

# Controllers' profession in contemporary organisations – Evidence from Hungary\*

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## Abstract

This paper describes an analysis of the profession of controller; this is a profession that has changed remarkably in the past few decades and that has features that distinguish it in many ways from other groups of experts within the organisation. The results of a questionnaire survey show that the involvement of controllers both in operational decision making and in strategy development and implementation is recognized by Hungarian top executives. At the same time, the traditional role of the controller as a data provider is very much alive and growing and the role of consultant is limited to injecting economic common sense. These limitations of the latter role can be partly traced back to the local managerial mentality in the CEE context.

*Keywords:* professional work, controllers' roles, involvement of controllers  
*JEL codes:* M19, M40

## Introduction

Rapid environmental and organisational changes within firms in the past few decades have led to a remarkable degree of change in the professional work undertaken in many areas within organisations. The shift in traditionally independent professions (such as lawyers and doctors) from self-employed status to employee status has limited the independence of professionals and eroded the core values of professional work (Derber, Schwartz, & Magrass, 1990). Because of this 'proletarianisation', the liberal professions are seen as the main losers of recent changes, while the winners of the restructuring of the division of labour among experts are knowledge workers who have a strongly analytical, global and non-substitutable knowledge base (Reed, 1996).

Accountants and management accountants – hereafter referred to as controllers – are typical knowledge workers who are traditionally more organisationally embedded than other professional groups (Suddaby, Gendron, & Lam, 2009). However, concerns about their embeddedness have increasingly been raised after the failures of companies which have been attributed to the lack of the professional independence of accountants and auditors, to accounting failures and to poor controlling practices. While independence remains the core professional value of accountants (Suddaby et al., 2009), more recently, numerous pieces of research

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have argued for a more involved role for controllers in contemporary organisations.

Earlier studies, mainly conducted in English-speaking and Western European (WE) countries, have delivered numerous, but partly contradictory, findings about the profession of controller and the new roles of controllers. Even if these results are taken as valid, it should be remembered that the post-transition countries of Central and Eastern Europe (CEE) have a shorter history of modern corporate governance and control (Dobák & Steger, 2003) and show some differences with respect to the development of control systems (Haldma & Lääts, 2002; Bodnár, Dankó, & Lázár, 2005; Rejc Buhovac & Zaman Groff, 2012). Consequently, the profession in the region may have become specialised (Aver & Cadez, 2009).

After recalling the recent debate on the professional work and involvement dilemma, the study is designed to contribute to creating a better understanding of the profession of controller in a post-transitional context. The main investigative topic of the paper is *how top executives perceive the involvement of controllers in post-transitional organizations in Hungary*. It is argued that *the involvement of controllers is similarly perceived both in operative decision making and in strategy development and implementation (H1) and the newly emerged involved role of controller does not replace but usually complements traditional roles (H2)*.

Drawing on the ideas and notions developed from sociological research into professional work and organizational research into controllers, a functionalist perspective is adopted. The expert group of controllers is portrayed through the perceptions of another expert group: 'organisational professionals', the managers. Role types are revealed using a questionnaire survey conducted in 2013 among 178 CEOs of Hungarian enterprises. Cases are clustered in order to identify typical groups of companies with respect to the function of their controllers. In order to enhance the validity of the survey research, the results of statistical analyses are complemented by interviews with top executives. The study concludes that the involvement of controllers in business is well established in many companies both at the strategic and operational level, but recent developments have broadened the traditional independent role of this professional group: a role that is typically not replaced but complemented by the involved role of consultant. The paper closes with the interpretation of the CEE context and presents the conclusions, limitations and suggestions for further research.

## Theoretical background

### *About the nature of professional work in organisational settings*

Papers about professional work frequently describe investigations into the autonomy of the professions within the organisational context, and the pressure for accountability and cost containment (Abernethy & Stoelwinder, 1995; Adler, Kwon, & Heckscher, 2007; Leicht & Fennel, 2008). There is a focus on the extent to which expert groups can work independently and still retain their professional orientation, and there is a related discussion about the extent to which the autonomy of such groups is endangered by pressures stemming from the hierarchy in which they work. In the case of traditional liberal professionals the standard setting involves the independent, paid-for delivery of a service. But numerous other professional groups, including controllers, are only infrequently able to independently deliver such services, so there is no clear standard with which to measure their autonomy (Leicht & Fennel, 1997).

It is the professional orientation of expert groups that motivates them to act independently and not to be influenced by any control mechanisms. Interestingly, however, there is one expert group, namely controllers, who are tasked with establishing and maintaining the formal mechanisms through which other groups are controlled. They are employed to enhance accountability and support the type of cost containment that is negatively valued in related research because of the proposition that a higher level of control leads to the deprofessionalisation of experts (Suddaby et al., 2009). While being controlled is experienced as a danger for professionals, the ability to control other expert groups is usually seen as an opportunity. As Leicht and Fennel (1997) have stated, the autonomy and responsibility of those professionals who are subject to control by cost containment initiatives is generally enhanced.

Besides questions about independence and control, the legitimacy of the professional work appears to be a key issue as well. Professional groups – specified as ‘internal logofirms’ (Derber et al., 1990) or as ‘mini societies’ (Järvenpää, 2009) – are part of larger hierarchies. Accordingly, their legitimacy is gained from the organisation as whole. To be more specific, legitimacy is mainly established by the internal clients of the professionals; in the case of controllers, this is managers at all levels.

