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Objective Corruption Risks – Subjective Controls

Integrity of Publicly Owned Business Associations, Methodology and Results of the Integrity Survey

Summary: In 2017, the State Audit Office of Hungary repeatedly surveyed the integrity of publicly owned business association. Survey data show that the degree of corruption risks at these companies depends essentially on objective factors such as company size, provision of public services, and the amount of public funds used. On the other hand, the strength of the integrity control systems put in place to prevent these risks primarily depends on the owner and/or management of the business association, i.e. on subjective factors. The business associations with the best level of integrity stood out from the rest by carrying out systemic risk analyses and risk management, which also included surveying corruption risks. The survey also confirmed that the level of integrity controls is significantly above average in companies with an independent internal audit function operating in accordance with the professional standards.

Keywords: integrity, corruption, publicly owned business associations
JEL codes: H830, K4, K420

Between 2011 and 2017, the State Audit Office of Hungary (hereinafter as SAO) conducted annual surveys of the threats of corruption in Hungarian budgetary institutions and whether these institutions have put in place controls to prevent or mitigate these threats.[1] On the basis of the positive experiences, at the end of 2015, SAO extended the survey to business associations with majority state ownership, and then, in the autumn of 2016, carried out a survey among majority local government-owned business associations. Building on the experiences acquired during these surveys, in September 2017 SAO launched an integrity survey among majority state and local government-owned business associations (hereinafter collectively referred to as 'publicly owned business associations'). This article presents the background, methodology and most interesting findings of this survey. A detailed analysis of the survey results is available at the website of SAO.[2]

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PROFESSIONAL BACKGROUND OF THE SURVEY; KEY TERMS

Integrity: In the broadest sense of the term, it means the state of being whole and intact. Integrity of an organisation occurs when its

operation is in compliance with the rules and basic principles to which it is subject, as well as the values and purposes for which it was established. Publicly owned business associations must, above all, take into account the following two provisions of the 'Fundamental Law'.

'Economic organisations owned by the State or local governments shall manage their affairs in a manner determined in an Act, autonomously and responsibly, according to the requirements of lawfulness, expediency and efficiency.' [Fundamental Law, Article 38(5)]

'Every organisation managing public funds shall be obliged to publicly account for its management of public funds. Public funds and national assets shall be managed according to the principles of transparency and the purity of public life. Data relating to public funds and national assets shall be data of public interest.' [Fundamental Law, Article 39(2)]

These two provisions highlight a total of six values: lawfulness, the principle of purity of public life, transparency, accountability, accountability, expediency and efficiency. These six values are closely interrelated:[3]

- lawfulness is the basis of all the other values,
- the principle of purity of public life means the absence of corruption,
- transparency makes it difficult to commit acts of corruption and facilitates detection,
- accountability is one of the best antidotes to corruption because it makes everyone is accountable and responsible for what they do,
- the lack of efficiency is a hotbed of corruption, because the losses caused by corruption will go unnoticed if the outcome of an activity is not important,
- expediency is an important condition for integrity and means that the company should have a strategy and/or a mission that employees can identify with.

In a study,[4] SAO identified the corruption risks that pose the greatest threat to publicly owned business associations as well as the integrity controls designed to manage these risks and promote alignment with the six core values defined above. This study examines the existence and extent of vulnerability to corruption, and therefore it is not intended to assess whether the conditions for corruption under criminal law are satisfied.[5] The study used the following definition in assessing the threats of corruption.

Corruption: *'Use of public funds, public property or other community resources in a manner that is not transparent to society, causes damage, whether material or non-material, to the public sector, and is carried out with the culpable involvement of the person(s) disposing over the funds and/or having influence on the disposal over the funds. As a result of non-compliances, private individuals or private entities may have access to public funds, public property or community resources unlawfully or beyond their eligibility.*[6]

The starting point of the survey was that corruption threat is an objective factor inherent in the use of public property and public funds. Disposal over public goods always involves the risk of some people trying to distribute community resources in pursuit of private interests. Any transaction or environment where private actors may have access to community resources involves the threat of corruption.

These meeting points and situations have a high inherent corruption threat, because they essentially involve the possibility of corruption. Corruption risk alone is not a bad thing, and the organisations facing such risks should not be condemned. A threat or risk exists precisely because these organisations perform important public functions and have been entrusted with the management of community resources. These corruption risks

could only be eliminated if these organisations ceased to carry out activities in the public interest.

Factors (circumstances) increasing the threat of corruption can be divided into three major groups:

- factors increasing the gains that can be realised through corruption, which are proportional to the monetary value or rarity of the resources that can be obtained through corruption,
- circumstances facilitating the commission of acts of corruption,
- factors reducing the likelihood of getting caught and being prosecuted and/or reducing sanctions.[7]

In the first case, risk mitigation is not necessarily an objective, since, given the nature of public functions, it is in the interest of these organisations to dispose over more significant resources. Often, the conditions allowing the performance of public functions (more funds, greater powers) entail an increase in the threat of corruption. Corruption can also be facilitated by circumstances that are otherwise beneficial to an organisation, for example, an improvement of the IT systems after which traditional controls (e.g. paper-based audits) can no longer be used. Certain circumstances may also make it easier to commit an act of corruption, such as the absence or inadequacy of external audits. In these cases, the organisation concerned should put in place controls that reduce the likelihood of acts of corruption.

Controls mean measures taken to prevent the occurrence of risks.[8] These include physical barriers, IT solutions, external or internal audits, regulations and other corporate documents (e.g. strategy, mission statement) and organisational solutions (e.g. establishing an Integrity Consultant position). On the one hand, controls can mitigate corruption risks (e.g. by eliminating factors that increase corruptions) and, on the other hand, can prevent the actual occurrence of corruption (e.g. by reinforced audits).

The SAO survey considers the absence of controls as a factor increasing corruption risk only in cases where controls should be put in place by an entity whose decisions are not influenced by the surveyed organisation (such as the owner, external audit organisations, regulatory authority).

RESEARCH METHODOLOGY

The integrity survey of publicly owned business associations followed the integrity survey methodology used by SAO for budgetary institutions, which was based on the Integrity Self-Evaluation System (SAINT) approach taken in the Dutch public administration system.[9] The practical implementation of the methodology consists of three steps:

- Mapping situations with inherent corruption risks and circumstances increasing the threat of corruption.
- Identifying controls that may be suitable for mitigating corruption risks or preventing the occurrence of corruption, and then determining whether or not these controls have been put in place by the individual organisations and whether or not the controls are functioning.
- Comparison of the level of risks with the level of controls in place. On this basis, assessing whether the organisation has ensured sufficient protection against corruption risks.

Identifying inherent corruption threats

The first group of inherent corruption threats is related to the fact that publicly owned busi-

ness associations dispose over public property and use assets that are public property, while continuously engaging in transactions with private actors. Corruption risks also depend on how an entity disposes over or controls public property. The more unlimited the right of disposal is, the higher are corruption risks associated with its activity.

This situation carries an inherent threat of corruption as the direct control of the owner is weakened where ownership rights are divided between several state or municipal bodies or if the company is a member of a group of companies. There are inherent corruption risks where there are private individuals and/or private organisations among the owners of a business association, since in this case the public sector and the private sector also meet in management bodies.

