1990). Throughout the article, we focus on this calculative core of contractual trust. Credibility is secured if the promise-giver faces sufficient sanctions for failure to perform. Such sanctions can be supplied by several contract-enforcement institutions. Greif (2008) classifies them by their sources (organic or designed) and the actors providing their sanctions (private-order or public-order institutions). Organic private-order institutions include public morality, social norms and informal relational contracting. Law and government regulation are designed public-order institutions. Designed private-order institutions constitute a third category. They include

firm hierarchies when they define their own set of rules for internal transactions (Williamson, 2002), hybrid institutions such as clusters and cooperatives (Ménard, 2004) and BAs.

Organic institutions need to be embedded in ongoing networks of informal social relationships. This embeddedness means that they must rely on but are also constrained by personal relations, communities and geographical proximity. While they support credible commitment in narrow circles, they might not facilitate – or might even inhibit – the development of business partnerships beyond them (Kranton, 1996; Lazzarini et al., 2008; Uzzi, 1997). Public-order institutions can support impersonal and distant contractual relationships, but often in too costly and cumbersome ways, mainly as a last resort (Dixit, 2004; Masten & Prüfer, 2014). BAs can fill an enforcement gap by supporting contracts beyond informal networks without incurring the high costs of involving the state (Dixit, 2003; Prüfer, 2016). To incentivize their members' compliance, BAs often rely on their formal coordinating roles in coordinated market economies (Soskice & Hall, 2001), or – especially for the subcategory of employer associations – their roles in interest intermediation. However, as recent developments in employers' association scholarship (Demougin et al., 2018; Jirjahn, 2023) suggest, the services they provide to members beyond those classical roles can be equally important, either contributing to contract enforcement directly or as incentives for cooperation. Voluntary BAs are examples of self-organized institutions (Ostrom, 1998) that can more or less successfully solve collective action problems for their members.

2.2 | Mechanisms of contract enforcement in BAs

How can BAs help credible commitment and thereby contractual trust? We identify four generic mechanisms through which they can fulfil this function. BAs are extremely versatile (Doner & Schneider, 2000; McMillan & Woodruff, 2000) so the taxonomy is probably not exhaustive. However, it covers their main activities that are regularly discussed in the literature. All mechanisms can potentially increase contractual trust *between* association members, *in members by outsiders* as well as *in outsiders by members*. The conditions under which these three effects are likely to occur are not the same. Therefore, we distinguish them both theoretically and empirically.

Member selection. Associations can select their members by ethical or professional criteria. Ethics-based selection can result in a membership with a strong intrinsic willingness to perform well. While professional selection is mostly about capability, it is also related to willingness, for at least two reasons. First, professional standards often have ethical aspects. Second, professionalism often means enjoying and taking pride in good performance. Hence, membership in an association with effective moral or professional selection can be a signal of reliability (Bernstein, 1992). It increases mutual contractual trust among members. It also increases trust in members by outsiders insofar as they can ascertain the effectiveness of the selection mechanism. Even if they cannot observe selection at work (which is likely), they may be able impute it from common perceptions about members' behaviour. There is no direct positive effect on contractual trust in outsiders by members. However, two indirect mechanisms are worth considering. First, firms that are known as reliable types may attract more offers from others who are also relatively reliable types (Gintis et al., 2001).[1] Second, they may be better able to reach a cooperative Nash-equilibrium in a contractual relationship. If their partner is a conditional co-operator (as many actors are, see Fischbacher et al., 2001), he is more likely to cooperate in a one-shot game if he knows with

[1] Gintis et al. (2001) outline a similar mechanism: costly signalling of one's quality attracts profitable future transactions with increased probability. Here, we assume that a signal of reliability attracts better types and their type can be observed at least sometimes.

greater probability that he faces a (conditionally) cooperative type. In long-term relationships even with selfish but non-myopic partners, a cooperative equilibrium for the repeated game might be reached more easily if one party is known to follow certain ethical or professional conventions of cooperation (Miller, 1992).[2]

Norm enforcement. BAs can strengthen social norms among their members by formalizing and encoding them in ethical or professional guidelines and codes (Doner & Schneider, 2000). Norms are thereby clarified and made public, which supports spontaneous informal enforcement. Processes of checking compliance with adopted codes and sanctioning norm-breaking by shaming, fines or exclusion can be added. Accreditations and quality certifications are common formal ways of ensuring compliance. A crucial problem of decentralized norm enforcement by members of an informal network or community is that free-riding can be a dominant strategy (Cooter, 1996). Delegating norm enforcement to officers of a BA as agents can help overcome this collective-action problem.

Members will trust each other more than outsiders if they can initiate norm enforcement or rely on regular monitoring by the BA. Outsiders will trust them more only if they, too, can trigger such norm enforcement or rely on the monitoring. This presumes that they can supply members with credible information about contractual breach or underperformance; or they have sufficient information about and access to the BA's internal compliance processes. Contractual trust *in* outsiders by members may be enhanced by similar indirect mechanisms as in the case of member selection. If a member of a BA fears social norms, he will be expected to follow a (conditionally) cooperative strategy. As a consequence, he can attract more cooperative types or reach a cooperative Nash-equilibrium more easily, for the same reasons as a trustworthy type can do so.[3]

Dispute resolution. Many associations offer a dispute resolution service (Bernstein, 2001; McMillan & Woodruff, 2000). This can reduce the cost of sanctioning contractual breach or negligence and thereby make contractual promises more credible among members. If outsiders can also use the service and it is not partial towards members, it can strengthen outsiders' trust in members, too. If members can convince their non-member partners to take their disputes to this forum, which is presumed to be more effective at least for some disputes than its alternatives, it can also increase members' trust in outsiders.

Information sharing. BAs create forums and channels for information sharing about members' and others' reliability and performance. Reputation relies on easily accessible and reliable information about past conduct. BAs often keep and share records of their members' and their partners' past business behaviour (Bernstein, 1992; Woodruff, 1998). They can thus strengthen reputational incentives (as well as supply information for member selection and norm-based sanctioning). If non-members can channel their information that affects the reputation of members, they, too, will have more reason to trust them. If members can spread reputation-related information about outsiders in the association, and outsiders care about this, members will have greater trust in outsiders, as well.

[2] According to the folk theorem, the challenge is to agree on one Nash-equilibrium characterized by a high level of cooperation among the potentially infinite number of equilibria. As Miller (1992) illustrates, showing oneself to be credibly moral helps.

[3] Bartling et al. (2021) present some experimental evidence that reciprocal agents increase their non-contractible effort level when the principal faces stronger external sanctions for not paying a higher wage as promised.

2.3 | Empirical evidence on the role of BAs in contract enforcement

Macro-level cross-country analyses provide only very indirect evidence about the effects of BAs on contractual trust. Using comparative survey data, DeClercq et al. (2010) find that citizens' greater participation in voluntary associations is associated with a higher rate of new business activity. They hypothesize (but do not prove) that this is due to the ability of BAs to spread information about business partners and support private contract enforcement, especially in countries with weak formal institutions or higher regulatory burden. Danis et al. (2011) replicate their results on an extended dataset, showing that the observed relationship is stronger in emerging economies than in developed ones. Knack (2003) investigates the impact of associational membership on investment and generalized trust across 40 countries. He finds some weak evidence that higher membership rates in professional associations, trade unions and political parties (taken together) result in higher investment levels but not in higher general trust in people.

Firm-level data are much more suitable for exploring the role of BAs in contract enforcement. Some in-depth case studies clearly show that BAs *can* be important for managing business transactions (Bernstein, 1992, 1996, 2001; Schaede, 2000; Woodruff, 1998). But these cases are often chosen for their exceptional rather than ordinary features. There are very few studies that go beyond one industry in a specific context and try to detect whether BAs really contribute to contract enforcement in many or most sectors of an economy. For what appear to be accidental reasons, econometric analyses are almost exclusively about the post-communist countries' transitional period to a market economy in the 1990s and early 2000s.

A few of the latter articles explored the *relative importance* of BAs *within a broad set of contract-supporting mechanisms*, as perceived by managers. Hendley et al. (2000) found that although 28% of Russian firms in their 1997 sample were members of BAs, direct intervention by BA officials played a negligible role in dispute resolution or checking the reliability of business partners. As they stressed, the circumstances of the 1990s were special: BAs were attempts to 'recreate defunct Soviet structures' (p. 648). Murrell (2003) and Hendley and Murrell (2003) asked Romanian managers how they prevented or resolved business disputes. They found that bilateral and formal legal solutions were widespread, while reliance on private 'third-parties' (including both suppliers/customers and members or leaders of BAs) was relatively much less important. 'Private dispute resolution services' were used rarely, too. Broadman et al. (2004) found a similarly minor role of BAs in the Balkans, where 0%–10% of members reported significant contributions of associations to resolving their contractual disputes. In Vietnam, McMillan and Woodruff (1999) explored if BAs contributed to community sanctions among businessmen in the late 1990s and found little evidence. The negative results of these studies are partly due to their narrow focus on dispute resolution while BAs could facilitate contracts in other ways.

A couple of other articles looked at the *effects* of BA membership *on general firm performance*. Recanatini and Ryterman (2001) found that, during the economic transition of Russia, BA membership mitigated drops in firm performance under harsh conditions through information sharing about potential partners. Sukiassyan and Nugent (2011) analysed two surveys on small and medium-sized enterprises (SMEs) conducted in 2002 and 2005 in 25 post-communist countries and found that membership in BAs was associated with higher sales, asset and export growth at firm level. The following functions of the associations also correlated with higher firm growth: provision of information and/or contacts on domestic and international markets, dispute resolution and accreditation or quality standards.

A pioneering survey about small and medium firms' contracting practices in six post-communist countries enabled a more focussed investigation of some effects of BAs related to contractual trust (McMillan & Woodruff, 2000). BA members reported that they felt more informed about other members' contractual disputes but no more capable of informing their partners' partners about their own contractual disputes (ibid.). Pyle (2005) also demonstrated that BA membership had significant positive effects on non-local flows of relational information between firms, controlling for pre-existing communication.

Using the same survey, Johnson et al. (2002) was the first study to examine *effects on contractual trust directly*. Taking trade credit as a measure of trust, they found that association membership had a weak positive effect on the propensity of firms to provide trade credit to partners. They also explored if membership in an association that provided information on business partners or arbitration services made firms more willing to establish new relationships. This was taken as an indirect measure of trust creation. They found that membership increased the probability of accepting a new supplier's better priced offer. Pyle (2006) found that BA members were more successful in enforcing their financial claims against distant partners (but not against locals), supporting the claim that BAs were particularly useful for increasing contractual trust across large geographical distances. Although BA members were no more likely to have distant relationships (McMillan & Woodruff, 2000).

In the transitional context, BAs appeared to facilitate contractual relations mainly by spreading credible information among and beyond their members rather than resolving contractual disputes themselves (Pyle, 2005). A similar conclusion is reached by Cai and Szeidl's (2018) more recent field experiment in China, where they studied the effects of participation in exogenously created business networks on firm behaviour. They found that participants in active networks had higher turnover and profit levels, more new business partners and higher formal and informal credit, owing mostly to the ties developed with and the references received from network members.