### *Exploring the profession of controller*

Management control (MC) is understood as a managerial function through which managers aim to powerfully influence behaviours in the organisation (Anthony & Govindarajan, 2006). The job of controllers is to support managers in their management control activities, facilitated by formal systems. Consequent-

ly, both the content and the context of the professional work of controllers is heavily shaped by their internal clients, i.e. the managers of the organisation.

Investigating the content of controllers' professional work was the goal of the first stream of research into the role of controllers. Early studies typically identified the roles of controllers from the different tasks they perform (Mouritsen, 1996). This activity-based role concept is still commonly applied by functionalist researchers (Hartmann & Maas, 2011; Loo, Versteegen, & Swagerman, 2011), and is often supplemented by an investigation of the individual skills required by controllers (Byrne & Pierce, 2007; Marchant, 2013; Steinhübel, 2014).

Since the nurturing of management control research by organisational sociology, and especially after the seminal paper of Burns and Scapens (2000) was published, institutional theory has dominantly influenced research into this profession. The research focus has moved from content towards the context of the profession. As its foundational base, institutional research sees role as an institution, an abstract structure, and a coherent symbolic code that guides, edits and informs concrete actions and practice (the use of code) (Weber & Glynn, 2006). Depending on the views of researchers, these papers tend to adopt a subjectivist-objectivist line (Ahrens, 2008). The subject of more objectivist institutional research is how the repetitive patterns and common understandings of actors develop a collective consensus around the appropriate goals and activities that are associated with a position (Scott, 2013). According to this view, role is a normative phenomenon, has an influence on individuals, and is investigated in its organisational and social context. This approach to roles can explain how they influence individuals but is unsuitable for theorising the reverse process, i.e. the proposal that actors can have an influence on institutions as well.

The more subjectivist-oriented institutionalists are actor-focused and are interested in how roles as institutions change (Goretzki, Strauss, & Weber, 2013). This is different from the classic functionalist role model that assumes that individuals accept a priori given roles and follow organisational norms in order to obtain positive feedback, but that they do not aim to modify or change them. This study follows a more functionalist approach in trying to capture the role sets of professional work, instead of focusing on the efforts that go into changing these constructions.

The role sets of controllers are usually interpreted as a spectrum of possible role types where the role types are not unambiguously delineated. Following from this spectrum approach, the current literature investigates the two poles of this spectrum and dominantly reports about the duality. At one extreme, the more traditional roles of controllers are usually interpreted as functionally (accounting) oriented. This functional responsibility is related to fair and objective reporting about the economic situation of the unit or company (Maas & Matějka, 2009). The more traditional, so-called functionally (accounting) oriented role is

variously denoted as ‘book-keeper’ (Hopper, 1980), ‘bean counter’ (Friedman & Lyne, 2001), ‘watchdog’ (Granlund & Lukka, 1998), ‘score-keeper’ (Loo et al., 2011) or ‘corporate policeman’ (Hartmann & Maas, 2011).

Located at the other extreme of the role spectrum, a business orientation is required that is about providing relevant information to managers for use in decision making (Hopper, 1980). The more management / business-oriented role is denoted as ‘service-aid’ (Hopper, 1980), ‘business advocate’ (Jablonsky, Keating, & Heian, 1993) and, most often, ‘business partner’ (Granlund & Lukka, 1998; Hartmann & Maas, 2011; Järvenpää, 2007).

If the required information is not provided ‘from the sidelines’, controllers are able to become business partners in their relationship to managers (Quinn, 2014). Pierce and O’Dea found that the partnership approach means the “*relaxation of functional boundaries in both directions, as well as management accountants becoming more involved in functional areas*” (Pierce & O’Dea, 2003, p. 279). Involvement seems to be common to the contemporary definitions of business orientation that were analysed by Sathe (1983), who was among the first authors to investigate this topic. This author claimed that both the independence of this expert group (as manifested in internal control tasks) and the involvement (as manifested in active involvement in managerial business decision making) are both desirable. Strong controllers are successfully engaged in both of these activities.

It is increasingly reported that a shift is taking place from a primarily functional role for controllers toward more involved roles, which suggests that they are becoming business partners. Researchers who argue for role change have identified several drivers that are having a huge impact on controllers’ roles. Several external factors have impacted the professional work of controllers, such as high environmental uncertainty (Burns, Ezzamel, & Scapens, 1999; Baines & Langfield-Smith, 2003; Emsley, 2005; Byrne & Pierce, 2007) and changes in laws and regulations (Loo et al., 2011). Numerous internal influencing factors have been identified as well, such as the implementation of new management information systems (Granlund & Malmi, 2002; Scapens & Jazayeri, 2003), budgetary systems (Hartmann & Maas, 2011) and the application of new management accounting techniques (Yazdifar, Zaman, Tsamenyi, & Askarany, 2008).

### *Hypothesis development*

The typical point of reference of the above mentioned role studies is self-perception. Although the self-image of controllers is very important, evidence suggests that there is a significant gap between the perceptions of managers and controllers about the profession of controller, especially concerning whether controllers fulfil a business-orientated role (Pierce & O’Dea, 2003; Byrne & Pierce, 2007).

In order to avoid the problem of self-evaluation, this paper reports from a client perspective: namely, the perspective of the top executive within an organisation (the CEO). Taking the CEO's perception as the point of reference is justified not only by failures with self-perception. Managers, the internal customers of controllers' professional services, are authorised to involve functional staff such as controllers in business processes (Lambert & Sponem, 2012). Among all the managers, CEOs are seen to be the most influential, opinion-leading executives.