An inherent corruption threat also exists where the business association provides public services and/or performs public functions. On the one hand, these business associations may use community resources in a non-competitive market (e.g. price compensation, consolidation). On the other hand, the provision of public services can be accompanied by the performance of administrative functions (e.g. the exercise of authorisation, approval and control powers, price setting, price differentiation, reduction of fees and charges on grounds of equity, detection of illegitimate use), which also involves corruption risks.

An inherent corruption threat exists when a business association also conducts market activities in addition to the provision of public services. In such a case, there is a risk that a part of the costs incurred during its market activities will be accounted for as costs of public service activities, or public funds received to provide public service activities are used to finance profit-making market operations.

Identifying factors increasing the threat of corruption

It is a circumstance increasing the threat of corruption if the entity receives public funds, as in such cases there is always a risk that somebody will want to receive an undue share from these public funds. The threat of corruption is particularly higher where the entity participates in programmes financed by the European Union or other community funds, as these programs are usually novel, special, receive relatively substantial amounts of aids, and require special expertise.

If a business association is involved in a public procurement procedure, whether as a contracting authority or a tenderer, this is a circumstance posing the risk of corruption. This risk is further increased by the use of restricted public procurement procedures and the low number of tenderers.

The threat of corruption is higher if the company is loss-making, as this fact indicates that the requirement of efficiency is not fulfilled. If a company writes off substantial amounts of receivables this also indicates the lack of efficiency.

Factors that increase the threat of corruption include circumstances in which the supervision of the use of public property by the owner becomes indirect (e.g. the creation of a subsidiary, the outsourcing of certain activities, multiple hierarchy levels in an organisation).

Where company occasionally sells or rents its real properties or redundant movable assets, this is a circumstance that increases the risk of corruption. (If a company is regularly engaged in real estate management, the associated risk, logically, is to be considered as an inherent corruption risk.)

Company transformation is also a circumstance increasing corruption risk, as in such case, old controls become obsolete or their

regulation is difficult to keep up-to-date, which undermines accountability.

Selecting controls aimed to manage the threats of corruption

During the survey, we did not assign controls to each of the identified risks, but investigated the existence of controls that are likely to greatly reduce the occurrence of many types of risks. In the selection of controls, we took the so-called 'immune system approach'.[10] Just like the immune system of living organisms, which protects the body not only from a single disease but from a wide variety of diseases, we wanted to select controls that protect organisations as a whole against corruption. If an organisation puts in place these controls, it will become resistant to most corruption risks. This does not mean that business associations should not use individual controls to mitigate severe individual corruption risks, similarly to how people protect themselves against infectious diseases by means of vaccines.

Lawfulness, transparency, accountability, efficiency and expediency significantly contribute to an organisation's resistance to corruption (i.e. 'immunity'), and therefore, the survey primarily focused on questions regarding the existence of controls reflecting these basic principles.

Identifying priority areas characteristic of integrity

In order to contrast threats and controls, we have identified priority areas in the business associations' activities in terms of corruption risks and their management. These are the following:

- Responsible Management,
- Performance of Public Functions and External Relationships,
- Financial Management,
- Compliance and Audits,
- Organisational Culture and Ethical Conduct.

Ten risks and ten controls have been assigned to each of Priority Areas no. 1–4, while five factors increasing risks and fifteen controls were assigned to Priority Area no. 5. Controls reinforcing organisational culture and ethical conduct improve a business association's resistance to corruption in all areas; their existence is a sign of greater than average commitment to integrity, and therefore it is particularly important that the survey should examine the highest possible number of controls in this area.

When determining the existence of controls belonging to the Responsible Management priority area, the starting point was that, for publicly owned business associations, management powers can be identified at three levels: at the level of 1) the owner/person or entity exercising the rights of the owner, 2) the supervisory board (SB) and 3) the management. Given that the survey examines the integrity of business associations (and not of their owners or the supervisory boards), the relevant questions primarily focus on whether or not the controls in place ensure accountability of the management.

In the Performance of Public Functions and External Relationships priority area, the survey primarily examined the controls of transparency. If a company makes its activity transparent, provides additional information beyond the mandatory disclosures, and appoints a data owner, these are signs that company aspires for integrity. Transparency is further increased if the company measures its customers' satisfaction, handles their comments and complaints and takes the necessary action based on them. In its external relations, the company must also make sure that its partners are transparent and orderly function-

ing entities and seek to develop procedures to manage the risks arising from its contractual relationships.

In the Financial Management priority area, the focus was primarily placed on the controls of efficiency and expediency. These include performing cost-price calculations, providing for technical and management requirements related to task performance, developing indicators ensuring the systematic evaluation of the implementation of the strategic plans and assessing the achievement of the organisation's objectives. It is a legal requirement to preserve and increase the assets made available to these companies, which is supported by the open procedures used in the sale of assets and separate registers of the managed assets. Conflict of interest is a corruption threat affecting financial management. This can be prevented by regulating decision-making related to contracts to be concluded with senior officials and their close relatives. It is also expedient to regulate the cases of conflict of interest with regard to outsourced and subcontracted activities.

The Compliance and Audits priority area primarily includes regularity and controls aimed to verify regularity. Among many legal requirements, the questionnaire asks specific information on the rules governing public procurement, as this is considered to be one of the areas most vulnerable to corruption. In addition to the use of an independent auditor, the existence of the independent internal audit, and its activities being underpinned by the risk assessment, the questionnaire asks whether the identified shortcomings are being addressed.

The majority of controls belonging to the Organisational Culture and Ethical Conduct priority area are so-called 'soft controls'.[11] This term reflects that controls affect the integrity of the company indirectly, through the attitudes of its employees. The use of soft controls is not required by law, but the degree of integrity of a company is indicated by the fact whether it has published documents presenting its corporate values and ethical procedures, and establishing the ground rules and limits for corporate gifts. Controls established by the Human Resources department also have a significant influence on whether or not employees live by the corporate values, starting from the recruitment and selection processes, the definition of job duties, performance appraisals and compensation, to post-employment limitations.

Indices used to evaluate the survey results

To evaluate the results of the survey, three density indices have been defined (calculated as a percentage):

❶ The Inherent Vulnerability Factors[12] (IVF-) index shows how densely the inherent vulnerability factors covered by the survey occur on average in the population as a whole and in sets created along individual grouping criteria. Calculation method: the total score of responses to the questions per business association is divided by the number of questions answered and then we take the arithmetic mean of the quotients per business association;

❷ The Factors Increasing Vulnerability (FIV) index and

❸ The Factors Reinforcing Controls (FRC) index are calculated in the same way, however, the density of factors increasing vulnerability and of controls is quantified.

In addition to the density indices, three intensity indices have also been defined:

❶ The Inherent Vulnerability to Corruption Intensity Index (IVI Index) quantifies the extent to which the inherent vulnerability factors belonging to the given priority area are typical of the respondent companies on average. Calculation method: the total score of responses to questions concerning inherent vulnerability to corruption and belonging

to a particular priority area is divided by the number of respondent business associations, and then we take the arithmetic mean of the quotients per question;

❷ The Factors Increasing Vulnerability to Corruption Intensity Index (IVC Index) and

❸ The Integrity Controls In Place Intensity Index (ICI Index) are calculated in the same way, however, the intensity of factors increasing vulnerability and of controls is quantified.

