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**WESTERN MANAGEMENT ACCOUNTING AND CONTROLS
IN RUSSIAN FIRMS: AN ANALYSIS OF THE EXTENT OF THE
USE AND ITS INFLUENCES**



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Western Management Accounting and Controls in Russian Firms: An Analysis of the Extent of the Use and Its Influences

Abstract

Since the collapse of the Soviet Union in Russia has undergone fundamental political and structural changes. In this paper, we investigate the extent to which Russian firms use Western management accounting and control systems (MACS) at two different points of time to see the possible diffusion of Western MACS. In contrast to focusing on the diffusion of specific MACS techniques (e.g. Innes and Mitchell 1995, Malmi 1999), Russia as a European market economy with enormous potential provides a unique setting for studying the diffusion of the whole range of Western MACS in transitional circumstances. In addition, our study contributes to very limited or even non-existent literature on management accounting in Russia. Our results are based on two questionnaires to samples of 100 Russian firms conducted at the interval of two years. The results show that the use of MACS is not as widespread in Russia as it is in other Western countries, but that especially the use of formal controls such as standard costing and development of production techniques may be gaining importance as the business environment is getting more stable.

Key words: Management accounting systems, management control systems, Russia

1 Introduction

There is a significant body of literature exploring the diffusion and influences on the use of Western management accounting and control systems (MACS) in emerging countries (e.g. Anderson and Lanen 1999, Firth 1996, Luther and Longden 2001, O'Connor et al. 2004, O'Connor et al. 2006). While these studies report that e.g. foreign influence and increased market-orientation drive the use of MACS in emerging countries, they are conducted either in state-owned enterprises of command economies such as China (Firth 1996, O'Connor et al. 2004, O'Connor et al. 2006) or in other non-Western environments or smaller countries, the importance of which to the world economy are not that high (Anderson and Lanen 1999, Haldma and Lääts 2002, Luther and Longden 2001). In contrast, Russia is a European market economy, which is a significant player in the world economy due to its massive size. Since the collapse of the Soviet Union the change development of the business environment in Russia has been fast. Therefore, in contrast to studying the diffusion of a particular accounting and control innovation (e.g. activity-based costing in Innes and Mitchell 1995, Malmi 1999), Russia provides an interesting setting for studying the diffusion of the whole range of Western MACS in private firms.

In this paper, we investigate the extent of the use of Western MACS among Russian firms at two points of time at the interval of two years. Therefore, we also contribute to earlier literature by providing evidence on the extent of the use of Western MACS in Russia. Even though Russia is an increasingly important emerging country for Western firms, to our knowledge, there are no published papers reporting the extent of the use of MACS in Russia. This is surprising not only because the importance of Russian economy but also because there is a large body of literature exploring the extent to which Western MACS are adopted in other emerging countries as presented above. The few published studies on Russia focus on financial accounting such as accounting standards, education, legislation and auditing (e.g. Bailey 1995, Smirnova et al. 1995, Sucher and Bychkova 2001, Sucher et al. 2005).

Our empirical results are based on unique survey data gathered in 2006 and 2008 via face-to-face interviews of two samples of 100 Russian businesses operating in St. Petersburg area. The results can be summarized as follows. First, we find that while

Russian firms use many of the Western MACS, they do not use the most advanced MACS to the same extent as the firms in developed Western countries do (e.g. Chenhall and Langfield-Smith 1998). However, our results also show that the relative importance of MACS among those Russian firms that have adopted them are almost at the same level as in other countries. Besides, some development towards the more extensive use of formal controls at the expense of informal controls can be observed.

The rest of the paper is organized as follows. In the next section, we describe the management and financial accounting in communist and current Russia to develop our hypotheses. Section 3 describes the data and the research design. We report the survey results in Section 4, and Section 5 concludes the paper.

2 Theory and hypotheses development

In this section, we first briefly describe the theoretical framework for our study. Next, we derive the formal hypotheses from earlier literature. Global competition increasingly challenges MACS of firms all around the world (e.g. Dent 1996). As MACS support the firm's primary activities, there has been speculations and evidence that global competition forces management accounting to converge (e.g. Ahrens 1996, Granlund and Lukka 1998, Sheridan 1995, Shields 1998). The literature has reported different forces driving this development. According to Granlund and Lukka (1998), these forces consist of economic and institutional pressures. Furthermore, institutional pressures can be divided into coercive and normative pressures as well as mimetic processes (cf. DiMaggio and Powell 1983). Economic pressures from the market evoke the need for better support for operations, which again easily leads to mimetic behavior (DiMaggio and Powell 1983). Thus, the economic and institutional forces are not much apart (cf. Granlund and Lukka 1998). When there is uncertainty about the most efficient behavior, firms easily follow the example of successful firms' best practices or global consultancy. Thus, adopting common practices and systems becomes attractive (Granlund and Lukka 1998, Macintosh 1998).