The role of controller is understood and investigated here not as the role occupied by the individual, but rather that of the professional group. Correspondingly, the unit of analysis is not the individual controller, but a department or group of them. Derived from the literature, roles are interpreted as the extent to which controllers are involved in business. The paper addresses the research question of *how top executives perceive the involvement of controllers in contemporary organisations in a post-transitional context?*

Despite the extensive literature that deals with role change, there is little empirical evidence that fundamental shifts are occurring toward the higher involvement of controllers in business (Burns & Baldvinsdottir, 2005). A rather static picture is painted by several studies that suggest that, with regard to the functionally-oriented role, "*scorekeeping and other internally oriented activities still form a major part of much of the daily work of management accountants*" (Loo et al., 2011, p. 302). At the same time, a significant involvement of controllers in strategic management processes was already evidenced in the Slovenian context (Aver & Cadez, 2009). It is argued here that the involvement of controllers in business is noticeably experienced in contemporary organisations and it relates to both daily and strategic decision-making processes.

*(H1) The involvement of controllers is similarly perceived both in operational decision making and in strategy development and implementation.*

The literature is ambiguous, not only about the significance of the diverse roles, but also about how these different roles relate to each other. It is unclear whether there is a trade-off between a functional orientation and a business orientation, or whether the two roles might be complementary. 30 years ago, Sathe (1983) predicted the spread of 'strong controllers' who would be active both in traditional control roles and also have advisory responsibilities. This proposition is underpinned by the latter concept of 'hybrid' controllers (Burns & Baldvinsdottir, 2005). At the same time, Granlund and Lukka (1998) concluded in an ethnographic study that the task of controllers tasks had a twofold nature, and found it difficult to believe that controllers could be involved, business-oriented consultants and independent local guardians at the same time. They claimed that the two roles were not complementary and could not be fulfilled by a single individ-

ual. Similarly, De Loo et al. (2011) reported that controllers either operate as “reporting business analysts” or “business system analysts”.

Reflecting on the contradictory findings from the discussion about the complementarity of roles, and drawing on the Sathe’s idea of strong controllers (1983), the concept of role maturity is introduced. Role maturity means that performing well in traditional independent activities is a prerequisite for being successful in proposal making and more involved roles; i.e. that controllers will not be involved in business if they are weak at data provision and analysis. Addressing the concept of role maturity, it is hypothesised that:

*(H2) The involved role of controllers complements their traditional roles, as perceived by top executives.*

## Research method

The cross-sectional survey was conducted as part of the ‘Competing the World’ research program originally launched by the Corvinus University of Budapest in 1996. This research paper is built from the last survey conducted in 2013 (Chikán, Czakó, & Wimmer, 2014). As Diamond (2000) has claimed, a survey should ideally focus on one specific research objective. The questionnaire used here was part of a larger research project and necessarily served multiple research purposes. At the same time, this research work used only a limited set of questions and variables from the questionnaire, with these questions being newly designed and added to the survey with this specific research objective in mind.

In pre-existing functionalist research, roles have typically been deduced from the different tasks controllers perform. The findings of these studies usually offer a set of roles ranging from number provision, through analysis and suggestion making to business partnering (see, for example, Byrne & Pierce, 2007, de Loo et al. 2011, or Quinn, 2014). This represents a continuum from the traditional roles toward more involved roles as discussed earlier in the conceptual framework.

To support the operationalisation of the underlying construct and mitigate threats from measurement errors, these possible levels of the contribution of controllers, which are well-established in the MC research, were employed as measurement tools. To be able to answer the first research question, the contribution of controllers was measured separately for daily operations (4 variables) and for strategy development and implementation (5 variables). The variables show high internal reliability (Chronbach’s Alphas 0.84 and 0.92).

The self-administered questionnaire was addressed to the top executives of Hungary-based enterprises registered in the database of the Hungarian Statistical Of-

fic. Of the 300 completed questionnaires, 178 were suitable for use in this research effort. 84.8% of the companies were medium-sized and 15.2% were large companies in terms of the number of employees. The sample had a focus on processing industries (45.5%); the remaining sectors were less well represented: wholesale and trade (22.5%), transportation and logistics services (7.9%), construction (6.7%), agriculture (6.7%) and others (10.7%).

The study characterises the role of controllers based on the judgement of the top executives. Although the self-reporting of the CEOs is necessarily subjective, the subjective beliefs represent reality in the eyes of the respondent (Link & Oldendick, 2000). Confidentiality promises made to all respondents should have encouraged truthful self-reporting.

Response errors – respondents responding inaccurately – were minimised by pre-testing the survey. The pilot version of the questionnaire was filled out by test companies to ensure that the phrasing was easy to interpret by practitioners and therefore would not lead to any distortion of responses. After pretesting, the final survey was administered between May and November 2013.

Non-response errors may have two forms. On the one hand, they occur when questions of interest are not answered, and non-responses cause a decrease in the effective sample size. Missing value analysis by case indicated a non-random pattern for the missing values. Two reasons for this can be identified: respondent fatigue towards the end of the questionnaire, and the concentration of missing values in a specific set of questions. Unfortunately, questions related to controllers' roles were located at the very end of the questionnaire. In some cases, respondents simply failed to complete the entire questionnaire. In other cases, respondents might have had no opinion because they felt the questions to be irrelevant to their organisation. It was mainly respondents from medium-sized companies with typically insignificant management control activities who opted not to answer these questions.