BAs arguably make up for weak or dysfunctional legal orders in developing or transitional countries (McMillan & Woodruff, 2000; Pyle, 2006). It is therefore unclear if empirical findings there carry over to developed legal systems. There is a dearth of quantitative studies in such contexts. Bennett (1998) surveyed the services provided by British BAs and found that roughly a third of them provided some sort of information service and about 7% gave qualifications or arbitrated legal disputes. He also asked managers why they joined voluntary chambers of commerce: 'to make contacts' (19%) and 'to help marketing' (17%) were among the most common answers, while 4% expected 'to add credibility to company' (Bennett, 1995). A qualitative, interview-based, comparative study of BAs in Britain and Germany found that German BAs were more engaged in such activities (Lane & Bachmann, 1997). The only econometric study we are aware of is by Habersetzer et al. (2019), who investigated small firms in six peripheral Swiss cantons. They found firm growth to be positively associated with membership in inter-regional BAs. National associations had no such direct effect but enhanced the similar positive effect of informal inter-regional information networks.

We follow the handful of transitional studies cited above in focussing narrowly on contractual trust rather than the general beneficial effects of BAs. However, we analyse firm-level data from a relatively developed and stable legal order rather than the exceptional era of post-communist transition. No such analysis has been undertaken so far. We are also able to present a more fine-grained analysis in two respects than the studies before. We (1) explore and compare explicitly several mechanisms through which BAs can contribute to contractual trust and (2) distinguish trust effects within associations, in members by outsiders and in outsiders by members.

3 | DATA ON FIRMS, CONTRACTS AND ASSOCIATION MEMBERSHIPS

3.1 | The economic and legal environment

We analyse data from about 391 Hungarian small and medium enterprises from a survey conducted in 2016. After a period of political and economic transition, a functioning institutional order of markets emerged in the country roughly by the turn of the millennium (Beck & Laeven, 2006; Campos, 2000; Crafts & Kaiser, 2004; Murrell, 2008). Like other countries in Eastern Central Europe (as opposed to post-Soviet states further to the East), Hungary has a strong tradition of private (civil) law that re-emerged after the political transition (Pistor et al., 2000) and a highly developed legal system (Murrell, 2008). It ranked eighth in the world in the category of 'enforcing contracts' by the World Bank's Doing Business Survey in 2016.[4] As for economic development, Hungary is one of the less well-off countries in the European Union, with per capita GDP at 68% of the EU average (in 2016, in PPS). Trust in the rule of law is lower than in Western Europe (Kaufmann et al., 2009) but this mainly reflects a negative view of political institutions rather than the judiciary, in which public trust is relatively high (Boda 2012). Law is widely used for enforcing business contracts (Mike & Kiss, 2018).

3.2 | Firms and business relationships in the sample

Our main data source is a survey conducted among owners and top managers of firms with 5–250 employees. It covered micro, small and medium-sized companies in all of Hungary's seven regions and three major economic sectors (industry, commerce and services, excluding agriculture), in close proportion to their shares in Hungary's firm population. We used a comprehensive national database of firms to identify and characterize their population. The database was created by combining two registries: (1) Registry of Economic Organizations (*GSZR*) of the Central Statistical Office and (2) the Unified Monitoring and Information System (*EMIR*) of companies receiving grants co-funded by the European Union. Agricultural firms were excluded from the survey due to reasons exogenous to our research design. (For a more detailed presentation of the survey, see Mike et al. 2018). Proportional quota sampling was used to contact firms, with quotas based on firm size, region and sector. Within quotas, firms were contacted randomly until the quota filled in. Small and medium-sized firms were overrepresented in the sample (44% and 12% vs. 36% and 6% in the population) to gain more insight into these relatively smaller categories. The sample was then weighted by firm size, sector and region to bring it closer to the population shares. We use weighted data for all regressions. Thus, our data provide a good representation of the firm population at the country level. As Table 1 shows, respondents were diverse in terms of their location in rural versus urban areas and the degree of integration into global markets.

Managers were asked to describe and evaluate two of their firm's business relationships: one with a seller and another with a buyer. Following Johnson et al. (2002), half of the sample were asked to think of their *oldest* buyer and seller, while the other half reported on their *most recent*

[4] See http://www.doingbusiness.org/rankings (accessed 10 January 2023).

TABLE 1 Characteristics of the firm population and the sample (non-agricultural firms with 5–249 employees in Hungary, 2016).

Variable	Population	Sample[a]	Sample mean	Std. dev.	Min	Max
Number of firms	95 050	391				
Firm size						
micro (5–9 employees) (%)	58	48				
small (10–49) (%)	36	42				
medium-sized (50–249) (%)	6	10				
Sales (2015, million HUF)			308	743	1	8000
Sector						
Industry (%)	28	28				
Commerce (%)	26	26				
Services (%)	45	46				
n.a.	1	0				
Location in						
Capital city (%)	37[b]	27				
City (%)	63[b]	24				
Small town (%)		37				
Village (%)		12				
Ownership and management						
>10% foreign ownership (%)	3[c]	6				
>10% state ownership (%)	n.a.	2				
Top manager with higher education (%)	n.a.	72				
Age of top manager (years)	n.a.		53	11	25	78
Age of firm (years)	n.a.		20	11	1	132
Integration in global markets						
Export share in total sales (%)	15[d]		28	45	0	100

[a]Sample weighted by firm size, industry, and region.
[b]Firms with 2–250 employees, 2016.
[c]Firms of all sizes, 2016.
[d]Aggregate for firms with 2–250 employees, 2016.
Source: Hungarian Statistical Office.

buyer and seller. This method ensured great diversity in the characteristics of business partners (Table 2). We paid special attention to geographical distance and embeddedness in informal networks as potentially important factors that can impact upon contractual trust directly or the effectiveness of BAs in increasing trust (Pyle, 2005, 2006). Embeddedness was captured by asking how the business partner was initially contacted. The room for opportunism and the creation of contractual trust is also affected by transaction features. We followed transaction cost economics by asking about asset specificity, recurrence and transactional uncertainty as the most important factors (Murrell, 2003; Williamson, 1979). Table 2 provides an overview of the business relationships in the survey sample.

TABLE 2 Characteristics of business relationships in the sample (two relationships – one buyer and one seller – for each firm)

Variable	Percentage	N[a]
Characteristics of business partners		
Seller (1)/ Buyer (0)	50	782
Business partner with >50 employees	35	782
Sector of partner		782
Industry	37	
Commerce	29	
Services	34	
Same sector as respondent	51	
Majority owner of partner		726
Hungarian private	69	
Hungarian state or municipal	9	
Foreign	20	
Other	2	
Distance and embeddedness in networks		
Partner's location		733
same town	30.5	
same county	24.5	
outside county	32.5	
outside Hungary	12.5	
Initial contact		
through personal network (relatives or friends)	6	
through personal network (business partners; accountants, lawyers, bankers)	27	
based on market reputation (partner is [recommended by] well-known wholesaler/large firm)	17	
through professional events, fairs, Bas	8	
without any previous contact or knowledge	42	
Transaction features		
Asset specificity		
Own assets are transaction-specific	62	732
Partner's assets are transaction-specific	52	727
Market alternatives are available for respondent	40	721
Market alternatives are available for partner	46	735
Partnership is strategically important (share of partner in firm's annual sales/expenditure)		702
<1/3	63	
>1/3	25	
not yet known	12	

(Continues)

TABLE 2 (Continued)

Variable	Percentage	N[a]
Recurrence		
Age of relationship		693
<1 year	20.5	
1–5 years	27.5	
6–10 years	20	
>10 years	32	
Frequency of transactions		706
more than once a week	30	
every 1 to 3 weeks	29	
every 1 to 3 months	28	
every 3 to 12 months	7	
less than once a year	6	
Transactional uncertainty		
Efficient way of implementation is uncertain	67	727
Performance is difficult to measure	28	728

Note: Results are percentages of valid responses. Qualitative transaction features are binary variables.
[a]Number of valid responses. Sample weighted by respondent firm size, industry and region.

3.3 | BA membership and functions

Firms reported on their membership[5] in BAs, including (1) chambers, (2) other voluntary professional associations and (3) local associations (Table 3). As in many European countries (Sack, 2021), chambers in Hungary are hybrid institutions on the boundary of public and private orders. They have a public legal status with varying degrees of compulsion in membership. Commercial and industrial firms must register with chambers of commerce and industry but *active* membership with voting and participation rights is voluntary. In some professions (e.g. physicians, architects), certain professional activities require membership or certification by the professional chamber. The private-order aspect of chambers is due to their self-governance, large autonomy in creating rules for their business communities and a broad range of activities beyond legal mandates that rely on the voluntary commitment of active members (Zachar, 2021). While a narrower view could exclude chambers, we opted for including them because business communities self-organize at least partly within their frames. Local associations were defined broadly to include civic, non-business, groups (such as Rotary or Lions Clubs), which can fulfil some of the same functions (e.g. information sharing) locally as BAs in a narrower sense.

Membership in voluntary professional and local associations varies across economic sectors: Firms in services are most likely to join, followed by industry and commerce. This variation across sectors is partly due to sectoral differences in firm characteristics. Multivariate analysis reveals that, among firm traits, professional management (with higher education) and the presence of partial state ownership increase the likelihood of membership (see Table A1 in the Appendix). These traits are overrepresented in the service sector. Since state ownership is very rare (2%), man-

[5] Associations may have owners/managers or firms as members. We asked the owners/managers if either they as individuals or their companies were members.

TABLE 3 Firm memberships in business associations.

		Sector			Professionalism: top manager with higher education	
Type of association	All firms ($N = 391$)	Commerce ($N = 102$)	Services ($N = 179$)	Industry ($N = 110$)	Yes ($N = 283$)	No ($N = 108$)
Chambers	92%	94%	91%	91%	93%	89%
Voluntary professional organizations	37%	28%	46%	31%	43%	21%
Local associations	23%	17%	29%	20%	27%	15%
No membership in any type of association	5%	5%	5%	6%	5%	6%

Note: Sample weighted by respondent firm size, industry, and region.
Survey questions: 'Is your firm or any of its top managers a member in a chamber or a voluntary professional organisation?' Three types of voluntary professional organizations were specified: sectoral association (18%), national entrepreneurial association (17%) and other professional association (25%). 'Are you a member of a local association?' Three types of local associations were specified: local business club or organization (13%), other, non-business, civic initiative or association (14%) and other local association (7%).

agers' education seems to matter most. While 83% of service firms have highly educated managers, their respective shares are 69% in industry and 68% in commerce. In the whole population, we see stark differences in BA membership between firms with and without highly educated executives. This reflects the broader observation in sociology that membership in voluntary associations increases with education. More schooling implies greater human and social capital, which ease people's access to and make them more attractive members for associations (Bekkers et al., 2008). Moreover, BAs are often organized around professional knowledge networks, which are likely to be more accessible for firms with professional managers (Mike, 2017). We must add that, even if we account for all their observable characteristics, firms in the service sector are more likely to join voluntary professional BAs than industrial or commercial firms. This suggests the presence of sector-specific factors we are not able to capture.

Managers were also asked to focus on the BA that was most important for them and identify its activities. Associations show a great variety of organizational forms and formal rules, which may serve similar functions. Instead of differentiating formal features, we focussed on six generic institutionalized activities that support contract enforcement: member selection (moral and professional), norm enforcement (moral and professional), dispute resolution and information sharing (Tables 4 and 5). Sixty-one percent of all firms that are association members identified at least one such associational activity. Contract support is on par with other typical functions, such as interest representation (40%) and organizing professional life (48%).