KEY CHARACTERISTICS OF THE COMPANIES PARTICIPATING IN THE SURVEY AND OF THEIR INTEGRITY

Who participated in the survey?

In a letter, managers of publicly owned business associations were requested to participate in the survey on a voluntary basis. The electronic questionnaire could be downloaded from SAO's website. The primary processing of completed questionnaires was done electronically. 752 companies sent back evaluable questionnaires: of which 260 were majority state-owned and 492 majority local government-owned business associations. 92 percent of the respondents were wholly publicly owned, and for four-fifths, the owner exercised its rights through another entity.

The average size of the majority state-owned business associations was significantly larger than that of majority local government-owned business associations *(see Table 1)* in terms of headcount and balance sheet total.

68 percent of local government-owned business associations provided public services and performed public functions, compares to the merely 37 percent of state-owned business associations. The proportion of companies solely engaging in the provision of public services was low among both local government and state-owned companies (9 and 4 percent, respectively).

The integrity of the population as a whole and of the state and local government-owned groups is succinctly characterised by the indices shown in *Figure 1*. These show that the inherent threats of corruption specified in the questionnaire occurred, on average, in 41.4 percent, while the factors increasing vulnerability in 25.0 percent in the total population of the responding business associations. The controls specified in the questionnaire were in place, on average, in 49.8 percent of the busi-

Table 1

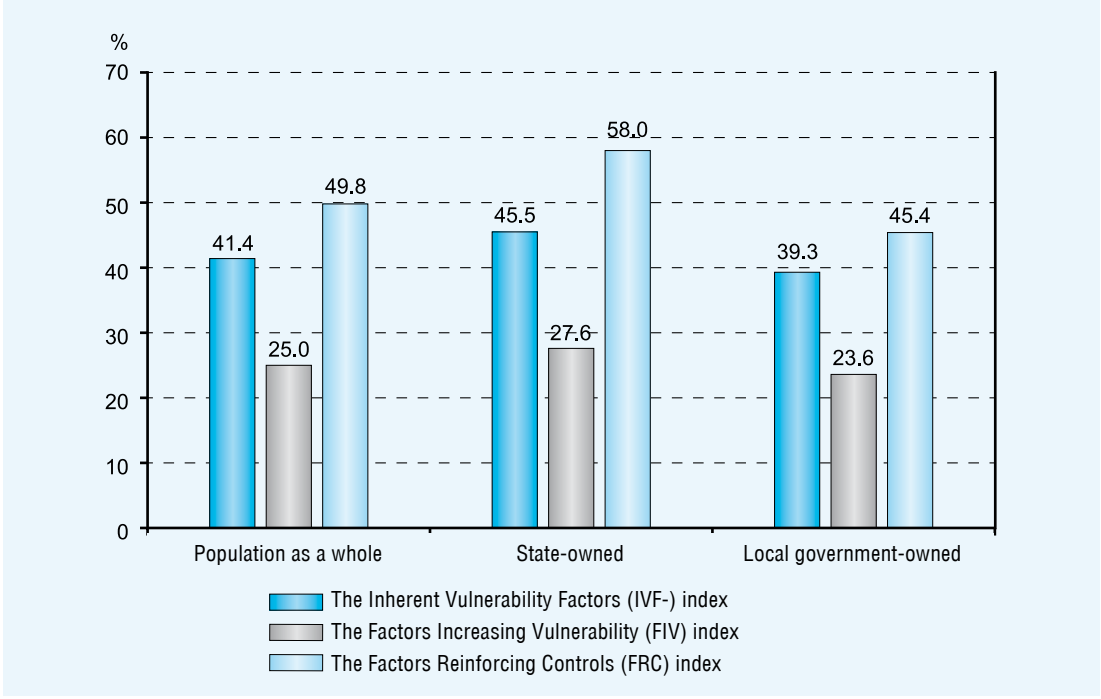
DISTRIBUTION OF STATE AND LOCAL GOVERNMENT-OWNED BUSINESS ASSOCIATIONS BASED ON THEIR 2016 BALANCE SHEET TOTALS (%)

	State-owned	Local government-owned
Under HUF 10 million	3.1	10.0
HUF 10 to 100 million	8.8	27.6
HUF 100 to 600 million	18.5	34.0
HUF 600 million to 3 billion	24.2	19.5
HUF 3 to 13 billion	23.5	7.1
Above HUF 13 billion	21.9	1.8
Total:	100.0	100.0

Source: Edited by the authors based on the results of the SAO survey

Figure 1

MEAN VALUES OF INDICES RELATING TO VULNERABILITY AND CONTROLS (%)



Source: Edited by the authors based on the results of the SAO survey

ness associations participating in the survey. It is favourable that the average level of inherent vulnerability is exceeded by the average level of controls; however, as controls exist in less than 50 percent of the cases, they do not provide strong protection against corruption threats.

The average indexes of the majority local government-owned business associations are significantly lower than those of majority state-owned business associations. The reasons for this will be discussed in the analysis of individual indices.

Presence and density points of inherent corruption risks

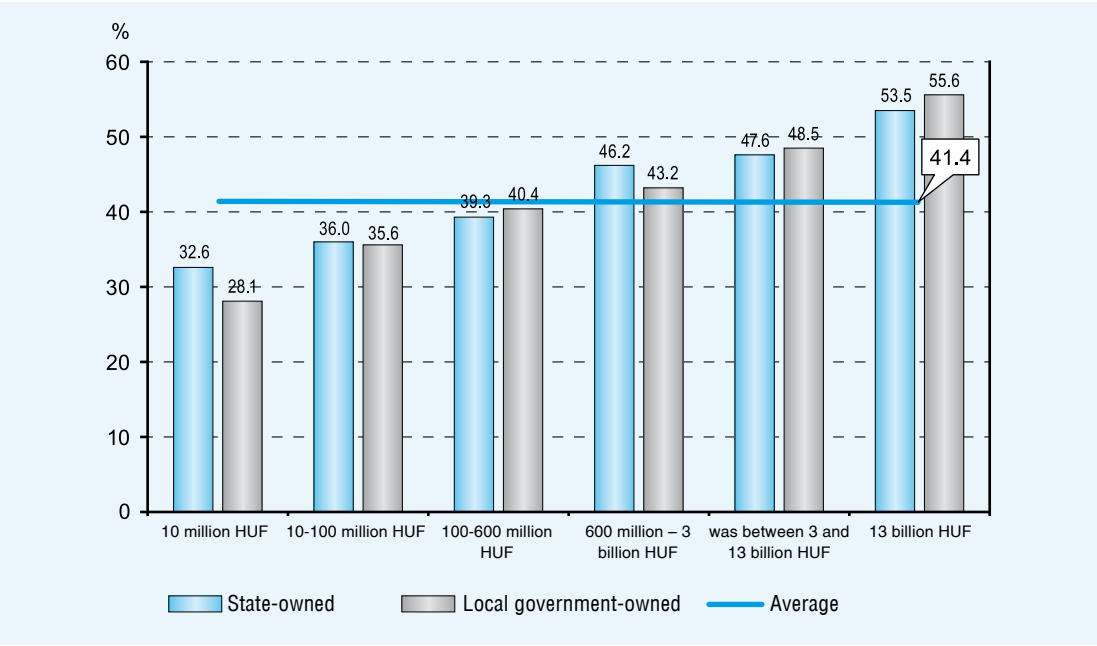
Inherent risk was most significantly related to the scale of the business association's economic activity (i.e. the amount of its balance sheet total). This is illustrated in *Figure 2*.