On the other hand, non-response errors can occur when companies refuse to take part in the survey. Unfortunately, the features and reasons for companies to refuse to participate are unknown, therefore this self-selection bias remains a risk to the validity. Method triangulation has been used to compensate for problems arising from non-response errors. Drawing on the idea of method triangulation, the results of the statistical analysis were discussed with ten top executives. Examination of qualitative evidence such as additional interviews does not change the validity of the survey per se, but can enhance the internal validity of the whole research project (Modell, 2005). Individual interviews lasting 40-90 minutes were conducted in spring 2016 to help interpret the role types that were identified and corroborate the results of statistical analyses.



## Results

The key concept in the organisational roles of controllers is their level of contribution, measured by executive self-reporting. Executives were asked about the level of support by controllers in the managerial decision-making process (4 variables – v 103 a, v 103 b, v 103 c, v 103 d), and the level of support provided by controllers for strategy formulation and execution (5 variables – v 104 a, v 104 b, v 104 c, v 104 d, v 104 e). All variables were measured using a Likert scale, a five-point semantic differential scale consisting of ordered responses ranging from 1 (not at all characteristic) to 5 (very characteristic). Likert scale measurement typically involves systematic errors which arise from the internal biases of respondents towards uniformly consistent (better/worse) grading. A data transformation method, ‘centring across the second mode’, reduces this systematic error of Likert-scale measurement. Centring across the second mode means subtracting the row average from each element in a row (Bro & Smilde, 2003). An average value for each respondent is calculated for one set of variables, and then the average is subtracted from each corresponding variable. A positive mean value of a centred variable shows that the given variable was supported at above-average strength. Negative mean values indicate weaker-than-average support for the variable.

**Table 1: Mean values of centred variables measuring controllers’ roles**

The controller...	Variable code	Mean of the centred variable
collects and provides cost and income data.	V103a	,3386
analyses the data and provides explanation.	V103b	,0181
gives proposals for enhancing corporate performance.	V103c	-,1847
is the consulting partner of managers in the decision making.	V103d	-,3069
provides fact data as an input of strategy development.	V104a	,3662
analyses the feasibility and the financing needs of the strategy.	V104b	,0126
measures the fulfilment of strategic goals.	V104c	-,0095
warns in case of deviation from the target values.	V104d	-,0040
gives proposal for strategy reviews.	V104e	-,2360

Two of the nine linearly transformed role variables (v 103 a and v 104 a, see Table 1) with positive mean values have above-average levels of support, meaning that top executives see these traditional activities as still being very much alive in their companies: the controller collects and provides accurate and reliable data for use in day-to-day decision making and for strategy development. Variables with a mean value close to zero (v 103 b, v 104 b, v 104 c, v 104 d) indicate a broader set of activities such as provision of analyses, explanations and warnings in case of deviations. Variables with negative mean values (v 103 c, v 103 d,

v 104 e) indicate the less typical functions of controllers: the controller less typically participates in the decision making through their proposals and consults managers during the decision making process.

Without making any a priori assumptions about the patterns of measured variables, exploratory factor analysis helped with understanding the structure of the variables and identifying groups of variables which form a latent dimension. A correlation matrix was developed and used as an input for Principal Component Analysis (PCA). PCA was run for the 9 variables with Varimax rotation.

**Table 2: Rotated component matrix of variables measuring controllers' roles**

<b>Variable code</b>	<b>Factor 1</b>	<b>Factor 2</b>
V103a	<b>-,731</b>	-,296
V103b	-,050	<b>-,487</b>
V103c	<b>,707</b>	-,236
V103d	<b>,653</b>	-,394
V104a	<b>-,828</b>	-,055
V104b	-,011	<b>,146</b>
V104c	-,316	<b>,584</b>
V104d	,249	<b>,693</b>
V104e	<b>,604</b>	,412

Two factors with an eigenvalue over 1 were extracted out of the nine role variables. Factor loadings in Table 2 – showing the correlation coefficients between a component and a variable – reveal the ‘bipolar’ nature of factors which are both significantly positive and negatively loaded. This means that factors are strongly positively correlated to some of the original variables, but strongly negatively correlated to others, implying the existence of opposition between the variables that belong to the same factor.

Factor 1 is strongly correlated with variables related to data provision (v 103 a, v 104 a), and, with a reverse sign, to variables related to proposal making and consulting (v 103 c, v 103 d, v 104 e).

This first explanatory factor underlying these opposing variables can be interpreted as the level of involvement in the business (Dimension 1). Variables with negative factor loadings represent a low level of involvement (data provision), while variables with positive factor loadings represent high involvement in the business (proposal making and consulting). Variables that explain the variability of the factor do not move in the same way. On the one hand, this unambiguously confutes the concept of role maturity assuming that involved roles complement traditional roles. On the other hand, it shows that involvement in daily opera-

tions and strategic processes is not perceived differently. Data provision for strategy development and data provision in daily operations are both strongly negatively correlated with Factor 1, while proposal making and consulting in daily operations and proposal making in strategic processes are both strongly positively correlated with Factor 1.

Variables related to measurement and data analysis (v 103 b, 104 b, v 104 c, v 104 d) are correlated more strongly with Factor 2 wherein the operational or strategic nature of controllers’ work is appraised differently. Factor 2 again has a bipolar nature, as recognition of the role of data analysis in day-to-day operations (v 103 b) stands in opposition to recognition of measurement and analysis that supports strategic processes (104 b, v 104 c, v 104 d). The factor common to the opposing roles is the level of analysis (Dimension 2).