In managerial perceptions, chambers are much less likely to offer any useful function than voluntary associations. This reflects the fact that chamber membership is often non-voluntary and passive. Across sectors, service firms report most often that BAs have contract-enforcement functions, followed by industry and commerce. This reflects their relative propensity to belong to a voluntary association rather than just a chamber. Reliance on BAs for contractual support is especially rare among commercial firms, which suggests further sector-specific factors not covered by our data. Firms with highly educated managers are more likely to recognize the contract-

TABLE 4 Functions of business associations (BAs) considered most important by firms

Function	Description of BA activity in the survey[a]	All firms[b]	Members in			Sector			Professionalism: top manager with higher education	
			Chambers only	Voluntary professional associations	Local associations	Commerce	Services	Industry	Yes	No
		(*N* = 372)	(*N* = 197)	(*N* = 144)	(*N* = 91)	(*N* = 102)	(*N* = 171)	(*N* = 103)	(*N* = 270)	(*N* = 102)
Support for contract enforcement										
Moral selection	*'It accepts only applicants who behave ethically.'*	41%	23%	62%	66%	30%	50%	38%	48%	22%
Professional selection	*'It enforces strict professional criteria upon enrolment.'*	36%	26%	49%	51%	19%	45%	38%	43%	18%
Moral Control	*'It has a written code of ethics, which is enforced among members.'*	34%	19%	53%	50%	29%	40%	28%	39%	20%
Professional control	*'It regularly checks if members are up to professional standards.'*	26%	18%	37%	33%	20%	31%	24%	30%	15%
Business dispute resolution	*'It has an official or body helping the resolution of business disputes.'*	35%	27%	47%	50%	20%	43%	36%	40%	24%

(Continues)

TABLE 4 (Continued)

Function	Description of BA activity in the survey[a]	All firms[b] (*N* = 372)	Members in: Chambers only (*N* = 197)	Members in: Voluntary professional associations (*N* = 144)	Members in: Local associations (*N* = 91)	Sector: Commerce (*N* = 102)	Sector: Services (*N* = 171)	Sector: Industry (*N* = 103)	Professionalism: top manager with higher education: Yes (*N* = 270)	Professionalism: top manager with higher education: No (*N* = 102)
Information sharing	*'Members obtain information about each other more easily than about non-members.'*	33%	12%	58%	58%	23%	39%	33%	38%	22%
At least one function related to contract enforcement		61%	45%	78%	87%	44%	70%	61%	67%	45%
Number of functions related to contract enforcement (0–6)		mean: 2.06	1.25	3.05	3.09	1.41	2.49	1.95	2.38	1.21
Other functions										
Interest representation	*'It is engaged in interest representation.'*	40%	25%	58%	54%	34%	45%	35%	46%	24%
Organizing professional life	*'It organises professional events or trainings'*	48%	34%	66%	67%	34%	58%	47%	54%	34%

[a]Survey question: 'Which statements are true of the business association that is most important for you?'
[b]All firms that are members in at least one BA.

TABLE 5 Pairwise (Pearson) correlations between contract-supporting functions of business associations (BAs)[a].

	Moral selection	Professional selection	Moral control	Professional control	Business dispute resolution	Information sharing
Moral selection	1.00					
Professional selection	0.58	1.00				
Moral control	0.65	0.49	1.00			
Professional control	0.55	0.45	0.68	1.00		
Business dispute resolution	0.38	0.49	0.33	0.37	1.00	
Information sharing	0.55	0.41	0.54	0.47	0.45	1.00

[a]For all firms that are members in at least one BA.

supporting functions of BAs. This corresponds to our finding that firm membership in voluntary associations is closely linked to professional management (Table 3).

3.4 | Measures of contractual trust

Several measures of contractual trust were used. Trust *between members of BAs* was measured by the respondents' perceptions about the BA they considered most important. Managers reported if the relative level of trust between association members was higher than with outsiders. Trust *in association members by outsiders* was measured by a similar perceptional variable: the relative level of trust shown by outsiders to members of the BA (Table 6). As we saw, firms that only belong to chambers, are in the commercial sector or have an executive without higher education rely on BAs for contract enforcement relatively rarely. Correspondingly, such firms perceive higher levels of contractual trust as benefits of BAs less frequently.

The frequencies of greater trust between members and in members by outsiders are broadly similar for all categories. Although a more fine-grained differentiation of association types may reveal more significant differences among them, our data suggest that BAs usually engage in supporting contracts both between members and with outsiders.[6] Contracts between members of a sectoral association can include vertical contracts along a value chain, horizontal subcontracting and even cooperation with direct competitors ('coopetition') (Baake et al., 1999; Marion, 2015; Spiegel, 1993).

Trust of association members in outsiders was captured by the respondent firm's experience in the two business relationships covered by the survey. Following Johnson et al. (2002) and Pyle (2005), offering trade credit was interpreted as a signal of contractual trust in the business partner. To assess the extent of trade credit, managers were asked *when* the buyer paid for delivery. Eighty percent reported (at least partial) payment after delivery, and 75% reported payment later than 7 days after delivery (Table 7). The latter is the default payment deadline set by Hungarian law. When trade credit was given (for more than 7 days), it amounted most often to 100% of the price (see Figures A1 and A2 in the Appendix). Given these value distributions, we used two dummy variables as measures of trust: trade credit (yes/no) and trade credit for more than 7 days (yes/no).

[6] Correlation between the two types of trust is 0.67 for all firms.

TABLE 6 Perceptions of trust between association members and in members by outsiders (for associations considered most important by firms).

		Members in			Sector			Professionalism: top manager with higher education	
Type of trust	**All firms[a] (*N* = 372)**	**Chambers only (*N* = 197)**	**Voluntary professional associations (*N* = 144)**	**Local associations (*N* = 91)**	**Commerce (*N* = 102)**	**Services (*N* = 171)**	**Industry (*N* = 103)**	**Yes (*N* = 270)**	**No (*N* = 102)**
Trust among association members[b]	31%	14%	50%	57%	23%	36%	30%	36%	18%
Trust in association members by outsiders	29%	12%	49%	52%	25%	30%	30%	35%	12%

[a]All firms that are members in at least one business association.

[b]Survey item: 'Members of the association turn to each other in business issues with more trust than to non-members' (Yes/No). Survey item: 'Being a member of the association increases trust in you by business partners from outside of the association' (Yes/No).

TABLE 7 Trade credit offered to and cooperativeness of partners in business relationships

Measure of trust in partner	Survey question	All firms
Trade credit	The buyer received trade credit (% of all buyers, $N = 350$)	80%
Trade credit after 7 days	The buyer received trade credit for more than 7 days after delivery (% of all buyers, $N = 350$)	75%
Cooperativeness of business partner	*'Partner firm is very cooperative and ready to help if I face difficulties.'* (% of all partners, $N = 716$)	
	1 = *'not at all'*	5.5%
	2 = *'rather not'*	10.5%
	3 = *'rather yes'*	48%
	4 = *'completely'*	36%
	'I can safely rely on my partner's promises.' (% of all partners, $N = 715$)	
	1 = *'not at all'*	3.5%
	2 = *'rather not'*	7.5%
	3 = *'rather yes'*	50%
	4 = *'completely'*	39%
	Principal component of 2 cooperativeness variables	
	variance explained	84%
	eigenvectors	(0.71, 0.71)
	correlation of PC with trade credit; trade credit after 7 days	0.15; 0.11

A limitation of the trade credit measure is that it focusses on a minimum level of trust: the expectation that the other side will not breach his contractual promise of payment. However, a well-functioning business relationship usually requires more than ruling out explicit and egregious contractual breaches. Contracts are often incomplete and leave a lot of room for strategic manoeuvre (Hart & Moore, 1988; Williamson, 1979). In the non-formal dimensions of cooperation, opportunism can also occur. Therefore, we supplemented trade credit with a measure of perceived cooperativeness. Managers evaluated on a 1–4 Likert scale if their partner firm was '*very cooperative and ready to help if I face difficulties*' and '*I can safely rely on my partner's promises*'. The two measures correlate strongly and are combined into a principal component. This composite measure correlates only weakly with trade credit, implying distinct and largely independent aspects of contractual trust (similarly to Sako, 1998).

As a caveat, we have no direct information whether the business partner in question is also a member of the BA mentioned by the respondent firm. However, it seems rarely to be the case. We know that only 8% were initially contacted through 'professional events, fairs or BAs'. Within this category, contact through a BA amounted to a mere 1%. Moreover, 49% do not even belong to the same large sector and 45% are located outside the respondent's county (Table 2). In our analysis, we control for the two parties' belonging to the same sector and being located in the same county as proxies for shared BA membership. Nonetheless, our measures may somewhat overestimate contractual trust in outsiders as distinguished from trust in business partners in general.

4 | ANALYSING THE EFFECTS OF BAs ON CONTRACTUAL TRUST

4.1 | Effects on trust between members of associations

We first examine the effects of BAs on contractual trust *between their members*. A binary logistic regression model was estimated for the following equation:

$$log\left[\frac{P(IT_i = 1)}{1 - P(IT_i = 1)}\right] = \alpha + \beta MBA_i + \gamma FBA_i + \delta F_i + \mu_i\,, \quad (1)$$

where IT_i is firm *i*'s perception whether *i*nternal *t*rust between BA members is greater than members' trust in outsiders. The vector MBA_i stands for *i*'s *m*embership in three types of *BA*s (chamber, professional association, local association). FBA_i denotes contract-supporting *f*unctions of the *BA* that firm *i* considers most important. F_i is a vector of firm characteristics (see Table 1). Four versions of the model were estimated: (1) a benchmark model included only membership ($\gamma = 0$); (2) a dummy variable was taken for FBA_i with a value of 1 if at least one contract-enforcement function was present; (3) an alternative composite variable was used for FBA_i that counted the number of relevant functions and (4) each contract-supporting function was included separately in an FBA_i vector. Model 2 assumed substitution between the various functions in increasing contractual trust, while Model 3 assumed complementarity.

The regressions strongly confirm that BAs that engage in contract-supporting activities contribute to contractual trust between their members (Table 8). As shown by Model 2, if an association has at least one such function, the probability that a firm perceives greater trust between its members will be higher by 52 percentage points (pp) on average (than the population mean of 31%). Model 3 reveals that there is some complementarity between the different functions: One additional BA function increases the probability by 9 pp on average.

Which specific contract-supporting functions of BAs contribute to greater business trust between members? First, member selection matters. If an association enforces ethical or professional criteria in selecting its members, it increases the probability of greater trust by 17 pp and 14 pp on average, respectively. This shows that BAs can increase perceived trustworthiness among members just by selecting 'reliable types'. Interestingly, the formal enforcement of moral and professional standards does not add to this effect. A partial explanation may be that initial selection criteria already include readiness to subject oneself to subsequent norm enforcement. Moreover, norm enforcement without prior member selection may not be very effective. Business dispute resolution also raises trust between members (by 12 pp), as expected. Information sharing has the strongest positive impact: It increases the probability of greater trust by 32 pp on average. If members learn more quickly and reliably about each other's failure to perform, their reputational incentive is strengthened considerably, increasing their trustworthiness.

Are there differences between types of BAs? Since virtually all firms belong to a chamber by law, what we may find is that voluntary professional or local associations contribute more to trust between members. This would be reasonable if only because they have greater freedom in selecting their members. Model 1 confirms that members of these BAs are more likely to report greater intra-associational trust. However, when the specific contract-supporting activities of BAs are also considered (Model 4), the positive effect of membership per se in a voluntary professional organization disappears, while the effect of membership in a local BA remains positive (17%). This finding suggests that local associations contribute to internal trust even without activities specifically aimed at this goal. A plausible reason is that informal sanctions may be stronger in organized

TABLE 8 Regression models explaining trust among association members and trust in association members by outsiders (average marginal effects).