Generally speaking, it is true that the higher the balance sheet total, the greater the inherent vulnerability. There is no significant difference between the IVF indices of state and local government-owned business associations. Higher risk is not caused by the higher balance sheet total alone, but also by the larger scale, the more significant and more complicated activities, and the higher number of transactions during which the public sector and the private sector encounter. Survey data confirm that a high balance sheet total represents a density point of inherent corruption risks, regardless of the intentions of the organisation.

The inherent vulnerability to corruption is significantly higher in business associations that perform public functions and/or provide

Figure 2

THE IVF INDEX OF BUSINESS ASSOCIATIONS, GROUPED BY BALANCE SHEET TOTAL (%)



Source: Ivanyos, Pulay, Lovász and Lucza (2018), p. 12

public services compared to those that do not (*see Figure 3*).

The data confirm the assumption that the provision of public services (exclusively or together with other activities) is a circumstance around which the density (relative likelihood) of inherent corruption risks is higher.

Presence and density points of factors increasing the threat of corruption

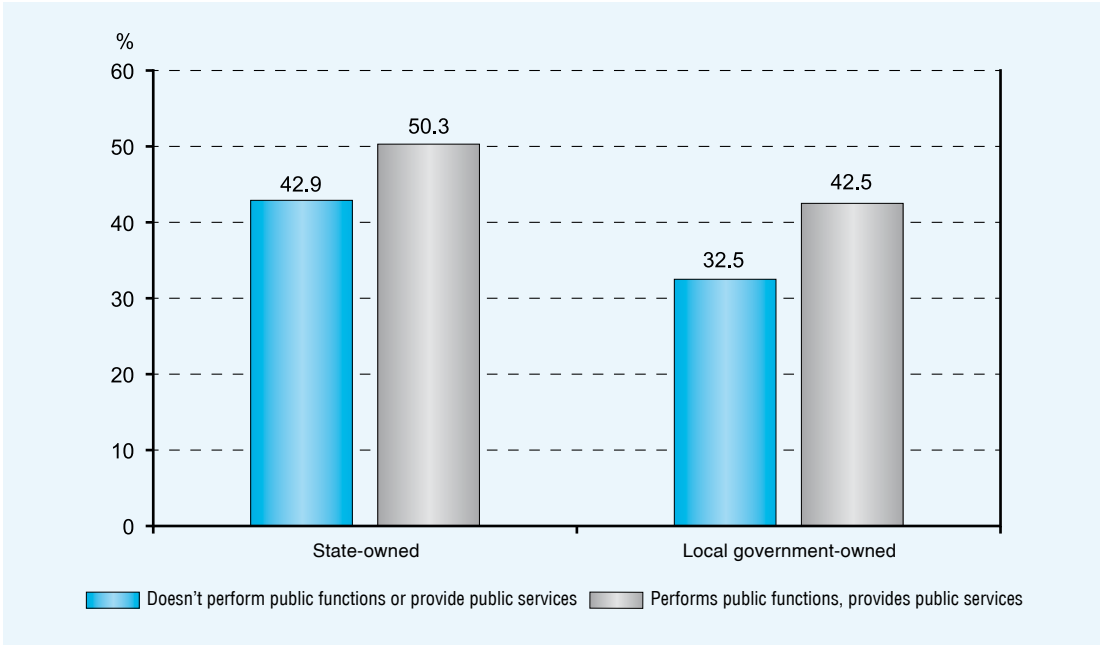
The average FIV index of survey participants was 25.0 per cent, meaning that about one quarter of the factors assumed to increase corruption risk were present in the environment of the companies, with high individual standard deviations (5.2–58.3 percent). Based on the survey data, in practice, one of the factors causing a high density of corruption risks is if a business association benefits from significant EU aids. This is illustrated in *Figure 4*.

In the 2014–2016 period, 246 companies received EU aids. The higher density of factors increasing vulnerability is mainly related to the fact that additional risks are incurred when benefitting from aids, and therefore the beneficiaries were subjected to the obligation to conduct public procurement procedures and/or to involve a high number of external experts/consultants.

The other density point is also related to the more extensive use of public funds. The FIV index of companies that conducted public procurement procedures was significantly higher compared those that did not fall under the Public Procurement Act (*see Figure 5*).

Figure 3

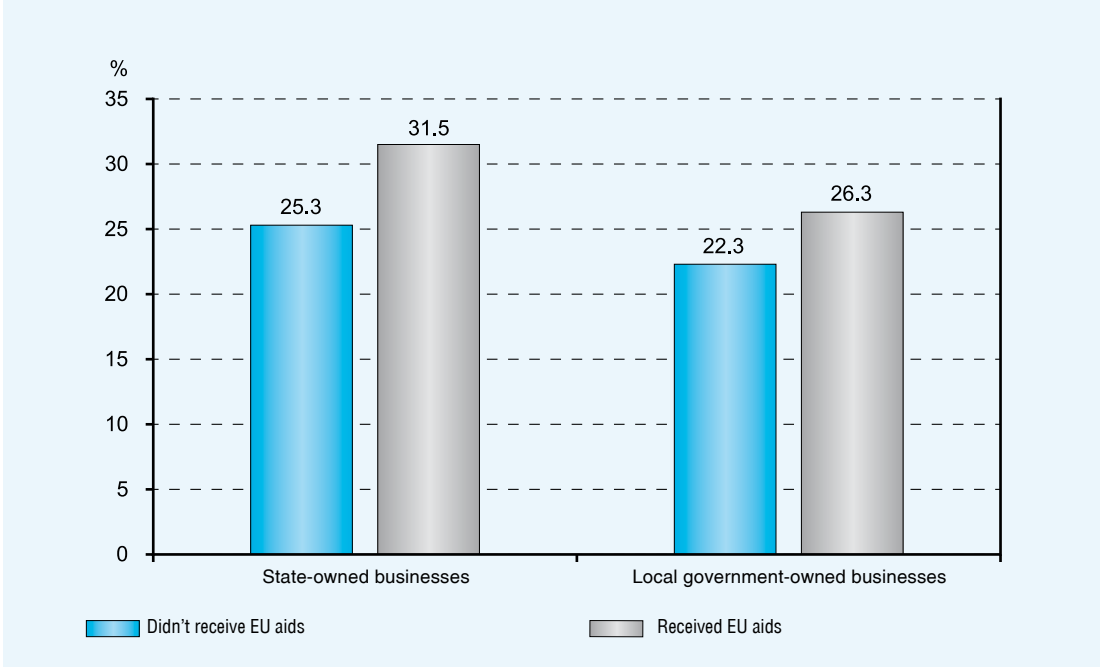
THE IVF INDEX OF BUSINESS ASSOCIATIONS, GROUPED BY THE PERFORMANCE OF PUBLIC FUNCTIONS AND THE PROVISION OF PUBLIC SERVICES (%)