By separating out the two bipolar factors, the results of the PCA suggest the existence of four role types. Variables with high loadings for each factor with the same sign (see Table 2) were merged into one group. Figure 1 shows the four groups of variables, representing the role types. Each of the four role types in Figure 1 was interpreted according to the content of the underlying variables.

**Figure 1: Controllers’ role types based on PCA**

<b>Dimension 1: Level of involvement</b>	<p style="text-align: center;"><b>Data Provider</b></p> <ul style="list-style-type: none"> <li>▪ provides numerical data: they collect and provide cost and income data (v103a)</li> <li>▪ ensures provision of data as an input for strategy development (v104a)</li> </ul> <p style="text-align: center;"><b>F7_1N_DataProv</b></p>	<p style="text-align: center;"><b>Consultant</b></p> <ul style="list-style-type: none"> <li>▪ gives proposals for enhancing corporate performance (v103c)</li> <li>▪ takes part in the decision making as a consulting partner of managers (v103d)</li> <li>▪ gives proposal about strategy reviews (v104e)</li> </ul> <p style="text-align: center;"><b>F7_1P_CoInvolv</b></p>
	<b>Dimension 2: Level of analysis</b>	<p style="text-align: center;"><b>F7_2N_DataAnal</b></p> <ul style="list-style-type: none"> <li>▪ analyses the data and provides explanations (v103b)</li> </ul> <p style="text-align: center;"><b>Data Analyst</b></p>

The Data Provider role is negatively associated with Factor 1, representing a low level of involvement: controllers who are engaged in this activity collect and provide data ‘from the sidelines’; they are not deeply involved in strategy-related business activities. The role of Consultant relates to proposal making and partnering in decision making. Controllers as consultants are perceived more as

involved partners who actively make proposals about how to enhance performance and contribute to strategy reviews.

With respect to Factor 2, the role of Data Analyst is associated with only a single variable: the analysis of data and provision of explanations, with a focus on day-to-day operations. This role can be contrasted with the role of Strategy Guard which denotes the role of an individual who appraises the fulfilment of strategic goals and provides a warning in case of any deviation. While a data analyst deals with operational issues, a strategy guard focuses on the feedback related to strategic goals.

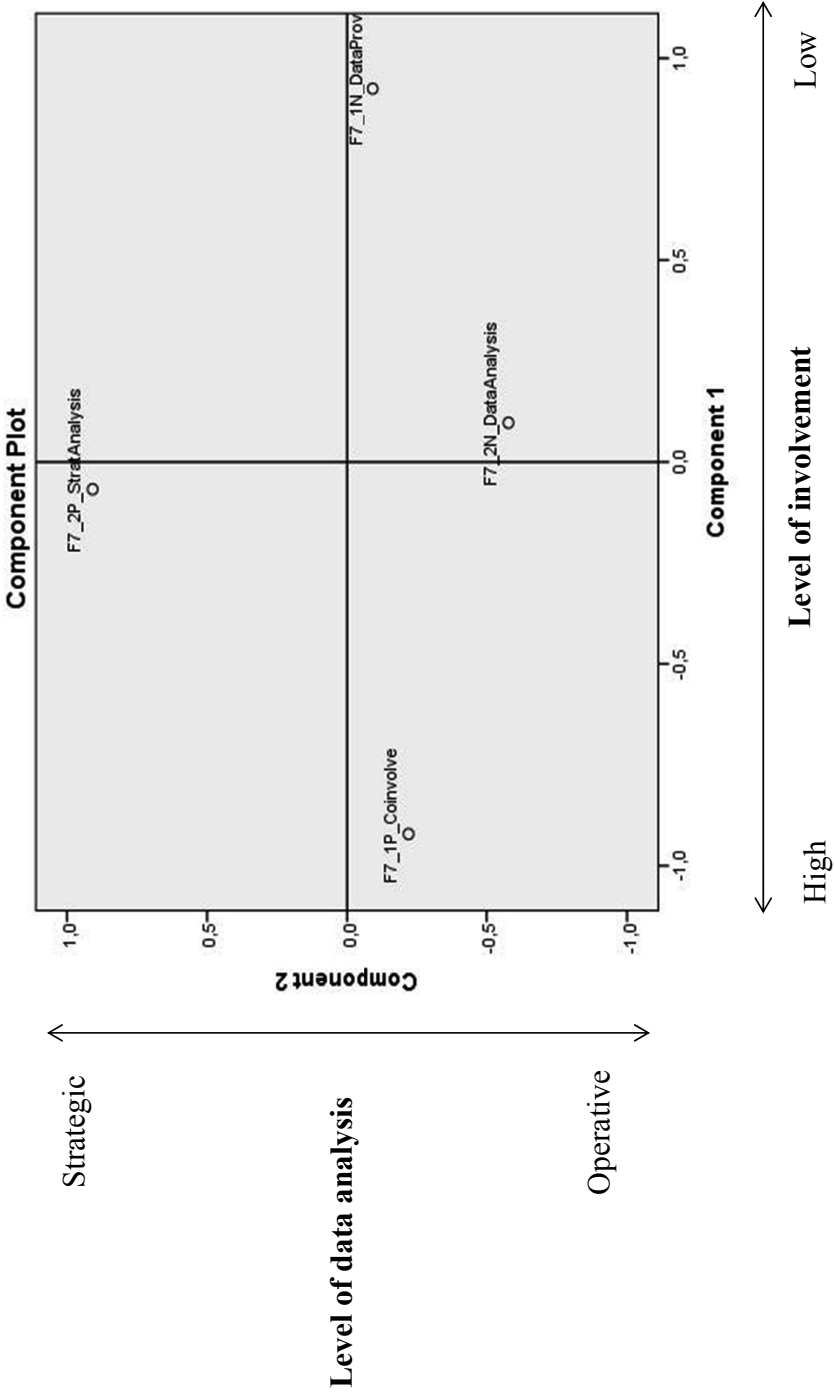
Factor 1 – interpreted as the level of involvement – provides evidence that *controllers' involvement in operational decision making is not perceived differently to their involvement in strategy development and implementation (H1)*. The data provider and consultant roles are not distinguished based on their strategic or operational relatedness but based on the level of involvement in business. At the same time, *factor 2 revealed that the strategic or operational nature of controllers' work is an important feature when it comes to data analysis*.