Dependent variable	Trust among association members: greater than in outsiders (Y/N)				Trust in association members by outsiders: greater than in non-members (Y/N)			
Model	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**
Regression method	**Logit**	**Logit**	**Logit**	**Logit**	**Logit**	**Logit**	**Logit**	**Logit**
Sample	**All firms**				**All firms**			
Membership in								
Chamber	0.013	−0.051	−0.058	−0.027	0.090	0.054	0.047	0.024
	(0.102)	(0.086)	(0.059)	(0.046)	(0.066)	(0.071)	(0.064)	(0.063)
Professional association	0.182***	0.119**	0.023	−0.041	0.246***	0.190***	0.107**	0.054
	(0.066)	(0.049)	(0.049)	(0.043)	(0.062)	(0.050)	(0.050)	(0.047)
Local association	0.325***	0.176***	0.189***	0.174***	0.231***	0.129**	0.127***	0.110**
	(0.072)	(0.048)	(0.050)	(0.046)	(0.072)	(0.056)	(0.048)	(0.046)
Membership in a BA with								
at least one function related to contract enforcement (Y/N)		0.520***				0.405***		
		(0.098)				(0.056)		
a sum of functions related to contract enforcement 0 to 6			0.093***				0.083***	
			(0.008)				(0.006)	
moral selection				0.167**				0.161***
				(0.069)				(0.061)
moral control				0.013				0.014
				(0.042)				(0.041)
professional selection				0.139**				0.030
				(0.064)				(0.047)
professional control				−0.039				0.086
				(0.036)				(0.059)
business dispute resolution				0.124***				0.011
				(0.047)				(0.037)
information sharing				0.323***				0.297***
				(0.065)				(0.070)

(Continues)

TABLE 8 (Continued)

Dependent variable	Trust among association members: greater than in outsiders (Y/N)				Trust in association members by outsiders: greater than in non-members (Y/N)			
Model	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**
Regression method	**Logit**	**Logit**	**Logit**	**Logit**	**Logit**	**Logit**	**Logit**	**Logit**
Sample	**All firms**				**All firms**			
Controls for firm characteristics	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
χ^2	77.43	82.20	111.93	119.66	65.71	94.44	107.05	122.57
Degrees of Freedom (DoF)	22	23	23	28	22	23	23	28
P	0	0	0	0	0	0	0	0
Pseudo R^2	0.208	0.396	0.491	0.554	0.218	0.368	0.479	0.532
Number of observations	349	349	349	349	349	349	349	349

Note: Robust standard errors in parentheses.
$^{***}p < 0.01$, $^{**}p < 0.05$, $^{*}p < 0.1$.

local communities than in the larger and looser networks of professional or sectoral associations that usually cover larger geographical areas.

Are there differences across economic sectors? We can augment our models by assuming that the effects of contract-enforcement functions are different in commerce, services and industry. While the sample is too small to estimate sector-specific effects for each function with enough statistical power, due the large number of variables, the sector-specific effects of 'at least one function of contract enforcement' and the number of such functions can be estimated. We find (see Table A2 in the Appendix) that the positive effects are present in all three sectors but they are considerably smaller in commerce than in industry and services.

Is professional management associated with a stronger effect of the association functions on trust? We compare the effect for firms that have an executive with higher education and for firms that do not. The estimated effects are positive for both groups and even somewhat larger for the second. This difference might be due to a selection effect. If the costs of joining a BA are higher for managers without higher education because they have less social capital (Bekkers et al. 2008), only those amongst them will join who can reasonably expect greater benefits from membership. Moreover, the explicit contract-supporting functions of BAs may be less important for someone with a higher education degree, which may itself be a signal of trustworthiness and help develop informal trust networks.

4.2 | Effects on trust in association members by outsiders

The effects of BAs on trust in their members by outsiders were explored by a model analogous to Equation (1), with ET_i, firm *i*'s perception of increased *e*xternal *t*rust, that is, trust in members by outsiders, replacing IT_i as the explanandum:

$$log\left[\frac{P(ET_i = 1)}{1 - P(ET_i = 1)}\right] = \alpha + \beta MBA_i + \gamma FBA_i + \delta F_i + \mu_i\,. \tag{2}$$

The same four versions of the model were estimated for all firms in the sample; the results are presented as Models 5 to 8 in Table 8. The regressions strongly confirm that BAs can increase contractual trust in their members by outsiders. The overall effects of their contract-supporting functions are similar to their effects on trust between members. The presence of at least one such function is associated with a higher probability of trust (by 41 pp on average from the population mean of 29% in Model 6). One additional BA function increases the same probability by 8 pp on average (Model 7).

Which functions matter? Moral selection increases trust in members by outsiders (by 16 pp), just as it did among members (Model 8). Professional selection has no significant effect on outsiders, only within the membership. The latter result is puzzling since outsiders would be expected to need more assurance than insiders. A tentative, partial explanation might be that outsiders base their trust more on the general moral integrity of BA members than their professional commitment. While both can contribute to trustworthiness in principle, outsiders who do not belong to the same profession probably have a more limited understanding of professional commitment. In this case, what they consider is whether they perceive members of a BA as honest and upright. The BA can ensure the prevalence of these traits among its members by selecting them on the basis of ethical criteria.

Dispute resolution services do not increase outsiders' trust in members. This suggests that members cannot use them as a device of credible commitment in their external relationships. Possibly, the BA officials lack information or would be biased in adjudicating disputes with non-members. Information sharing has the strongest positive effect again: It doubles the probability of greater external trust from 29% to 62% on average.

As for different types of BAs, we find again that voluntary professional and local associations – as opposed to obligatory chambers – contribute to trust by outsiders. For local associations – but not others – mere membership has a positive effect (Model 8). That is, local BAs contribute to this type of contractual trust through informal mechanisms even without formalized activities.

The positive trust effect appears in all economic sectors. When we assume sector-specific effects, we now find that they are smaller in industry than in commerce or services (Table A2). While commercial firms rely on BA functions more for creating trust in members by outsiders, industrial firms rely on them more for creating trust between members. For firms in the service sector, the association's contributions to both types of trust are highly important. Again, both firms with and without a highly educated executive perceive positive effects on trust by outsiders, the effect being somewhat larger in the latter group.

4.3 | Effects on trust by association members in outsiders

We now turn to the question whether BAs helped their members establish contractual trust in their business partners even if they were outsiders. We utilize the data provided by the firms on their business relationships. First, we estimate the effects of BAs on trade credit for buyers with a binary logit regression model:

$$log\left[\frac{P\left(TC_{ij}=1\right)}{1-P\left(TC_{ij}=1\right)}\right]=\alpha+\beta MBA_i+\gamma FBA_i+\delta F_i+\varepsilon P_{ij}+\theta SAME_{ij}+\vartheta INF_{ij}+\varphi TR_{ij}+\mu_{ij}, \quad (3)$$

where TC_{ij} denotes whether respondent firm i offered *t*rade *c*redit (beyond 7 days) to business partner j; and control variables include characteristics of the *f*irm (F_i) and its *p*artner (P_{ij}); whether they are in the same sector and the same county (proxies for belonging to the same BA) ($SAME_{ij}$); their embeddedness in *inf*ormal networks, captured by how they initial contacted each other, (INF_{ij}), and *tr*ansaction features that influence opportunism (TR_{ij}). Four versions of the model are estimated (as before) for all buyers, with both trade credit and trade credit beyond 7 days as explananda.

The effects of BAs on the perceived cooperativeness of business partners are estimated with an ordinary least squares (OLS) regression model that follows the structure of the trade credit model:

$$COOP_{ij}=\alpha+\beta MBA_i+\gamma FBA_i+\delta F_i+\varepsilon P_{ij}+\theta SAME_{ij}+\vartheta INF_{ij}+\varphi TR_{ij}+\mu_{ij}\,, \quad (4)$$

where $COOP_{ij}$ is the standardized principal component measure of how firm i perceives the cooperativeness of its partner j.

Estimation results are presented in Table 9. The models that examine the *joint* influence of the contract-supporting functions of BAs on trade credit or the cooperativeness of the business partner find no effects (Models 2, 3, 6, 7, 10 and 11 in Table 9). What do we find when we delve deeper to

TABLE 9 Regression models explaining contractual trust in business partners (average marginal effects for logit; standardized coefficients for ordinary least squares [OLS]).

Dependent variable	Trade credit (Y/N)				Trade credit beyond 7 days (Y/N)				Cooperativeness of business partner (principal component, standardized)			
Model	1	2	3	4	5	6	7	8	9	10	11	12
Regression method	Logit	Logit	Logit	Logit	Logit	Logit	Logit	Logit	OLS	OLS	OLS	OLS
Sample	All relationships with buyers				All relationships with buyers				All relationships			
Membership in												
Chamber	0.065	0.061	0.059	0.042	0.053	0.047	0.039	0.006	−0.070	−0.089	−0.097	−0.088
	(0.097)	(0.098)	(0.094)	(0.077)	(0.095)	(0.093)	(0.090)	(0.079)	(0.179)	(0.183)	(0.186)	(0.194)
Professional association	0.034	0.026	0.011	−0.017	0.057	0.048	0.028	−0.008	−0.135	−0.153	−0.185	−0.211
	(0.055)	(0.060)	(0.055)	(0.068)	(0.058)	(0.061)	(0.059)	(0.067)	(0.125)	(0.128)	(0.133)	(0.133)
Local association	0.050	0.033	0.036	0.034	−0.001	−0.020	−0.024	−0.017	0.138	0.116	0.114	0.069
	(0.051)	(0.058)	(0.061)	(0.065)	(0.058)	(0.066)	(0.070)	(0.071)	(0.142)	(0.145)	(0.142)	(0.135)
Membership in a BA with												
At least one function related to contract enforcement (Y/N)		0.101				0.087				0.110		
		(0.068)				(0.069)				(0.127)		
No. of functions related to contract enforcement (0–6)			0.021				0.024				0.035	
			(0.018)				(0.016)				(0.028)	
Moral selection				0.005				−0.024				0.341**
				(0.090)				(0.077)				(0.160)
Moral control				0.060				−0.019				0.272*
				(0.076)				(0.060)				(0.149)
Professional selection				−0.035				−0.020				−0.055
				(0.089)				(0.077)				(0.170)
Professional control				0.032				0.073				−0.071
				(0.088)				(0.071)				(0.170)
Business dispute resolution				0.030				−0.019				−0.409***
				(0.065)				(0.065)				(0.135)

(Continues)

TABLE 9 (Continued)