Source: Edited by the authors based on the results of the SAO survey

Figure 4

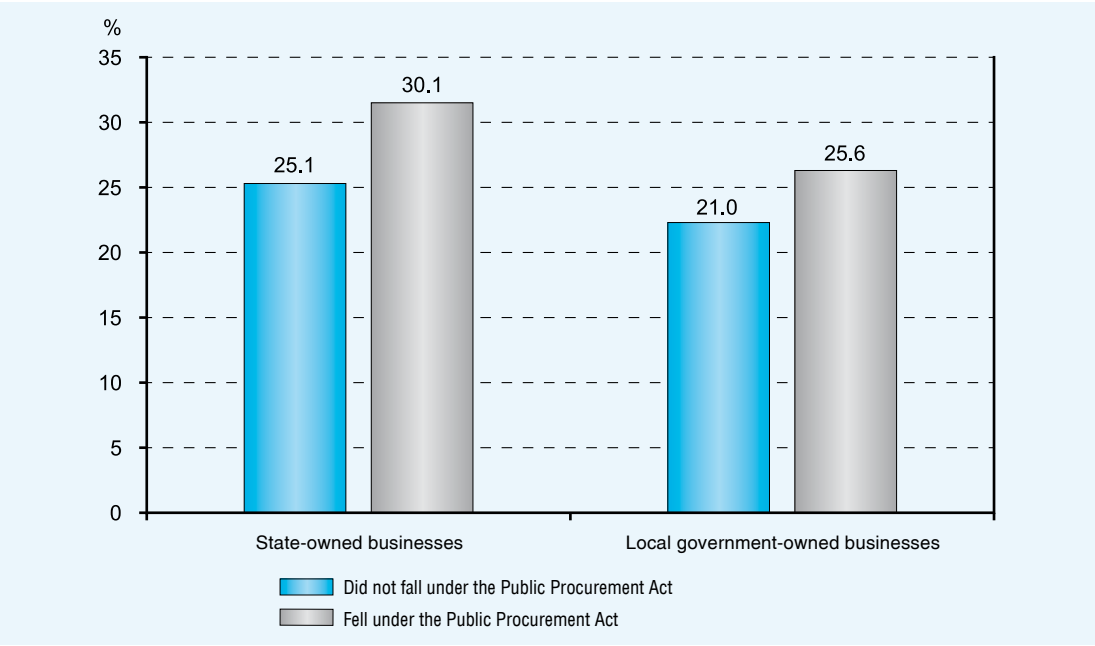
FIV INDEX OF BUSINESS ASSOCIATIONS BY EU AIDS (%)



Source: Edited by the authors based on the survey results

Figure 5

THE FIV INDEX OF BUSINESS ASSOCIATIONS, GROUPED BY THE OBLIGATION TO CONDUCT PUBLIC PROCUREMENT PROCEDURES (%)



Source: Edited by the authors based on the survey results

Existence and density points of controls

The average FRC index of the respondents was 49.8 percent. The level of controls in place, similarly to vulnerability, is related to the scale of operations (balance sheet total), i.e. higher risks tend to be associated with a higher level of controls. The correlation is illustrated in *Figure 6*. This correlation can be explained by the fact that enterprises of a larger scale typically have more conscious human resources policies, more extensive internal regulations, reporting and control systems, and more often apply controls enhancing the organisational culture of integrity.

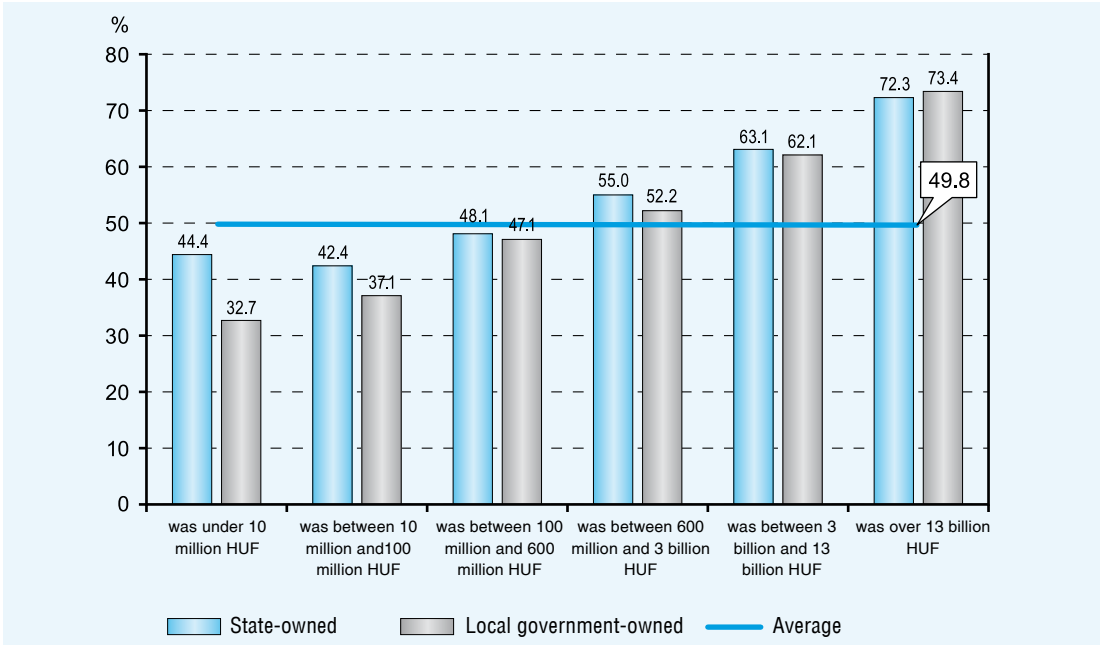
The 12.5 percentage points difference between the average FRC indices of state and local government-owned business associations (58 percent and 45.4 percent, respectively) is mostly due to the differences in scale, as there was a difference of only a few percentage points between the FRC indices of the two sets of business associations when grouped by balance sheet total. Exceptions are members of the group with a balance sheet total of less than HUF 10 million. The FRC index of 32.7 percent of business associations in this group draws attention to the fact that there is a set of local government-owned business associations with very low resistance to corruption risks, as they have not put in place even one-third of the desirable controls.

The provision of public services was another factor that significantly influenced the inherent vulnerability to corruption of companies. The correlation between the provision of public services and the level of controls is illustrated in *Figure 7*.