New role variables representing the four role types were calculated using the weighted average of the nine variables. Weights were determined by the absolute values of factor loadings, as listed in Table 2. Using factor loadings as weights means that the original variables affect the new latent role variables with a range of intensity. As the factor loading of the variable v104b is very low in absolute terms, it influences the latent variable less significantly. Consequently, the role of strategy guard should be interpreted as the measuring of strategic goals and giving warnings about deviations, and it is less about having a focus on analysing financing needs and the feasibility of strategy.

The new role variables of the data provider role (F7\_1N\_DataProv) and the consultant role (F7\_1P\_CoInvolve) are naturally negatively correlated ( $\rho = -0.714$ , significant at the 0.01 level) as they were calculated from opposing variables; the same finding holds true for the roles of analyst (F7\_2N\_DataAnalysis) and strategy guard (F7\_2P\_StratAnalysis) ( $\rho = -0.21$ , significant at the 0.01 level).

Figure 2 shows how the newly calculated role variables are spread across a two-dimensional space. The orthogonality of dimensions implies that they are independent from each other; the level of involvement and the level of analysis are different components of the profession of controller. Therefore, no significant correlation can be detected between the roles of data analyst and data provider, or between consultant and strategy guard.

Figure 2: Spread of the calculated role-variables in a two-dimensional space



This latent structure of role variables in the total sample does not mean that two or more role types may not be present at the same time in a company. The question still remains of what are the typical roles acted out by controllers in a company and whether *the involved role of consultant replaces or complements the traditional roles of a controller or not (H2)*. In order to highlight typical types of cases, a cluster solution was developed by incorporating the original nine variables.

Non-hierarchical k-means clustering with randomly defined cluster seeds was employed so as to avoid the undesirable early combination of cases that would lead to suboptimal results that may occur with hierarchical methods (Hair, Black, Babin, & Anderson, 2014). An F-test proved the importance of each of the nine variables in the cluster solution. The adequacy of 4 clusters was verified using the calculated cluster elbow method, as the increase in the explained variance decreases after k=4. Clusters were profiled and interpreted based on the final cluster centres, as displayed in Table 3. Variables in the table are standardised variables with a mean of 0 for the total sample.

**Table 3: Final cluster centres**

<b>Final Cluster Centers</b>				
	Cluster			
	1	2	3	4
Zv103a	,58012	-1,71525	-,23444	,52921
Zv103b	,84258	-1,62298	-,07950	-,29789
Zv103c	,83889	-1,34630	,19804	-1,09554
Zv103d	,84902	-1,21486	,13502	-1,01928
Zv104a	,73716	-1,72501	-,31079	,42815
Zv104b	,80376	-1,63897	,03571	-,46352
Zv104c	,85006	-1,73972	-,13720	-,13720
Zv104d	,94636	-1,53832	-,06555	-,62210
Zv104e	,93259	-1,42553	,06287	-,92765

<b>Number of cases</b>	62	23	62	31
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The top executives of companies in Cluster 2 (23 cases; 12.9%) basically do not perceive that controllers are engaged in meaningful activities at all (the lowest values among all clusters are reported here for all variables) – even the data provision function is reported to be absent. The fact that controllers are perceived to be making no contribution does not necessarily indicate that there is a total ab-

sence of formal management control at these companies. In contrast to Cluster 2, Cluster 1 companies (62 cases, 34.8%) reported that all roles were very characteristic. This means that executives perceive controllers as being involved in decision making and strategy, and they also see data provision and analysis as a very important component of controllers' work. *In cluster 1, the involved role of controllers complements the traditional roles, and does not replace them.*

Both Cluster 1 companies (34.8%) and cluster 4 companies (17.4%) award high relevance to the functions of data collection and provision (high values for  $v_{103a}$ ,  $v_{104a}$ ). It should be noted that in the case of the cluster solution where  $k=3$ , Cluster 2 and 3 companies are merged into one cluster, but separating them into two groups is very meaningful. The difference between the two clusters lies in how the CEOs perceive controllers' contributions in other ways. Cluster 4 companies are 'old-fashioned' organisations whose controllers collect and provide data to managers and who are perceived to be moderately engaged in data analysis, but such individuals do not make proposals and are not actively involved in strategic business decisions. *In cluster 4, the involved role of controllers neither replaces nor complements traditional roles because it is missing.*

Probably the most interesting group of companies is described by Cluster 3 (34.8%). Data provision is rated as below average, while the more involved roles are rated as somewhat above average. This means controllers are involved in business to a certain extent, although they are not perceived to be fully engaged in data provision and analytical activities. Again, this provides evidence that the concept of role maturity cannot be applied to controllers. Being involved does not require good performance in activities related to other roles, according to the perceptions of CEOs. *In cluster 3, the involved role of controllers seems to replace traditional roles, as traditional data provision is weak.*

In order to help understand the nature of the identified roles and overcome the replacement-complement dilemma addressed in H2, executive interviews were designed subsequent to the statistical analysis.