Dependent variable	Trade credit (Y/N)				Trade credit beyond 7 days (Y/N)				Cooperativeness of business partner (principal component, standardized)			
Model	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**
Regression method	**Logit**	**Logit**	**Logit**	**Logit**	**Logit**	**Logit**	**Logit**	**Logit**	**OLS**	**OLS**	**OLS**	**OLS**
Sample	**All relationships with buyers**				**All relationships with buyers**				**All relationships**			
Information sharing				0.144**				0.142**				0.001
				(0.062)				(0.061)				(0.157)
Partner in same sector	0.012	0.014	0.007	0.016	0.049	0.045	0.036	0.046	0.053	0.044	0.037	0.021
	(0.053)	(0.054)	(0.054)	(0.053)	(0.047)	(0.047)	(0.047)	(0.046)	(0.115)	(0.115)	(0.115)	(0.113)
Distant partner (outside county)	0.037	0.029	0.039	0.023	−0.051	−0.048	−0.043	−0.052	−0.135	−0.131	−0.128	−0.135
	(0.054)	(0.055)	(0.060)	(0.058)	(0.055)	(0.054)	(0.055)	(0.055)	(0.107)	(0.107)	(0.107)	(0.104)
Initial contact												
through personal network	–	–	–	–	0.208***	0.207***	0.206***	0.196***	0.139	0.132	0.135	0.129
					(0.060)	(0.057)	(0.058)	(0.060)	(0.223)	(0.223)	(0.226)	(0.225)
through business network	0.130**	0.133**	0.136***	0.143***	0.145***	0.141***	0.149***	0.161***	0.148	0.144	0.147	0.113
	(0.052)	(0.053)	(0.051)	(0.049)	(0.046)	(0.046)	(0.044)	(0.045)	(0.121)	(0.120)	(0.120)	(0.113)
based on partner's market reputation	0.134	0.138	0.137	0.125	0.187**	0.187**	0.192**	0.188*	−0.127	−0.124	−0.110	−0.215*
	(0.113)	(0.108)	(0.116)	(0.131)	(0.095)	(0.095)	(0.095)	(0.097)	(0.138)	(0.139)	(0.139)	(0.129)
Controls for firm characteristics	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Controls for partner characteristics	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Controls for transaction features	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
χ^2 for Logit/F for OLS	77.48	86.30	74.44	81.64	82.25	91.45	88.62	91.98	3.12	3.36	3.27	3.48
Degrees of Freedom (DoF)	44	45	45	50	46	47	47	52	47	48	48	53
P	0.0014	0.0002	0.0038	0.0031	0.0008	0.0001	0.0002	0.0005	0	0	0	0
Pseudo R^2 for logit/ R^2 for OLS	0.402	0.415	0.412	0.429	0.350	0.358	0.361	0.376	0.251	0.253	0.254	0.291
Number of observations	228	228	228	228	266	266	266	266	530	530	530	530

Note: Robust standard errors in parentheses. Robust standard errors clustered at firm level.
***$p < 0.01$, **$p < 0.05$, *$p < 0.1$.

explore the *individual* effects of different functions (Models 4, 8 and 12)? As noted in Section 2.2, the potential effects of member selection and norm enforcement on trust in outsiders are indirect. They arise (i) either because BA members attract trustworthy types with a larger probability or (ii) because they can reach highly cooperative equilibria in incomplete contracts more easily. We detect that these BA functions have no effect on trade credit. Moral selection and control have positive effects on the perceived cooperativeness of the other party. Hence, they support the 'soft' aspect of trust beyond hard contractual claims. The estimated effects are sizable, amounting to 44% and 35% of the standard deviation of the principal component measure of cooperativeness. This evidence points tentatively to the prominence of the causal chain through the facilitation of cooperative equilibria because the attraction of trustworthy partner types would, in principle, show up in more frequent trade credit, too.

Business dispute resolution could increase contractual trust in an outsider if a member could rely on it to enforce his own claims. We find no such effect on trade credit and even negative association with cooperativeness. The latter result is unexpected. We speculate that the joint presence of dispute resolution services and lower cooperativeness may be due to some uncaptured factor in the respondent firm's market segment or sub-sector that increases contractual opportunism and the prevalence of disputes.

Theoretically, members can use information sharing by a BA to threaten their partners with reputational sanctions more effectively and, as a result, find them more trustworthy. Like Johnson et al. (2002) and Pyle (2005) during post-communist transitions, we find a positive effect on trade credit here under a stable and well-functioning legal order. The probability of providing any trade credit is increased by 14 pp (from the population mean of 80%), so is the probability of trade credit for more than 7 days after delivery (from 75%). There is no similar effect on cooperativeness. The reason might be that a lack of cooperation in an incomplete (and often relational) contract is more difficult to communicate reliably than failure to pay.

Mere membership in a BA, independently of its functions, has no effect on contractual trust in outsiders. Gathering firms under 'one roof' is not enough; BAs must specifically engage in contract-supporting activities.

4.4 | Trust effects in contracts with distant or previously unknown partners

Are BAs especially effective in raising their member's trust in their partners when they can 'reach' further than informal mechanisms? Do our data support this? We augmented our regression models with the assumption that BAs have different effects on trust in *geographically close* and *distant* business partners. We estimated the coefficients of the respondent's BA membership (β) and the BA functions (γ) separately for contracts with partners within and outside the respondent's county. If the theoretical conjecture is correct, we ought to find positive effects for distant partners.

In another modification of the initial models, we separated BAs' effects on contracts with *previously known* and *unknown* partners. The first category comprised partners who were initially contacted through personal or business ties or on the basis of the partner's reputation. The second category comprised partners contacted without any previous links or prior information. Again, we estimated the coefficients of the respondent's BA membership (β) and the BA functions (γ) separately for the two categories of contracts to see if positive effects can be found for previously unknown partners.

TABLE 10 Trust effects of business associations for close versus distant and previously known versus unknown business partners (average marginal effects for logit; standardized coefficients for ordinary least squares [OLS]).

Contract-enforcement function of BA	Contract with…	Effect of BA function on: trade credit (Y/N)	trade credit beyond 7 days (Y/N)	cooperativeness (principal component, standardized)
		average marginal effect on probability of credit (Logit)		beta coefficient (OLS)
At least one function	any partner	0.10	0.09	0.11
	partner outside country	0.04	0.06	**0.43****
	partner previously unknown	0.13	0.12	0.12
Number of functions (1–6)	any partner	0.02	0.02	0.04
	partner outside country	−0.02	0	**0.10*****
	partner previously unknown	0.02	0.04	0.06
Information sharing	any partner	**0.14****	**0.14****	0
	partner outside country	0.11	**0.17****	0.04
	partner previously unknown	**0.23*****	**0.25*****	0.24
Moral selection	any partner	0.01	−0.02	**0.34****
	partner outside country	0	−0.06	**0.43****
	partner previously unknown	0.07	0.10	0.18
Moral norm enforcement	any partner	−0.06	−0.02	**0.27***
	partner outside country	−0.03	0.02	**0.45****
	partner previously unknown	−0.31	−0.14	**0.56****

Note: For detailed results, see Tables A3 and A4 in the Appendix.
***$p < 0.01$, **$p < 0.05$, *$p < 0.1$.

We saw in Section 4.3 that information sharing by BAs had a positive effect on trade credit. Does this effect extend to distant and initially unknown partners? The answer is yes. Now we see that this effect is concentrated among partners contacted without previous ties or knowledge (Table 10). There is no statistically significant effect for partners who had been known to the firm before contracting. As for distance, trade credit for more than 7 days after delivery is made more probable for a partner outside the respondent firm's county but not for a partner within. For the looser measure of trade credit after delivery, no significant effects are found this time. Thus, we find evidence that BAs help their members extend reputational sanctions to partners with-

out previous links. We also find – somewhat weaker – evidence that they help by extending the geographical reach of reputational sanctions.[7]

We also saw that moral selection and formal norm enforcement had a positive effect on the partner's cooperativeness. Now we see that these effects occur for partners outside one's county but not for partners closer to home (Table 10). Moral selection is effective for partners with informal links before contracting. By contrast, the formal enforcement of norms has a positive effect for partners without such links. Presumably, formalized ethical rules are more visible for the latter group than member selection by moral criteria. Overall, BAs engaged in moral selection and control increase the cooperativeness of distant partners, both known and unknown previously.[8]

5 | CONCLUSIONS

Our findings from a representative survey of small and medium firms in Hungary show that BAs play an important role in enforcing business contracts even under a developed and well-functioning legal system. They engage in contract-supporting activities roughly as often as in interest representation and the organization of professional life. The experiences of firm managers reveal that these activities are often highly effective. We have not explored if BAs support unproductive rent-seeking as argued by Olson. But we do find that they support value-creating cooperation as suggested by the 'Putnam hypothesis' (cf. Knack, 2003).

In the experience of managers, Hungarian BAs increase contractual trust *between their member firms*. They achieve this by selecting their members on ethical and professional grounds, resolving disputes and sharing information. In our national sample, BAs also raise trust *in their members by outsiders*. This is achieved mainly by information sharing and ethical member selection. Professional associations require explicit mechanisms to support contracts while local groupings tend to function more informally. Voluntary BAs provide more useful services than official chambers, in which membership is often formal and passive. Firms in the service sector join voluntary associations more often than industrial and, especially, commercial firms. One reason is that they more often have top executives with higher education – a form of human and social capital that greatly increases the likelihood of joining a voluntary BA. Despite these differences, firms that rely on BAs enjoy positive trust effects in all groups. When we scrutinized these effects, we detected a sectoral difference: Commercial firms more often rely on the contract-enforcement functions of BAs for creating trust *in members by outsiders*, while industrial firms more often use them for creating trust *between members*. For firms in the service sector, an association's contributions to both types of trust are highly important. BAs *also enable their members to increase contractual trust in their business partners beyond the associations' boundaries*. Our data point to two mechanisms. First, better information sharing reduces conspicuous opportunism, such as failure to pay, by strengthening reputational incentives. Second, ethical selection and control of members sends

[7] Professional member selection and business dispute resolution increase the frequency of trade credit after delivery for contracts within county boundaries, although not that of trade credit beyond 7 days (Table A3). These two BA functions were shown to increase trust between association members. Since close partners are more likely to be co-members, the positive effects may be at least partly explained by a relatively larger share of non-outsiders among local partners.

[8] Business dispute resolution and professional selection are associated negatively with the cooperativeness of distant and (in the case of dispute resolution) previously unknown partners. These findings suggest uncaptured factors that increase both the degree of contractual opportunism and efforts by BAs to fight it. Note, however, that the overall effect of contract-supporting functions on cooperativeness in distant relationships is positive (Models 10 and 11 in Table A3).

a signal about their cooperativeness and facilitates highly cooperative equilibria in incomplete contracts. We find no evidence that formal dispute resolution plays a positive role beyond the circle of association members, although confounding factors may hide this.

Information sharing and ethical control of members raise trust mainly in partners who were *unknown* to the firms before contracting. Thus, they help firms move beyond their informal networks. The positive effects of ethical selection and control and, by one measure, information sharing are concentrated among *distant* rather than local partners. That is, BAs help firms establish trust beyond local markets. Overall, they build upon social norms and reputational mechanisms but also strengthen them through their own formal organizations. They constitute important formal private-order institutions between informal ties and the public order of law.

CONFLICT OF INTEREST STATEMENT

The authors declare that they have no conflict of interest.

ORCID

Károly Mike https://orcid.org/0000-0001-5860-047X

REFERENCES

Baake, P., Oechssler, J., & Schenk, C. (1999). Explaining cross-supplies. *Journal of Economics*, *70*, 37–60.

Bartling, B., Fehr, E., Huffman, D., & Netzer, N. (2021). *The complementarity between trust and contract enforcement*. CESifo Working Paper No. 8826.

Beck, T., & Laeven, L. (2006). Institution building and growth in transition economies. *Journal of Economic Growth*, *11*, 157–186.

Bekkers, R., Völker, B., Van der Gaag, M., & Flap, H. (2008). Social networks of participants in voluntary associations. In N. Lin & B. H. Erickson (Eds.), *Social capital: An international research program* (pp. 185–205). Oxford University Press.