There is a strong positive correlation in the case of majority local government-owned

Figure 6

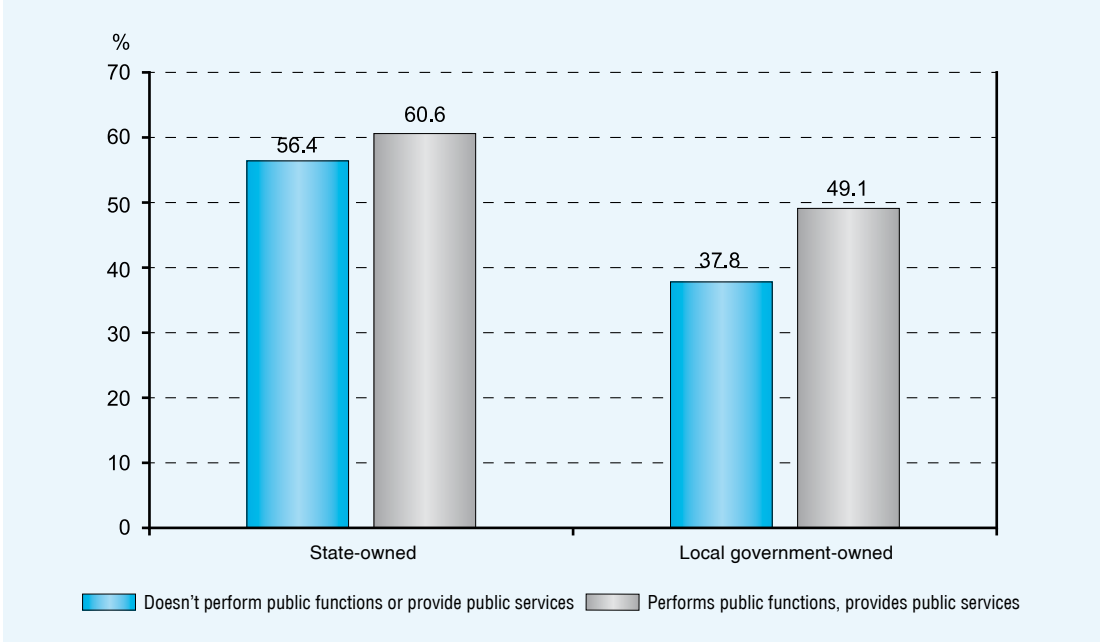
THE FRC INDEX OF BUSINESS ASSOCIATIONS, GROUPED BY BALANCE SHEET TOTAL (%)



Source: Ivanyos, Pulay, Lovász and Lucza (2018), p. 16

Figure 7

THE FRC INDEX OF BUSINESS ASSOCIATIONS, GROUPED BY THE PERFORMANCE OF PUBLIC FUNCTIONS AND THE PROVISION OF PUBLIC SERVICES (%)



Source: Edited by the authors based on the results of the SAO survey

business associations, while in the case of majority state-owned business associations, the average FRC index of business associations providing public services is only slightly higher than the FRC index of business associations not engaged in such activities. This can be explained by the fact that state-owned companies include several large enterprises with advanced control systems that do not provide public services.

Two powerful controls

Which controls result in density points around the controls? Which is the control the existence of which significantly increases the level of controls of the company? We have found two such controls: 1) regular reporting to the supervisory board and 2) the existence of an internal audit plan in the business association prepared based on a risk analysis (in accordance with the professional requirements). The FRC indices of companies belonging to the groups created based on these two factors are listed in *Table 2*.

As the table shows, business associations that report regularly to the supervisory board, regardless of whether owned by the State or by a local government, had an FRC index 10 percentage points higher than those where reporting was not regular, and 15 percentage points higher than those that do not report to the supervisory board at all. How can the key role played by this control be explained? This question is answered by the evolution of the number of members in each group. Out of the companies involved in the survey, only 51 does not report to the supervisory board, and 45 do not report regularly, i.e. we managed to identify a control that differentiated the entities with the weakest level of controls from the multitude as a whole.

The data in the table also show that the FRC index of business associations having an internal audit plan prepared based on a risk analysis is extremely high for both state and local government-owned business associa-

Table 2

THE FRC INDICES OF BUSINESS ASSOCIATIONS GROUPED BY REPORTING TO THE SUPERVISORY BOARD AND THE PREPARATION OF A RISK-BASED INTERNAL AUDIT PLAN

Control	Regularly reports to the SB		Does not report regularly to the SB		Does not report to the SB at all	
	State-owned	Local govt.-owned	State-owned	Local govt.-owned	State-owned	Local govt.-owned
FRC Index (%)	59.4	47.7	47.4	34.0	30.5	32.3
Control	**Has an internal audit plan underpinned by a risk analysis**		**Has an internal audit plan but it is not underpinned by a risk analysis**		**Has no internal audit plan**	
	State-owned	Local govt.-owned	State-owned	Local govt.-owned	State-owned	Local govt.-owned
FRC Index (%)	73.1	65.8	58.5	54.0	46.5	40.4

Source: Edited by the authors based on the results of the SAO survey

tions, i.e. internal audit is a control the existence of which also favours the putting in place of other controls. 90 state-owned and 66 local government-owned companies (20 percent of respondents) had a risk-based internal audit plan. The existence of an internal audit plan prepared based on a risk analysis differentiates companies with the highest level of controls from the population as a whole.

We have managed to define two controls that differentiate the worst and the best-performing ones from the population as a whole. The level of controls is far below the average in business associations where no supervisory board is in place or where the supervisory board only has a formal role, and the level of controls is far above the average in business associations where a high-quality internal audit function operates.

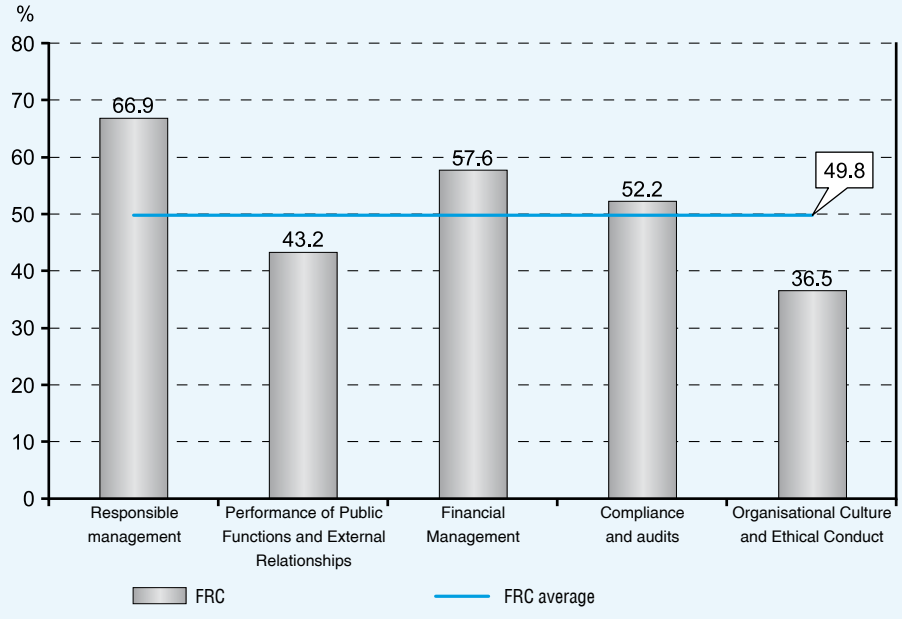
Differences in the levels of controls of individual priority areas

What are the priority areas where the level of controls needs to be improved the most? This question is answered by the intensity indices of the integrity controls in place (*see Figure 8*).

The intensity of the controls in place was above the average in the following priority areas: Responsible Management, Financial Management, Compliance and Audits. The intensity of controls in place is the lowest in the Organisational Culture and Ethical Conduct priority area, which is related to the fact that the questionnaire contained most of the questions concerning controls not mandatorily required by law in this area.