There is no doubt that the essence of the data provider role is supplying numbers. One of the executives expressed his expectations in this regard as follows: *"I expect that everything that can be measured should be measured. What cannot be measured should be made measurable."* While expected to provide the numbers, controllers are not expected to generate data; they are located at the end of this data-creation process. Nevertheless, because of their role in improving data quality, data cleaning is in their interest. This process is how the regulation of data entry and system usage processes becomes a self-imposed part of controllers' work, broadening their roles as data providers. This process-regulating role is seen by the executives as an inherent part of the work of controllers. *"It should not be the case that everybody opens projects and ordernumbers willy-nilly. This is why controllers should have their hands on this process."*

In the opinion of executives, the essence of controllers as consultants involves 'thinking together'. Thinking together starts with raising questions and drawing attention to specific issues. The controller alerts and gives signals about budget overruns and brings individuals to book, although the real power to intervene remains with the managers of the business units. *"My controller approaches me if we exceed the budget. But this problem can be solved only with the plant manager."* *"I do not expect them to solve problems for us."*

A further task of controllers related to thinking together is enforcing company-level economic concerns, as the controller can bring economic-related considerations to the table for discussion. For this, a minimum level of knowledge about business processes is required. Having knowledge about business processes which overlap several units means that controllers may be able to clearly see relationships and correspondences, while not being deeply engaged in any specific areas of business. This combination of business knowledge and relative independence makes it possible for them to become trustworthy consultants to executives. Accordingly, the consultant role can be interpreted as acting as an impartial, unconcerned arbitrator.

While this proposal-making role requires a certain level of knowledge about the core business, the absence of this knowledge leaves controllers in the role of uninvolved data provider. *"Our finance staff are a little bit distant from real processes. Not only geographically, but in their minds and ways of thinking... this is why I push colleagues to visit our plant in the country. They should have at least a rough picture about the work that happens there..."*

According to the concept of role maturity, a controller may play the role of consultant if they are mature in their traditional role and perform well in terms of data provision. However, the statistical results contradict the concept of role maturity. Executives from Cluster 3 consult controllers even if they are poor at data provision. The involved role of controllers seems to replace traditional roles in these companies. With respect to size and ownership variables, Cluster 3 companies do not significantly differ from other cases in the sample. Yet why do the leaders of these companies report that their controllers behave contrary to expectations? One potential explanation is that the controllers' role as data provider is simply not visible to top executives. The data-providing role of controllers may be thought to have been partly abolished by the use of IT systems: *"Because we have a system for that."* Executives may perceive that data is being provided by well-established IT systems and that such data can be accessed by anybody who has the authority. But this kind of capability involves a professional staff of data handlers and is far more common in the case of big companies.

Interestingly, in the case of smaller organizations the absence or shortcomings of supporting systems can place more emphasis on the proposal-maker role. In this case, the role of data provider is not fulfilled by other actors or systems. It may



not be perceived because it is weak. Because the MCS is rudimentary, a controller cannot be strong in their role as a provider of data. However, executives may still rely on the knowledge of the controller, perhaps even because of the absence of easily accessible data. This shifts the controller into the role of consultant, although their responsibility for data provision is limited. Consequently, the involved role does not replace traditional roles: traditional roles are not yet well established in these companies. At the same time, *in organisations with well-established traditional controllers' functions the emergence of involved roles does not eliminate the data provider role; this claim supports H2.*

## Discussion and conclusions

This research has investigated the nature of controllers' roles and provided evidence that the professional role of controllers can be interpreted using at least two different dimensions, level of involvement and level of analysis, which are two orthogonal (independent) components of controllers' roles. While the level of involvement refers to the classical typology of controllers as data providers or proposal makers (consultants), the level of analysis refers to the analytical component: either their strategic or operational function.

*It was shown that controllers' involvement in operational decision making is perceived similarly to their involvement in strategy development and implementation.* At the same time this more involved consulting role of controllers was found to be limited. The real fields of consultancy offered by controllers are narrower than usually claimed; controllers are not expected to come up with their own answers to questions that arise about operational or strategic issues, but are mainly expected to represent the economic common-sense perspective from a position of relative neutrality.

While this finding is in line with prior WE research showing that the involved role of controllers creates a shift in intra-organisational power relations but does not directly relate to solving business-related problems (Windeck, Weber, & Strauss, 2013; Wolf, Weißenberger, Wehner, & Kabst, 2015), the limitations of the involved role can be traced back to some aspects of the local managerial mentality. The lack of trust, a vital resource that is missing in post-transitional societies (Sztompka, 1995), the absence of team orientation and the reluctance to share information (Danis, 2003) all work against a higher level of controllers' involvement.

This managerial mentality stems from the behavioural heritage that is influenced by both the Hungarian national culture and the legacies of the previous socialist system. Danis (2003) argues that the systemic legacies of the region are the primary explanation for most differences, rather than other cultural explanations. Under the socialist system, managers were expected to implement centrally planned directives, and information was tightly controlled and often manipulat-

ed, resulting in a highly autocratic and top-down decision making. It is a longer process to adapt to the new circumstances, internalise new values of team orientation, establish trust and change actual behaviour. That is why there are still differences compared to well established market economies with longer traditions, despite the fact that the post-socialist transition in CEE has effectively ended (Dragomirescu, 2012).