Yet, Russia is a specific context for exploring the divergence or diffusion of Western MACS. Since the collapse of the Soviet Union the Russian business environment has been in the state of flux. However, imitating leading companies' practices has become easier for the Russian firms as the international consultancies have found their way to their country (e.g. Cheney 1990, Clarke 1993, Polonsky and Aivazian 2000). Coercive institutional forces (DiMaggio and Powell 1983), such as international agreements, shape financial reporting, which also has an effect on managerial accounting (Granlund and Lukka 1998). For example, Russia is negotiating on the membership of WTO. Besides, the foreign corporations nowadays operating in Russia also act as coercive institutions as they enforce the diffusion of their practices across borders (cf. Firth 1996, Engelhard and Nägele 2003). Especially the region studied (St Petersburg) is a subject of international influence (Kaputskina 2007). Professionalization of management accountants, for its part, is an example of the social normative forces (DiMaggio and Powell 1983, Granlund and Lukka 1998), but in an emerging country, the availability of

skillful accounting personality often becomes a critical barrier in adopting new accounting innovations such as Western MACS. Since Russia is a former-socialist country, the level of the accounting knowledge can be understood by looking at the role of accounting in the socialist Russia and how that role has changed since then. In the socialist Russia, the role of accounting, mostly bookkeeping was to protect socialist property and to fulfill the plans of central administration¹. Bookkeepers were great in number and existed only to fulfill the role of reporter for the monitoring authorities and governmental statistical offices (Morrison and Abrosimova 1993). There were no private business and provisions of services and production of goods were all undertaken by large state-owned enterprises in Russia. Product pricing principles used in communist Russia were different from those used in the Western countries, and pricing was somewhat unnecessary, because barter was widely used as a means of trading. High prices compared with other suppliers were even considered as theft from consumers (e.g. Arino et al. 1997, Enthoven 1999, Shama and McMahan 1990).

After the downfall of the Soviet Union in 1991, Russian firms rapidly started to develop their management accounting practises. Russian firms have begun to see the adoption of sophisticated cost accounting and other management accounting systems crucial to meet the challenges of growing competition and rapid technological changes (e.g. Jaruga and Ho 2002). In addition, management accounting has been included in university curricula in Russia since 1997 (e.g. Enthoven 1992, Enthoven et al. 1998, Enthoven 1999, Enthoven et al. 2001). Taylor and Osipenkova (2003) maintain that accountants play an important role in bringing the knowledge on Western MACS in Russian firms. Therefore, since accounting education has launched only recently in Russia, accountants become more and more familiar with Western MACS as the time goes by.

The discussion above about the development of the business environment in Russia leads to our first two hypotheses:

H1: *Russian firms' use of financial and non-financial performance measures has increased from 2006 to 2008*

H2: *Russian firms' use of formal MACS has increased from 2006 to 2008*

¹ Liberman and Eidinov (1995) provide an excellent an excellent review of the development of accounting in the socialist Russia.

On the other hand, the Western MACS may not even be the most suitable way for controlling operations in transitional circumstances (cf. Firth 1996). Because of the possible unsuitability of and lack of knowledge about Western MACS, control needs to be organized somehow and informal controls may thus be important. Besides, informal control fit well with the prevailing culture of Russia, although the official control in the Soviet era was highly formalized so that the compliance with the norms was highly important (Seal et al. 1995). For instance, Ledeneva (1998) and Michailova and Worm (2003) describe Russian *Blat*, which is a special informal social networking system that has been exercised for centuries during different regimes in Russia. In the command economy, *Blat* was an exchange of ‘favor of access’ in conditions of shortages where the favor of access was provided at public expense (Ledeneva 1998). More importantly, *Blat* was routinely practiced by almost everybody, and it was often confused with obligations of friendship (Ledeneva 1998). *Blat* networks were even regarded as a matter of dead or life, because they served as a crucial channel to obtain supplies and other goods in a command economy. This is not surprising, given that these networks combine individuals, public authorities and organizations. Despite the increased market-orientation after the downfall of the socialist regime, informal contacts and close personal relationships based on traditional *Blat* are still important in Russia. This is because *Blat* is so deeply built into Russian hierarchical social structures and it is commonly used in all areas of society including business community.