Figure 8

EVOLUTION OF THE INTENSITY OF THE CONTROLS IN PLACE BY PRIORITY AREA (%)



Source: Ivanyos, Pulay, Lovász and Lucza (2018), p. 23

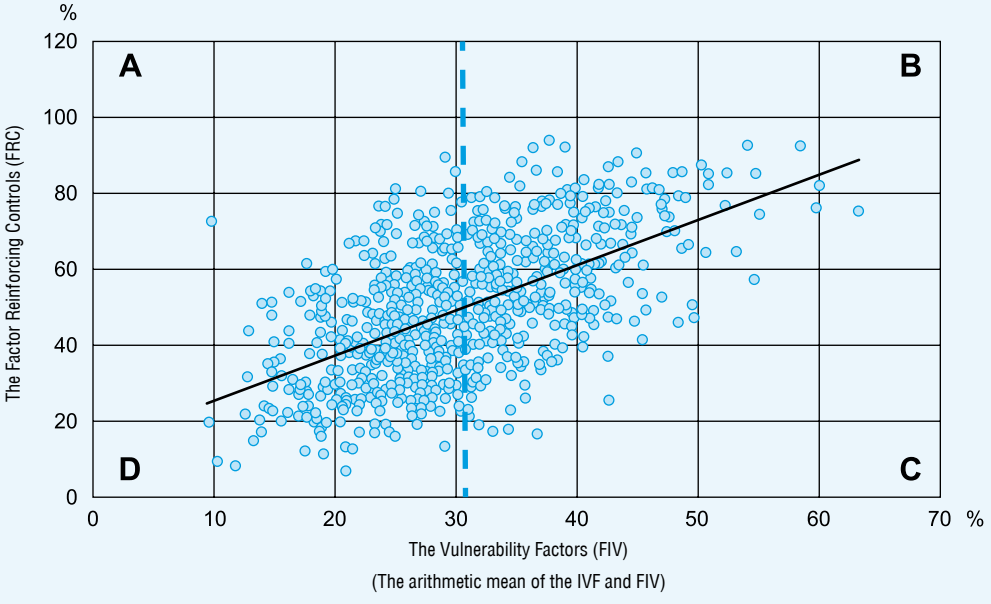
CORRELATIONS BETWEEN THE LEVEL RISKS AND THE LEVEL OF CONTROLS

In terms of corruption, there is an increased risk in companies with a high level of vulnerability, and a low level of controls. In order to quantify this risk, regression was used to establish the relationship between the threats and the controls. In order to deal with the two types of vulnerabilities jointly, we calculated a uniform vulnerability index for each business association as the arithmetic mean of the IVF and FIV indices, weighted by the number of questions, and then determined the linear regression between the values thus calculated (variable *x*) and the FRC indices of the business associations (variable *y*). We calculated the coefficient of determination (denoted R^2) indicating the strength of the relationship between the two variables, which is 0.3275. This indicates a medium strong relationship. The linear relationship is expressed by the following equation: $y=1.195x+0.134$. This is illustrated in *Figure 9*, where a continuous line indicates the linear trend.

The figure is divided by a vertical dashed line; companies with a below average (30.4 percent) vulnerability are located at the left of the line. The surface of the figure is divided into four parts by the trend line and the vertical line indicating average vulnerability. Based on this, companies participating in the survey were classified into four groups (*A, B, C* and *D*). Group *A* includes those with a below average vulnerability and a control level better than the one indicated by the linear trend. The number and ratios of business associations assigned to these four groups ac-

Figure 9

RELATIONSHIP BETWEEN THE INDEX VALUES OF FACTORS INCREASING VULNERABILITY AND FACTORS REINFORCING CONTROLS



Source: Edited by the authors based on the results of the SAO survey

cording to two criteria are summarised in *Table 3*.

If all the business associations with above average vulnerability had put in place a level of controls higher than the linear trend, there would be no business association in Group *C*. In contrast, there were 180 business associations among the survey participants that, despite an above average vulnerability, did not ensure at least an average level of controls. At the same time, it is positive that 183 companies have created a relatively high level of controls despite their low vulnerability.

We have previously shown that the average IVF and FRC indices of the business associations with higher balance sheet totals are also higher than those of business associations with lower balance sheet totals. Therefore, when looking for the cause, it is advisable to examine the composition of the four groups according to balance sheet total. For this, see *Table 4*.

The table clearly shows that Group *B* (high vulnerability combined with a high level of controls) has the highest ratio of business associations high a balance sheet total: more than 50 percent of them have a balance sheet total of over HUF 3 billion and over one quarter

Table 3

DISTRIBUTION OF COMPANIES ACCORDING TO THE DEGREE OF VULNERABILITY AND THE LEVEL OF CONTROLS IN PLACE

Group	Vulnerability/level of controls in place	No. of companies (piece)	Ratio of companies (%)
A	Low vulnerability / Level of controls better than the trend	183	24.3
B	High vulnerability / Level of controls better than the trend	171	22.8
C	High vulnerability / Level of controls worse than the trend	180	23.9
D	Low vulnerability / Level of controls worse than the trend	218	29.0
Total:		**752**	**100.0**

Source: Edited by the authors based on the survey results

Table 4

CUMULATED DISTRIBUTION OF THE COMPANIES IN GROUPS *A, B, C* AND *D* BY BALANCE SHEET TOTAL (%)

Balance sheet total	A Group %	B Group %	Group C %	D Group %
Under HUF 10 million	7.1	0.6	2.8	17.4
Under HUF 100 million	30.6	4.7	15.6	56.8
Under HUF 600 million	69.4	19.3	46.2	86.2
Under HUF 3 billion	89.6	42.7	77.3	98.1
Under HUF 13 billion	97.3	71.4	93.3	100.0
Companies in total:	**100.0**	**100.0**	**100.0**	**100.0**

Source: Edited by the authors based on the results of the SAO survey

have a balance sheet total of over HUF 13 billion. However, more than half of the business associations in Group C had a balance sheet total of above HUF 600 million, while the balance sheet total of 6.7 percent (12 business associations) exceeded HUF 13 billion. This reflects that larger company size alone does not guarantee the protection against high vulnerability to corruption. Protection required that the owner and/or management of the business association consciously make efforts to reinforce the integrity of the organisation. On the other hand, this is substantiated by the fact that nearly 70 percent of the business associations classified into Group A (below average vulnerability but level of controls higher than the trend) had a balance sheet total of less than HUF 600 million yet had a relatively high level of controls, obviously as a result of the conscious efforts of their owner and/or management. The general trend is reflected in the fact that 86.2 percent of the companies classified into Group *D* had a balance sheet total of less than HUF 600 million and no companies with a balance sheet total above HUF 13 billion was included in this group.

WHAT MAKES THE BEST ONES GOOD AND THE WEAK ONES WEAK?

What are the integrity controls that have been put in place by business associations with a high level of controls but have been neglected by business associations with a weak level of controls? In order to answer this question, we have defined the best and the worst-performing business associations in terms of the regulation of integrity. In doing so, relative levels of controls were taken into account, i.e. levels of controls in relation to the levels of vulnerability. We have selected the best-performing ones from the previously created Groups *A* and *B*, and the worst-performing ones from Groups *C* and *D* by classifying companies diverging from the trend line by more than the standard deviation into Subgroups A^+ and B^+, as well as C^- and D^-. A total of 184 companies were classified into these subgroups, i.e. diverged significantly from the trend line *(see Table 5)*.