Bennett, R. J. (1998). Business associations and their potential to contribute to economic development: Reexploring an interface between the state and market. *Environment and Planning A: Economy and Space*, *30*, 1367–1387.

Bennett, R. J. (1995). The logic of local business associations: an analysis of voluntary chambers of commerce. *Journal of Public Policy*, *15*, 251–279.

Bernstein, L. (2001). Private commercial law in the cotton industry: Creating cooperation through rules, norms, and institutions. *Michigan Law Review*, *99*, 1724–1790.

Bernstein, L. (1996). Merchant law in a merchant court: Rethinking the code's search for immanent business norms. *University of Pennsylvania Law Review*, *144*, 1765–1821.

Bernstein, L. (1992). Opting out of the legal system: Extralegal contractual relations in the diamond industry. *Journal of Legal Studies*, *21*, 115–157.

Boda, Z. (2012). Legitimációs problémák Magyarországon. [Problems of legitimacy in Hungary]. In Z. Boda & A. Körösényi (Eds.) *Van irány? Trendek a magyar politikában [Is there a course? Trends in Hungarian politics]* (pp. 263–283). MTA TK PTI – Új Mandátum.

Broadman, H. G., Andronova Vincelette, G., Andronova Vincelette, G., Anderson, J., Claessens, C. A., Ryterman, R. S., Slavova, S., & Vagliasindi, M. (2004). *Building market institutions in South Eastern Europe*. World Bank.

Cai, J., & Szeidl, A. (2018). Interfirm relationships and business performance. *Quarterly Journal of Economics*, *133*, 1229–1282.

Campos, N. (2000). *Context is everything: Measuring institutional change in transition economies*. Policy Research Working Paper No. 2269. World Bank.

Cooter, R. (1996). Normative failure theory of law. *Cornell Law Review*, *82*, 947–979.

Crafts, N., & Kaiser, K. (2004). Long-term growth prospects in transition economies: A reappraisal. *Structural Change and Economic Dynamics*, *15*, 101–118.

Danis, W. M., De Clercq, D., & Petricevic, O. (2011). Are social networks more important for new business activity in emerging than developed economies? An empirical extension. *International Business Review*, *20*, 394–408.

De Clercq, D., Danis, W. M., & Dakhli, M. (2010). The moderating effect of institutional context on the relationship between associational activity and new business activity in emerging economies. *International Business Review*, *19*, 85–101.

Demougin, P., Gooberman, L., Hauptmeier, M., & Heery, E. (2018). Employer organizations transformed. *Human Resource Management Journal*, *29*, 1–16.

Dixit, A. K. (2003). Trade expansion and contract enforcement. *Journal of Political Economy*, *111*, 1293–1317.

Dixit, A. K. (2004). *Lawlessness and economics: Alternative modes of governance*. Princeton University Press.

Doner, R. F., & Schneider, B. R. (2000). Business associations and economic development: Why some associations contribute more than others. *Business and Politics*, *2*, 261–288.

Fischbacher, U., Gächter, S., & Fehr, E. (2001). Are people conditionally cooperative? Evidence from a public goods experiment. *Economics Letters*, *71*, 397–404.

Gintis, H., Smith, E. A., & Bowles, S. (2001). Costly signaling and cooperation. *Journal of Theoretical Biology*, *213*, 103–119.

Greif, A. (2008). Commitment, coercion and markets: The nature and dynamics of institutions supporting exchange. In C. Ménard & M. M. Shirley (Eds.), *Handbook of new institutional economics* (pp. 727–786). Springer.

Habersetzer, A., Grèzes-Bürcher, S., Boschma, R., & Mayer, H. (2019). Enterprise-related social capital as a driver of firm growth in the periphery? *Journal of Rural Studies*, *65*, 143–151.

Hart, O., & Moore, J. (1988). Incomplete contracts and renegotiation. *Econometrica*, *56*, 755–785.

Hendley, K., & Murrell, P. (2003). Which mechanisms support the fulfillment of sales agreements? Asking decision-makers in firms. *Economics Letters*, *78*, 49–54.

Hendley, K., Murrell, P., & Ryterman, R. (2000). Law, relationships and private enforcement: Transactional strategies of Russian enterprises. *Europe-Asia Studies*, *52*, 627–656.

Jirjahn, U. (2023). Membership in employers' associations and collective bargaining coverage in Germany, *Economic and Industrial Democracy*, *44*, 798–826.

Johnson, S., McMillan, J., & Woodruff, C. (2002). Courts and relational contracts. *Journal of Law, Economics & Organization*, *18*, 221–277.

Kaufmann, D., Kraay, A., & Mastruzzi, M. (2009). *Governance matters VIII: Aggregate and individual governance indicators, 1996–2008*. *Policy Research Working Paper No., 4978*, World Bank.

Knack, S. (2003). Groups, growth and trust: Cross-country evidence on the Olson and Putnam hypotheses. *Public Choice*, *117*, 341–355.

Kranton, R. E. (1996). Reciprocal exchange: A self-sustaining system. *American Economic Review*, *86*, 830–851.

Kreps, D. M. (1990). Corporate culture and economic theory. In J. E. Alt & K. A. Shepsle (Eds.), *Perspectives on positive political economy, political economy of institutions and decisions* (pp. 90–143). Cambridge University Press.

Lane, C., & Bachmann, R. (1997). Co-operation in inter-firm relations in Britain and Germany: The role of social institutions. *British Journal of Sociology*, *48*, 226–254.

Lazzarini, S. G., Miller, G. J., & Zenger, T. R. (2008). Dealing with the paradox of embeddedness: The role of contracts and trust in facilitating movement out of committed relationships. *Organization Science*, *19*, 709–728.

Macaulay, S. (1963). Non-contractual relations in business: A preliminary study. *American Sociological Review*, *28*, 55–67.

Marion, J. (2015). Sourcing from the enemy: Horizontal subcontracting in highway procurement. *Journal of Industrial Economics*, *63*, 100–128.

Masten, S. E., & Prüfer, J. (2014). On the evolution of collective enforcement institutions: Communities and courts. *Journal of Legal Studies*, *43*, 359–400.

McMillan, J., & Woodruff, C. (2000). Private order under dysfunctional public order. *Michigan Law Review*, *98*, 2421–2458.

McMillan, J., & Woodruff, C. (1999). Dispute prevention without courts in Vietnam. *Journal of Law, Economics & Organization*, *15*, 637–658.

Ménard, C. (2004). The economics of hybrid organizations. *Journal of Institutional and Theoretical Economics*, *160*, 345–376.

Mike, K. (2017). The intellectual orders of a market economy. *Journal of Institutional Economics*, *13*(4), 899–915.

Mike, K., & Kiss, G. (2018). Combining formal and informal contract enforcement in a developed legal system: A latent class approach. *Journal of Institutional Economics*, *15*(3), 521–537.

Mike, K., Boza, I., & Molnár, G. T. (2018). A vállalkozói szerződések mint szerződéstámogató intézmények. Egy magyar vállalati felmérés tanulságai. [Business associations as contract-supporting institutions. Lessons from a Hungarian managerial survey]. In P. Valentiny, F. L. Kiss, C. I. Nagy, & Z. Berezvai (Eds.), *Verseny és Szabályozás 2017* [Competition and Regulation 2017] (pp. 62–90). HAS Institute of Economics.

Miller, G. J. (1992). *Managerial dilemmas: The political economy of hierarchy, political economy of institutions and decisions*. Cambridge University Press.

Murrell, P. (2008). Institutions and firms in transition economies. In C. Ménard & M. M. Shirley (Eds.), *Handbook of new institutional economics* (pp. 667–699). Springer.

Murrell, P. (2003). Firms facing new institutions: Transactional governance in Romania. *Journal of Comparative Economics*, *31*, 695–714.

Olson, M. (1982). *The rise and decline of nations. Economic growth, stagflation, and social rigidities*. Yale University Press.

Ostrom, E. (1998). A behavioral approach to the rational choice theory of collective action: Presidential address, American Political Science Association, 1997. *American Political Science Review*, *92*, 1–22.

Peng, M. W. (2003). Institutional transitions and strategic choices. *Academy of Management Review*, *28*, 275–296.

Pistor, K., Raiser, M., & Geifer, S. (2000). Law and finance in transition economies. *Economics of Transition*, *8*(2), 325–368.

Prüfer, J. (2016). Business associations and private ordering. *Journal of Law, Economics & Organization*, *32*, 306–358.

Putnam, R. D. (1993). *Making democracy work: Civic traditions in modern Italy*. Princeton University Press.

Pyle, W. (2006). Resolutions, recoveries and relationships: The evolution of payment disputes in Central and Eastern Europe. *Journal of Comparative Economics*, *34*, 317–337.

Pyle, W. (2005). Contractual disputes and the channels for inter-firm communication. *Journal of Law, Economics & Organization*, *21*, 547–575.

Recanatini, F., & Ryterman, R. (2001). Disorganization or self-organization: The emergence of business associations in a transition economy. *Policy Research Working Paper No. 2539*, World Bank.

Sack, D. (ed.), (2021). *Chambers of commerce in Europe. Self-governance and institutional change*. Palgrave Macmillan.

Sako, M. (1998). Does trust improve business performance? In C. Lane & R. Bachmann (Eds.), *Trust within and between organizations: Conceptual issues and empirical applications* (pp. 88–117). Oxford University Press.

Schaede, U. (2000). *Cooperative capitalism: Self-regulation, trade associations, and the antimonopoly law in Japan*. Oxford University Press.

Soskice, D., & Hall, P. (2001). *Varieties of capitalism: The institutional foundations of comparative advantage*. Oxford University Press.

Spiegel, Y. (1993). Horizontal subcontracting. *RAND Journal of Economics*, *24*, 570–590.

Sukiassyan, G., & Nugent, J. B. (2011). Lobbying or information provision: Which functions of associations matter most for member performance? *Eastern European Economics*, *49*, 30–63.

Trebilcock, M., & Leng, J. (2006). The role of formal contract law and enforcement in economic development. *Virginia Law Review*, *92*, 1517–80.

Uzzi, B. (1997). Social structure and competition in interfirm networks: The paradox of embeddedness. *Administrative Science Quarterly*, *42*, 35–67.

Williamson, O. E. (2002). The lens of contract: Private ordering. *American Economic Review*, *92*, 438–443.

Williamson, O. E. (1993). Calculativeness, trust, and economic organization. *Journal of Law and Economics*, *36*, 453–486.

Williamson, O. E. (1979). Transaction-cost economics: The governance of contractual relations. *Journal of Law and Economics*, *22*, 233–261.

Woodruff, C. (1998). Contract enforcement and trade liberalization in Mexico's footwear industry. *World Development*, *26*, 979–991.

Zachar, P. K. (2021). Institutional changes to chambers of industry and commerce in Hungary after the transition of 1989/1990. In D. Sack (Ed.), *Chambers of commerce in Europe: Self-governance and institutional change* (pp. 133–156). Palgrave Macmillan.