Earlier literature indeed suggests that formal financial controls, even where they are mastered, often need to be complemented with informal controls in uncertain environments (e.g. Chapman 1998). The transition in Russia has already been going on almost two decades, and the initial need for informal controls, as the formal ways of control in the new situation were still partial, may decrease. Even though research is still inconclusive on if formal and informal controls are complementary or substitutive (e.g. Chenhall 2003), we hypothesize that as the use of formal MACS increases due to the forces described above, the need of informal controls may decrease in this context. This is captured in our third hypothesis:

H3: *Russian firms’ use of informal MACS has decreased from 2006 to 2008*

3 Research method

3.1 Sample and survey procedure

Earlier studies report that it is often difficult to gather survey data from firms in Eastern countries such as Russia or China (e.g. Daniels and Cannice 2004, Efferin and Hopper 2007, Firth 1996, Michailova 2004). In these countries, social networks are important channels for sharing and distributing information, and people do not want to disclose information for outsiders. As Michailova (2004) points out, Eastern European firms are highly insecure about the real aim of the data collection and the use of the collected data. In many cases, they do not trust that the information they disclose will be used only for scientific purposes unless they do not know the person or organization that is gathering the data. In addition, they do not want to give any information in a written form, because they think that it could be used as an evidence of delinquency for government. Many of these fears arise, because there is no tradition of the academic community working closely with business community in Eastern European countries (Michailova 2004).

In this study, we gathered the survey data via face-to-face interviews in St. Petersburg area in Russia². Extensive pilot testing was undertaken before the interviews to enhance the content validity of the measures. This involved the construction of items based on the theoretical nature of the constructs and then a review process involving discussions with seven Russian speaking academic and managers. Most of these showed the questionnaire to other persons in their organization to get feedback. We chose face-to-face-interviews, because earlier studies suggest that survey data should be gathered via interviews instead of postal questionnaires in Eastern countries (e.g. Firth 1996). Data gathering via a postal questionnaire often fails in these countries, because respondents easily choose 'No' for any questions in postal questionnaires or they do not respond at all (e.g. Daniels and Cannice 2004, p. 188)³.

In face-to-face interviews, the interviewer read an introductory letter explaining the purpose of the research and asked structured questions from the interviewee.

² St. Petersburg region represents only a part of Russia, but firms all around the country could not have been investigated because of practical reasons.

³ In addition, previous studies report that it is also hard to gather a unique data from Eastern Countries by using qualitative methods because of getting access depends on personal networks (Marschan-Piekkari and Welch 2004 p. 8; Michailova 2004, p. 369-370; Michailova and Liuhto 2000, p.20).

Interviewer had both the English and Russian versions of questionnaire⁴. This was aimed to help respondents to answer if some English terms have not prevailing word in Russian language (Firth 1996). The first round of interviews started by contacting 566 industrial firms operating in the St. Petersburg region by telephone to seek their participation in the study. These firms were a random sample selected from the INFOWAVE data base. Then structured face-to-face interviews were conducted among 100 firms that agreed to participate in the study providing an 18 percent response rate. In the firms, Chief Executives were interviewed at their place of work.

Table 1. Summary statistics of respondents (2006)

	N
<i>Panel A: Size</i>	
Number of employees	
1-100	19
101-500	51
501-1500	18
1501-	12
<i>Panel B: Industry</i>	
Category	
Chemistry	7
Foodstuffs and beverages	14
Engineering and automotive	20
Construction and mining	9
Light engineering and electrical	16
Computers and electronics	11
Agricultural	5
Clothing	4
Pulp, paper and wood products	5
Others	9

The second round of interviews in 2008 started with contacting the firms having answered to the first survey to seek their participation in the second survey. First interviews were conducted among those firms that agreed on participating to the second round. The second sample was then completed with another random sample drawn from

⁴ In addition, the persons who conducted the interviews checked the translation in questionnaire before starting interviews.

the database so that the second round of interviews also constituted 100 firms. Tables 1 and 2 provide information on the size and industry of the sample firms of both of the interview rounds.

Table 2. Summary statistics of respondents (2008)

	N
<i>Panel A: Size</i>	
Number of employees	
1-100	8
101-500	57
501-1500	26
1501-	8
<i>Panel B: Industry</i>	
Category	
Chemistry	14
Foodstuffs and beverages	23
Engineering and automotive	26
Construction and mining	10
Light engineering and electrical	10
Computers and electronics	5
Agricultural	2
Clothing	3
Pulp, paper and wood products	3
Others	4

3.2 Survey items

Survey questions are related to broad categories of MACS and the influences on the use of MACS. Some of MACS are relatively new and are not widely adopted even in Western countries (e.g. activity based accounting). The questionnaire was designed to use existing instruments where possible. These were use of formal and informal controls (Chenhall and Morris 1995, Khandwalla 1972) and performance evaluation measures (Bisbe and Otley 2004).

In the questionnaire, a seven-point Likert scale ranging from (1) “Not used at all/not important” to (7) “Used to a great extent/very important” is used to obtain respondents’ views on the importance of various areas of the management control systems. The respondents were asked to indicate the alternative that best described the situation in their businesses.