It should be noted that ongoing adaptation to the changing context is not exclusive to the CEE countries. The recent process of globalisation has induced major changes in all advanced countries (Michailova & Liuhto, 2001). "*Transformation, thus, is not a process restricted to transition societies, but is a constant challenge for all countries and enterprises anywhere in the world that try to keep up with globalization*" (Mikl-Horke, 2004, p. 102). Similarly, the financial crisis in 2008-2009 had an effect on both WE and CEE countries, requiring management under hyper-turbulence conditions (Dragomirescu, 2012). The difference is that the post-transition economies had to cope with even more shocks during the past few decades. After the transition from the planned economy to a market-based one in the 90s, the enterprises of the region experienced a new wave of high uncertainty during the accession of their countries to the EU (Balaton, 2005). This special context forced Hungarian managers to cope with ongoing challenges, which is reflected in a high level of uncertainty and a simultaneous desire for a higher level of structure (Bakacsi, 2014).

In order to establish a higher level of structure in a turbulent environment, managers need to be in control (instead of being out of control), which can be facilitated by a well-developed formal control system and a broad scope of data made available for them. While the disappearance of controllers' traditional role as providers of data has often been claimed previously, this study indicates that the role is alive in Hungarian companies. This is still the most widely perceived role of controllers, and, more importantly, it is broader than ever. The broad adoption of IT solutions removes various data-related burdens from the work of controllers but does not imply that their role as providers of data has vanished. MCS embedded in IT systems generate new types of work for data-providing controllers. In order to create data reliability, controllers become process regulators.

Controllers who perform well with data provision may 'move forward' and engage more deeply in analytical processes and proposal making, i.e. new involved roles complement traditional roles. This assumption of role-maturity is valid for many companies, but statistical analysis revealed a group of cases in which the proposal maker and consultant roles of controllers appear to have no antecedents. While some explanatory factors have already been revealed about why and how *more involved roles can emerge without controllers acting out traditional roles (in the perceptions of top executives), more typically involved roles complement more traditional roles.*

In the literature, researchers are preoccupied with investigating pre-existing systems and structures (Choudhury, 1988). So are MC researchers, who focus on the presence of control, while less attention is directed to situations in which the profession is absent. However, organisational absences can be also informative. Cluster 2 companies represent ‘organisational absences’: their executives report that they are controller-less. Controllers are a new professional group, which appeared in Hungarian companies after the transition. How controllers can function in an organization and how they can support business had to be newly learnt by the local executives. Observation of foreign business partners or owners and imitation of their practices was the way of learning. At the same time, the introduction of “Western styles of management” often encounters difficulties that can be derived from the above discussed behavioural heritage (Mikl-Horke, 2004).

The absence of controllers in the investigated companies may be either ‘pathological’ (a result of managerial failure to adopt), or deliberate (a result of conscious decision-making). Both pathological and deliberate absences may be explained in several ways (Taipaleenmäki, 2014). The existence of Cluster 2 companies can be rationalised by a need-based pathological non-presence, by a possibility-based non-presence, or by an absence due to trust or constructive ambivalence. Need-based non-presence means that a CEO does not feel that employing a controller is necessary because of the smaller size and lower complexity of their company. Even if CEOs feel that having a controller is important, economic and functional factors (such as relative costs or a lack of knowledge in the organisation) may hinder the employment of a controller (possibility-based non-presence).

As a counterpart to Cluster 2 companies, Cluster 1 companies reported high values for all role-related variables. Cluster 1 company executives place a strong emphasis on all roles. The controllers in this cluster are rationalised by Sathe (1983) as strong controllers, and as ‘hybrid’ controllers by Burns and Baldvinsdottir (2005): they are involved both in control-oriented and in business-support-oriented types of activities requiring managerial logic. Cluster 1 indicates that these two types of roles can happily coexist in an organisation and complement each other.

With respect to the accounting profession, Suddaby et al. (2009) claim that professionals who work in an employing organisation are more likely to adopt a managerial logic than those who work in a professional organisation, and are liable to espouse a higher level of commitment to their profession. A professional orientation is valued positively and may encounter managerial logic and commitment. It is argued here that, in the case of controllers, having a professional orientation is not necessarily opposed to managerial logic. Rather, the professional work of controllers involves a certain level of managerial thinking that makes it possible for them to become involved in the work of ‘organisational

professionals'- or managers. Consequently, more emphasis on the involvement of controllers should not be seen as the 'deprofessionalisation' of the profession.

The idea of controllers' involvement can be rationalised using Leicht and Fennel's (2008) claim that the gap between 'professionalism' and 'managerialism' is narrowing. This claim may be especially valid for the special expert group of controllers who set up and operate control environments through which managers are able to control other professionals. The consultant role of controllers is limited; they still retain a certain level of independence as arbitrators. Consequently, more emphasis on a business orientation does not endanger the core values of the profession, but rather establishes a new norm, at least at some organisations.

While evaluating the findings, the limitations of the research should also be considered. Firstly, the survey was conducted among Hungarian companies with a strong focus on medium-sized processing firms. At the same time, the results presented cannot be generalised to new technology-based (high-tech) companies and countries with different development paths for the profession. Secondly, the research focused exclusively on the perceptions of CEOs. The perceptions of a more diverse set of managers might strongly differ, even within the same company (Bodlaj, 2012). Thirdly, the study does not explicitly consider the factors that influence controllers' roles.

Future research can extend this work along several dimensions. A longitudinal case study may be able to add further insights about the dynamic of professional roles. By analysing the underlying management control systems, the emergence of role types could be explained by and connected to the features of a formal MCS and/or behavioural features.

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