How to cite this article: Mike, K., Boza, I., & Molnár, G. T. (2024). How do business associations support contract enforcement? Evidence from Hungary. *Annals of Public and Cooperative Economics*, 1–40. https://doi.org/10.1111/apce.12479

APPENDIX

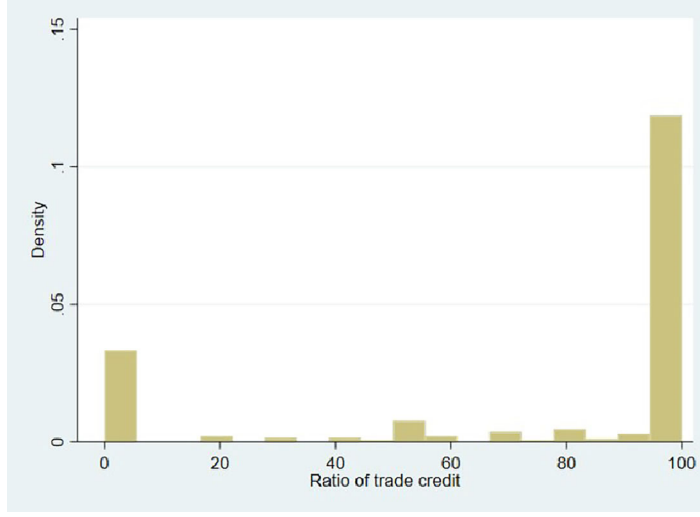

FIGURE A1 Ratio of trade credit as percentage of total price. [Colour figure can be viewed at wileyonlinelibrary.com]

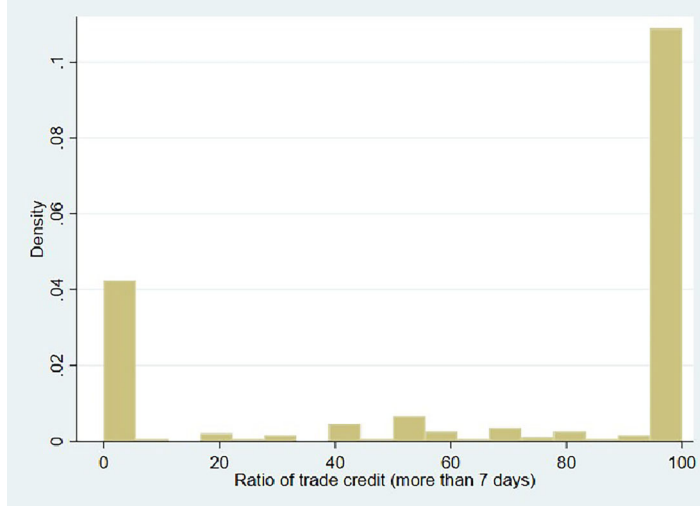

FIGURE A2 Ratio of trade credit for more than 7 days after delivery as percentage of total price. [Colour figure can be viewed at wileyonlinelibrary.com]

TABLE A1 Firm characteristics as determinants of membership in voluntary associations (average marginal effects)

Dependent variable	Membership in voluntary professional association	local association
Regression method	Logit	Logit
Sample	All firms	
Log number of employees	−0.013	0.021
	(0.037)	(0.028)
Log sales (2015, million HUF)	0.067***	−0.010
	(0.020)	(0.016)
Sector (default = Commerce)		
Industry	−0.013	0.001
	(0.078)	(0.063)
Services	0.186***	0.063
	(0.063)	(0.055)
Location (default = Capital city)		
City	0.009	−0.016
	(0.096)	(0.087)
Small town	0.050	−0.092
	(0.078)	(0.075)
Village	0.122	0.062
	(0.104)	(0.091)
Ownership and management		
>10% foreign ownership	−0.206	−0.033
	(0.133)	(0.099)
>10% state ownership	0.525*	0.219*
	(0.289)	(0.128)
Top manager with higher education	0.242***	0.116**
	(0.061)	(0.056)
Age of top manager (years)	0.000	0.001
	(0.003)	(0.002)
Age of firm (years)	−0.000	−0.001
	(0.002)	(0.002)
Integration in global markets		
Export share in total sales (%)	0.032	−0.038
	(0.064)	(0.052)
Controls for regions	Yes	Yes
χ^2	57.41	54.24
Degrees of Freedom (DoF)	19	19
P (Prob > X^2)	0	0
Pseudo R^2	0.150	0.157
Number of observations	349	349

Note: Robust standard errors in parentheses.
*** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

TABLE A2 Regression models explaining trust among association members and trust in association members by outsiders – models with effects of contract-enforcement functions differentiated by sector and executive's level of education.

Dependent variable	**Trust among association members: greater than in outsiders (Y/N)**				**Trust in association members by outsiders: greater than in non-members (Y/N)**			
Model	**2'**	**3'**	**2"**	**3"**	**6'**	**7'**	**6"**	**7"**
	Effects differentiated by				**Effects differentiated by**			
	Sector		**education level**		**sector**		**education level**	
Regression method	**Logit**	**Logit**	**Logit**	**Logit**	**Logit**	**Logit**	**Logit**	**Logit**
Sample	**All firms**				**All firms**			
Membership in								
Chamber	−0.091	−0.066	−0.088	−0.076	0.003	0.031	0.008	0.049
	(0.086)	(0.059)	(0.085)	(0.063)	(0.084)	(0.061)	(0.084)	(0.064)
Professional association	0.141***	0.040	0.139***	0.041	0.200***	0.107**	0.198***	0.097*
	(0.051)	(0.049)	(0.050)	(0.046)	(0.053)	(0.052)	(0.052)	(0.051)
Local association	0.159***	0.165***	0.150***	0.163***	0.119**	0.094**	0.113**	0.099**
	(0.051)	(0.051)	(0.049)	(0.048)	(0.054)	(0.046)	(0.052)	(0.047)
Membership in a business association (BA) with at least one contract-enforcement function (Y/N)								
Commerce	0.300***				0.360***			
	(0.072)				(0.088)			
Services	0.612***				0.567***			
	(0.021)				(0.023)			
Industry	0.437***				0.295***			
	(0.057)				(0.066)			
Executive with higher education			0.388***				0.345***	
			(0.032)				(0.040)	
Executive without higher education			0.591***				0.567***	
			(0.029)				(0.027)	

(Continues)

TABLE A2 (Continued)

Dependent variable	Trust among association members: greater than in outsiders (Y/N)				Trust in association members by outsiders: greater than in non-members (Y/N)			
Model	2'	3'	2''	3''	6'	7'	6''	7''
	Effects differentiated by				Effects differentiated by			
	Sector		education level		sector		education level	
Regression method	Logit	Logit	Logit	Logit	Logit	Logit	Logit	Logit
Sample	All firms				All firms			
Membership in a BA with a sum of contract-enforcement functions 0 to 6								
in Commerce		0.073***				0.097***		
		(0.020)				(0.023)		
in Services		0.105***				0.091***		
		(0.015)				(0.014)		
in Industry		0.099***				0.068***		
		(0.020)				(0.015)		
Executive with higher education				0.086***				0.077***
				(0.008)				(0.007)
Executive without higher education				0.147***				0.129***
				(0.028)				(0.029)
Controls for firm characteristics[a]	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
χ^2	2537.59	96.50	n.a.[b]	98.35	2679.91	90.77	3277.94	83.88
Degrees of Freedom (DoF)	19	19	17	18	19	19	18	18
P	0	0	0	0	0	0	0	0
Pseudo R^2	0.371	0.456	0.365	0.462	0.336	0.453	0.331	0.457
Number of observations	349	349	349	349	349	349	349	349

Note: Robust standard errors in parentheses.

[a]The basic models in Table 8 include controls for NUTS2 geographical regions. They are omitted here to avoid potential multicollinearity and the overfitting of the model, as we include more interacting terms. The findings of the basic models were not sensitive to their exclusion.

[b]No χ^2 test is applicable for this model due to overfitting but the significance of multiple coefficients implies the significance of the full model fit.

***$p < 0.01$, **$p < 0.05$, *$p < 0.1$.

TABLE A3 Regression models separating trust effects between close and distant business partners (average marginal effects for logit; standardized coefficients for ordinary least squares [OLS]).

Dependent variable	Trade credit (Y/N)				Trade credit beyond 7 days (Y/N)				Cooperativeness of business partner (principal component, standardized)			
Model	1	2	3	4	5	6	7	8	9	10	11	12
Regression method	Logit	Logit	Logit	Logit	Logit	Logit	Logit	Logit	OLS	OLS	OLS	OLS
Sample	All relationships with buyers				All relationships with buyers				All relationships			
Effects of BA if business partner is in the same county												
Membership in												
Chamber	−0.091	−0.166	−0.147	−0.195**	−0.042	−0.091	−0.097	−0.134	0.127	0.149	0.224	0.160
	(0.116)	(0.113)	(0.105)	(0.097)	(0.116)	(0.117)	(0.111)	(0.111)	(0.259)	(0.258)	(0.252)	(0.252)
Professional association	−0.070	−0.126	−0.149	−0.216**	−0.024	−0.053	−0.089	−0.131	−0.189	−0.193	−0.107	−0.126
	(0.089)	(0.113)	(0.109)	(0.102)	(0.076)	(0.089)	(0.090)	(0.103)	(0.178)	(0.192)	(0.180)	(0.187)
Local association	0.104*	0.093	0.084	0.092*	0.064	0.047	0.039	0.043	0.108	0.187	0.135	0.125
	(0.058)	(0.059)	(0.062)	(0.055)	(0.063)	(0.069)	(0.070)	(0.067)	(0.184)	(0.178)	(0.182)	(0.184)
Membership in a BA with												
At least one function related to contract enforcement (Y/N)		0.144**				0.115				−0.232		
		(0.067)				(0.089)				(0.163)		
No. of functions related to contract enforcement (0–6)			0.044**				0.037*				−0.034	
			(0.019)				(0.019)				(0.035)	
Moral selection				0.057				0.061				0.176
				(0.090)				(0.091)				(0.216)
Moral control				−0.100				−0.077				0.156
				(0.093)				(0.078)				(0.212)
Professional selection				0.202***				0.145				−0.514**
				(0.068)				(0.110)				(0.233)
Professional control				−0.195				−0.070				0.338
				(0.143)				(0.143)				(0.233)
Business dispute resolution				0.127**				0.063				−0.522***
				(0.061)				(0.073)				(0.174)
Information sharing				0.085				0.062				0.078
				(0.077)				(0.077)				(0.199)

(Continues)

TABLE A3 (Continued)

Dependent variable	Trade credit (Y/N)				Trade credit beyond 7 days (Y/N)				Cooperativeness of business partner (principal component, standardized)			
Model	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**
Regression method	**Logit**	**Logit**	**Logit**	**Logit**	**Logit**	**Logit**	**Logit**	**Logit**	**OLS**	**OLS**	**OLS**	**OLS**
Sample	**All relationships with buyers**				**All relationships with buyers**				**All relationships**			
Effects of BA if business partner is outside county												
Membership in												
Chamber	0.170	0.172	0.137	0.099	0.127	0.142	0.111	0.049	−0.364*	−0.300*	−0.322	−0.371**
	(0.109)	(0.112)	(0.123)	(0.131)	(0.104)	(0.102)	(0.109)	(0.103)	(0.187)	(0.177)	(0.201)	(0.180)
Professional association	0.084	0.083	0.111*	0.107	0.121	0.114	0.116*	0.050	−0.057	−0.128	−0.104	−0.180
	(0.089)	(0.090)	(0.066)	(0.091)	(0.079)	(0.082)	(0.070)	(0.102)	(0.157)	(0.150)	(0.158)	(0.162)
Local association	0.016	0.025	0.052	0.054	−0.083	−0.084	−0.064	−0.057	0.169	0.003	0.061	0.097
	(0.085)	(0.090)	(0.085)	(0.112)	(0.111)	(0.119)	(0.126)	(0.133)	(0.186)	(0.170)	(0.184)	(0.183)
Membership in a BA with												
At least one function related to contract enforcement (Y/N)		0.041				0.063				0.429**		
		(0.076)				(0.076)				(0.184)		
No. of functions related to contract enforcement (0–6)			−0.021				0.004				0.102***	
			(0.027)				(0.030)				(0.039)	
Moral selection				−0.004				−0.061				0.426**
				(0.118)				(0.118)				(0.196)
Moral control				−0.033				0.024				0.451**
				(0.149)				(0.097)				(0.189)
Professional selection				−0.237				−0.069				0.269
				(0.191)				(0.119)				(0.188)
Professional control				0.052				0.102				−0.484**
				(0.126)				(0.092)				(0.196)
Business dispute resolution				−0.023				−0.116				−0.292*
				(0.125)				(0.095)				(0.172)
Information sharing				0.110				0.167**				0.043
				(0.099)				(0.075)				(0.194)