We have examined where are the biggest differences among the intensity of the controls in place in these four subgroups of business

Table 5

DISTRIBUTION OF COMPANIES ACCORDING TO THE DEGREE OF VULNERABILITY AND THE LEVEL OF CONTROLS IN PLACE

Group	Vulnerability/level of controls in place	No. of companies
A^+	Low vulnerability/control level upward-diverging from the trend line more than the standard deviation of FRC Index	55
B^+	High vulnerability/control level upward-diverging from the trend line more than the standard deviation of FRC Index	43
C^-	High vulnerability/control level downward-diverging from the trend line more than the standard deviation of FRC Index	42
D^-	Low vulnerability/control level downward-diverging from the trend line more than the standard deviation of FRC Index	44
Total:	**184**	**184**

Source: Edited by the authors based on the results of the SAO survey

associations. The results are summarised in *Table 6* below. In the first column of the table, you can find the question asking about the existence of a given control (FRC question) and the data in the four adjacent columns show the intensity of the control concerned by the question in the four subgroups.

The first watershed between the best and the weakest ones is the existence of systemic risk analysis. The worst-performing ones neglect this and hardly carry out any risk management activities; they put in place only controls that are required by law but do not have any customised controls. Answers given regular corruption risks surveys substantiate the fact that the different levels of integrity controls result from the different attitude taken by the management of business associations. The managers of business associations in Group D^- simply do not deal with this issue, as opposed to the managers of business associations classified into Group A^+, which have a relatively low vulnerability and nearly 80 percent of them have ordered a regular assessment of corruption risks. Regarding this matter, the difference between the business associations in Groups B^+ and C^- is more than quadruple.

Radically variances per group between the data of responses given to the rest of the FRC questions, as shown in the table, also indicate the differences in attitude. As regards an internal audit plan prepared based on a risk analysis, the difference is more than tenfold, while as regards requiring partners to make a statement of economic or other interests, the difference is nearly tenfold between business as-

Table 6

INTENSITY OF INDIVIDUAL CONTROLS IN PLACE IN GROUPS A^+, B^+, C^- AND D^-

FRC question	Intensity of the control in place to which the question refers (%)			
	A^+	B^+	C^-	D^-
Does your company use systemic risk analysis at their company, and do you carry out risk management activities based on the results?	36.4	67.0	2.1	0.9
Does your company regularly assess corruption risks?	78.3	72.1	16.7	0.0
Does the company have an approved internal audit plan for 2017 which was prepared based on a risk analysis?	52.9	83.5	8.1	1.4
Do the internal regulations of your business association require employees to make a statement on their economic or other interests?	49.1	90.7	9.5	2.3
Has your company put in place rules of procedure to ascertain whether the contractual partners comply with the requirements for transparent entities?	78.2	95.3	2.4	4.5
Has your company regulated conflict of interest with regard to external experts in working rules of procedure or a policy?	55.0	73.3	2.4	1.1
Has your company appointed an organisational unit and/or person to investigate violations of ethical rules and have the relevant working procedures been established?	42.7	79.1	2.4	0.0

Source: Edited by the authors based on the survey results

sociations in Groups B^+ and C^-. The controls covered by the three additional questions were only put in place occasionally by business associations in Group C^-, while the presence of these controls was high in business associations in GroupB^+.

Two important conclusions can be drawn from the comparison of the results of business associations in Groups A^+ and D^-. First, there are publicly owned business associations that had a relatively solid control system despite the fact that their vulnerability was lower than average. Although intensity figures below or around 50 percent indicate that there is still room for improvement in these business associations as well. Another conclusion is that in 2017 there was a group of publicly owned business associations in Hungary, namely those in Group D^-, which has almost entirely neglected to put in place controls essential in terms of integrity (i.e. relating to conflicts of interest, transparency, ethical procedures).

CONCLUSIONS

The results of the integrity survey confirmed the assumption that corruption risks have objective density points: business associations with a higher balance sheet total, providing public services (performing public functions), benefitting from significant EU aids and/or conducting public procurement procedures are at increased risk of corruption. However, these are natural and justified characteristics of these companies, and consequently the objective is not to eliminate the situation causing threat, but to prevention of the actual occurrence of the threat. This can be achieved by business associations by putting in place and operating strong integrity control systems.

In general, companies exposed to a greater corruption threat have put in place more integrity controls. However, this correlation is not very strong. Nearly a quarter of the business associations participating in the survey had not put in place a strong control system despite the more severe vulnerability to corruption. The other negative result is that a large number of publicly owned business associations (80 to 100 business associations) almost totally neglect the mapping of corruption risks and the establishment of controls suitable for managing risks. In general, it is true that only a small circle of business associations have put in place soft integrity controls.

Today in Hungary, the strengthening of organisational integrity primarily depends on the decision of the owners and/or management of business associations, i.e. on subjective factors. This situation could be changed by legislation that, similarly to budgetary institutions, required publicly owned business associations to put in place and operate an internal control system that also includes integrity controls. The drafting of such a piece of legislation has already been[13] ordered by a government decision. Until the adoption of this piece of legislation, the owners (those exercising the powers of the owner) and/or management of publicly owned business associations could do more to strengthen organisational integrity. Survey data show that the substantive operation of a supervisory board is a fundamental indicator. The most that management can do to strengthen integrity is creating an independent and high-level internal audit function. Data from best-performing business associations in the establishment of integrity controls show that business associations can stand out from the rest by establishing systemic risk analysis and risk management – including the analysis and management of corruption risks – and special controls of transparency, conflicts of interest and ethical conduct. The good examples can and should be followed.

Notes

[1] The analyses based on these surveys can be downloaded from SAO's website (https://www.asz.hu/en/publications/presentations-publications-in-chronological-order); the more interesting findings of individual surveys are presented in the following articles and studies: Szatmári et al. (2014), Pulay (2014), Domokos et al. (2016), Németh, Vargha (2017), Németh et al. (2018)

[2] Ivanyos, Pulay, Lovász, Lucza (2018)

[3] For further details, see Domokos (2015)

[4] Pulay, Ferencz, Marosi, Vida (2015)

[5] Németh and Vargha (2017) describe in detail the aspects and approaches taken into consideration in the integrity surveys of SAO with regard to the concept of corruption.

[6] Pulay, Ferencz, Marosi and Vida (2015), p. 45

[7] For further details, see Pulay, Ferencz, Marosi and Vida (2015), pp. 8–9

[8] See, for example, the definition used by the Information Systems Audit and Control Association: https://www.isaca.org/Pages/Glossary.aspx?tid=2011&char=C

[9] The SAINT Methodology is described in detail by Báger (2011)

[10] For further details, see Domokos et al. (2015)

[11] The concept of 'soft control' is described in detail by Pulay (2014)

[12] The survey identifies threats and not risks, as no probabilities can be assigned to the occurrence of threats! This is reflected by the names of the indices.

[13] Government Decree No. 1239/2017. (IV. 28.) on the adoption of a plan for actions related to the National Anti-Corruption Program for 2017–2018, Section 5.

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