(Continues)

TABLE A3 (Continued)

Dependent variable	Trade credit (Y/N)				Trade credit beyond 7 days (Y/N)				Cooperativeness of business partner (principal component, standardized)			
Model	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**
Regression method	**Logit**	**Logit**	**Logit**	**Logit**	**Logit**	**Logit**	**Logit**	**Logit**	**OLS**	**OLS**	**OLS**	**OLS**
Sample	**All relationships with buyers**				**All relationships with buyers**				**All relationships**			
Partner in same sector	0.013	0.013	0.020	0.021	0.051	0.047	0.043	0.044	0.059	0.030	0.037	0.036
	(0.052)	(0.052)	(0.050)	(0.047)	(0.047)	(0.049)	(0.046)	(0.045)	(0.114)	(0.112)	(0.116)	(0.115)
Distant partner (outside county)	−0.244	−0.275	−0.171	−0.163	−0.239	−0.276*	−0.233	−0.188	0.258	0.003	0.002	0.134
	(0.156)	(0.186)	(0.192)	(0.211)	(0.152)	(0.161)	(0.160)	(0.154)	(0.293)	(0.281)	(0.316)	(0.279)
Initial contact												
through personal network	–	–	–	–	0.204***	0.198***	0.198***	0.187***	0.147	0.181	0.157	0.167
					(0.061)	(0.060)	(0.061)	(0.066)	(0.227)	(0.216)	(0.217)	(0.221)
through business network	0.128**	0.129**	0.129***	0.134***	0.143***	0.139***	0.146***	0.151***	0.152	0.108	0.166	0.171
	(0.051)	(0.054)	(0.049)	(0.042)	(0.046)	(0.047)	(0.045)	(0.042)	(0.122)	(0.114)	(0.118)	(0.121)
based on partner's market reputation	0.145	0.141	0.123	0.095	0.194**	0.191**	0.191**	0.185**	−0.133	−0.176	−0.106	−0.090
	(0.112)	(0.102)	(0.116)	(0.084)	(0.093)	(0.094)	(0.095)	(0.092)	(0.140)	(0.127)	(0.140)	(0.140)
Controls for firm characteristics	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Controls for partner characteristics	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Controls for transaction features	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
χ^2 for Logit/F for OLS	79.73	98.22	87.12	104.51	86.30	92.65	90.64	106.25	3.31	3.37	3.47	4.50
Degrees of Freedom (DoF)	47	49	49	59	49	51	51	61	50	52	52	62
P	0.0020	0	0.0007	0.0002	0.0008	0.0003	0.0005	0.0003	0	0	0	0
Pseudo R^2 for logit/ R^2 for OLS	0.419	0.443	0.455	0.497	0.362	0.373	0.379	0.407	0.255	0.329	0.274	0.272
Number of observations	228	228	228	228	266	266	266	266	530	530	530	530

Note: Robust standard errors in parentheses. Robust standard errors clustered at firm level.
***$p < 0.01$, **$p < 0.05$, *$p < 0.1$.

TABLE A4 Regression models separating trust effects between previously known and unknown business partners (average marginal effects for logit; standardized coefficients for OLS)

Dependent variable	Trade credit (Y/N)				Trade credit beyond 7 days (Y/N)				Cooperativeness of business partner (principal component, standardized)			
Model	1	2	3	4	5	6	7	8	9	10	11	12
Regression method	Logit	Logit	Logit	Logit	Logit	Logit	Logit	Logit	OLS	OLS	OLS	OLS
Sample	All relationships with buyers				All relationships with buyers				All relationships			
Effects of BA if business partner is previously known												
Membership in												
Chamber	−0.025	−0.070	−0.027	−0.117	0.098	0.063	0.084	0.025	−0.368	−0.396	−0.334	−0.421
	(0.150)	(0.150)	(0.147)	(0.142)	(0.143)	(0.146)	(0.138)	(0.172)	(0.359)	(0.396)	(0.373)	(0.392)
Professional association	−0.013	−0.033	−0.047	−0.135	0.008	−0.009	−0.037	−0.078	−0.136	−0.168	−0.150	−0.288
	(0.075)	(0.083)	(0.079)	(0.095)	(0.079)	(0.086)	(0.085)	(0.098)	(0.228)	(0.243)	(0.242)	(0.249)
Local association	0.061	0.044	0.044	0.031	0.072	0.052	0.043	0.054	0.360	0.336	0.359	0.302
	(0.051)	(0.056)	(0.061)	(0.077)	(0.050)	(0.058)	(0.067)	(0.074)	(0.260)	(0.262)	(0.261)	(0.263)
Membership in a BA with												
At least one function related to contract enforcement (Y/N)		0.098				0.080				0.135		
		(0.061)				(0.070)				(0.271)		
No. of functions related to contract enforcement (0–6)			0.023				0.024				0.010	
			(0.019)				(0.020)				(0.056)	
Moral selection				−0.008				−0.010				0.625**
				(0.088)				(0.097)				(0.314)
Moral control				0.028				0.049				0.153
				(0.097)				(0.081)				(0.291)
Professional selection				0.103				0.072				0.420
				(0.107)				(0.111)				(0.371)
Professional control				−0.202				−0.088				−0.625
				(0.151)				(0.143)				(0.444)
Business dispute resolution				0.018				−0.003				−0.060
				(0.091)				(0.097)				(0.266)
Information sharing				0.155				0.104				−0.438
				(0.113)				(0.092)				(0.302)

(Continues)

TABLE A4 (Continued)

Dependent variable	Trade credit (Y/N)				Trade credit beyond 7 days (Y/N)				Cooperativeness of business partner (principal component, standardized)			
Model	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**
Regression method	**Logit**	**Logit**	**Logit**	**Logit**	**Logit**	**Logit**	**Logit**	**Logit**	**OLS**	**OLS**	**OLS**	**OLS**
Sample	**All relationships with buyers**				**All relationships with buyers**				**All relationships**			
Effects of BA if business partner is previously unknown												
Membership in												
Chamber	0.084	0.108	0.085	0.037	0.003	0.024	0.007	−0.092	0.040	0.022	−0.043	−0.090
	(0.099)	(0.102)	(0.105)	(0.160)	(0.121)	(0.117)	(0.121)	(0.132)	(0.244)	(0.240)	(0.240)	(0.260)
Professional association	0.134**	0.141***	0.129**	0.116	0.176***	0.174***	0.166**	0.132	−0.177	−0.188	−0.260	−0.306
	(0.058)	(0.052)	(0.063)	(0.093)	(0.063)	(0.061)	(0.065)	(0.104)	(0.208)	(0.213)	(0.219)	(0.212)
Local association	0.022	−0.024	0.006	−0.188	−0.165	−0.211	−0.230*	−0.430**	0.075	0.047	0.028	0.068
	(0.120)	(0.142)	(0.133)	(0.293)	(0.121)	(0.141)	(0.137)	(0.185)	(0.253)	(0.260)	(0.254)	(0.233)
Membership in a BA with												
At least one function related to contract enforcement (Y/N)		0.131				0.119				0.115		
		(0.088)				(0.089)				(0.199)		
No. of functions related to contract enforcement (0–6)			0.024				0.042				0.064	
			(0.033)				(0.027)				(0.045)	
Moral selection				0.066				0.101				0.184
				(0.143)				(0.155)				(0.239)
Moral control				−0.314				−0.139				0.555**
				(0.260)				(0.239)				(0.219)
Professional selection				−0.100				−0.019				−0.187
				(0.179)				(0.173)				(0.240)
Professional control				–				–				0.313
												(0.235)
Business dispute resolution				−0.003				−0.130				−0.833***
				(0.145)				(0.111)				(0.215)
Information sharing				0.226***				0.250***				0.237
				(0.047)				(0.065)				(0.243)
Partner in same sector	0.033	0.043	0.035	0.049	0.064	0.066	0.053	0.042	0.092	0.083	0.070	0.035
	(0.057)	(0.054)	(0.063)	(0.062)	(0.048)	(0.049)	(0.052)	(0.061)	(0.151)	(0.151)	(0.151)	(0.152)
Distant partner (outside county)	0.049	0.039	0.052	0.117*	−0.056	−0.051	−0.047	−0.019	−0.155	−0.149	−0.136	−0.148
	(0.056)	(0.056)	(0.062)	(0.064)	(0.054)	(0.053)	(0.053)	(0.061)	(0.142)	(0.144)	(0.143)	(0.140)

(Continues)

TABLE A4 (Continued)

Dependent variable	Trade credit (Y/N)				Trade credit beyond 7 days (Y/N)				Cooperativeness of business partner (principal component, standardized)			
Model	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**
Regression method	**Logit**	**Logit**	**Logit**	**Logit**	**Logit**	**Logit**	**Logit**	**Logit**	**OLS**	**OLS**	**OLS**	**OLS**
Sample	**All relationships with buyers**				**All relationships with buyers**				**All relationships**			
Initial contact												
through personal network	–	–	–	–	0.236***	0.219***	0.225***	0.252***	−0.117	−0.127	−0.094	−0.041
					(0.046)	(0.059)	(0.055)	(0.055)	(0.413)	(0.417)	(0.412)	(0.415)
through business network	0.006	−0.081	0.003	−0.030	0.221	0.159	0.190	0.210	−0.102	−0.108	−0.068	−0.046
	(0.175)	(0.228)	(0.202)	(0.285)	(0.152)	(0.162)	(0.145)	(0.133)	(0.311)	(0.312)	(0.302)	(0.309)
based on partner's market reputation	0.035	−0.055	0.030	−0.127	0.231**	0.196	0.221*	0.238*	−0.440	−0.440	−0.369	−0.441
	(0.279)	(0.368)	(0.320)	(0.365)	(0.112)	(0.144)	(0.115)	(0.136)	(0.321)	(0.320)	(0.315)	(0.329)
Controls for firm characteristics	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Controls for partner characteristics	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Controls for transaction features	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
χ^2 for Logit/F for OLS	75.99	76.62	79.04	79.54	87.12	95.07	97.19	93.91	3.33	3.34	3.66	3.92
Degrees of Freedom (DoF)	47	49	49	58	49	51	51	60	50	52	52	62
p	0.0047	0.0070	0.0042	0.0318	0.0007	0.0002	0.0001	0.0034	0	0	0	0
Pseudo R^2 for logit/ R^2 for OLS	0.417	0.437	0.429	0.469	0.376	0.387	0.393	0.419	0.251	0.252	0.255	0.312
Number of observations	219	219	219	191	255	255	255	222	513	513	513	513

Note: Robust standard errors in parentheses. Robust standard errors clustered at firm level.
***$p < 0.01$, **$p < 0.05$, *$p < 0.1$.