Following Chenhall and Morris (1995), Khandwalla (1972) and Chenhall and Langfield-Smith 1998), formal controls include accounting practices such as standard costs, budgeting, processes controls, formal financial decision tools and systematic evaluations of personnel, whereas informal controls include items that cover more open communication such as informal access to managers, an emphasis on consensus, tolerance of mistakes. We examine both the relative adoption and relative importance of each MACS (e.g. Chenhall and Langfield-Smith 1998). A firm had not adopted a given MACS, if the respondent chose number (1) “Not used at all/not important”. If the respondent chose any other values (from 2 to 7), the firm was interpreted as having adopted the MACS. The relative importance of the given MACS was measured by calculating the mean of the responses among those firms that were adopted the given MACS.

3.3 Bias tests

To investigate for non-response bias (e.g. Dillman 2000, Van der Stede et al. 2005), the first and latest 20 responses were compared to test if responses differed between the two groups. For each item, levels of significance were determined using t-test. There were no significant differences providing some evidence for absence of non-response bias.

Given the unique cultural and societal characteristics of Russia from the point of view of management accounting research, we have to pay attention to others factors potentially creating bias in our data and analysis. Especially, problems arising from the

non-equivalence of terms need to be recognized as they are contextual items⁵. First, translation equivalence problem creates bias in the data, if questions do not have equivalent meanings across the countries (e.g. Berry 1989). In this study, a two-way translation was used, i.e. the original English version of the questionnaire was first translated in Russian, and then another native Russian speaking person translated the questionnaire back in English. Finally, the English and Russian versions were compared. All translators were native speakers of these languages having necessary knowledge of the study and having experience of life in both countries therefore knowing the cultures (Harkness 2002, p. 35-38). In addition, the final questionnaire was pilot tested with a group of chief accountants, financial directors and academic colleagues in both countries to refine the design and focus the content. Pilot testing gave us important notifications concerning the transparency of concepts. In Russia, there is a particular need for using simple concepts and test even though the concepts would be understood with a pilot study (e.g. Liuhto and Michailova 1999, p.24). Second, the use of borrowed measurement instruments may diminish the equivalence of terms (e.g. Douglas and Nijssen 2003). In this research setting, western management accounting practices are relatively new and therefore widely unknown in Russia. Therefore, we used a wild Russian description of these terms in the questionnaire and the official term in English as parentheses. That will help respondents to answer if some English terms have not prevailing word in Russian language (Firth 1996). Weak comprehension of business and accounting concepts leads easily to misunderstandings.

⁵ Misunderstanding of concepts and terms might be greater in qualitative research, because of the use of foreign language in fast changing interviews (e.g. Michailova 2004).

4 Survey results and discussion

To help the comparison of our results to those reported in earlier studies in Western countries (e.g. Chenhall and Langfield-Smith 1998), each MACS is ranked in order of percentage of respondents who indicated their firm had adopted the MACS in the left portion of Tables 3, 4 and 5. In addition, the right portion of these tables shows MACS in order of the average importance of using each MACS (similar to relative benefits in Chenhall and Langfield-Smith, 1998).

4.1 The use of financial and non-financial performance evaluation measures

Table 3 reports the extent of use and relative importance for performance evaluation measures. The results show that a relatively high proportion of Russian firms have adopted some of the performance evaluation methods including e.g. controllable profit, qualitative measures and customer satisfaction surveys. These most popular methods are the most extensively used ones within both of the samples. However, the extent of use sharply decreases for the most infrequently measures such as cash flow return on investment, return on investment, balanced scorecard and divisional profit. In comparison with the adoption rates for performance evaluation measures reported in Western countries (e.g. Chenhall and Langfield-Smith 1998), the adoption rates reported in Table 3 are low, especially among the least frequently used measures. For instance, the adoption rates for cash flow return on investment, return on investment and balanced scorecard are less than half of what Chenhall and Langfield-Smith (1998) reported in the survey among Australian firms. Low adoption rates for return on investment, cash flow on investment and income minus interest most likely reflect the fact that book-keeping and resulting financial statement are not informative in the Western sense in Russia due to the tax-dominance of financial accounting (cf. Southworth 1994). Despite the fact that all of the adoption rates are somewhat higher in the 2008 survey, the adoption rates among the least frequently used measures are still low compared with the results by Chenhall and Langfield-Smith (1998).

Reported in the right portion of Table 3 is also the relative importance of the performance evaluation measures among those Russian firms that have adopted the measures. The results reveal that the relative importance of performance evaluation

measures is quite similar to those reported in earlier studies for other Western countries. These results indicate that even though the use of Western type of performance evaluation measures is not as widespread among Russian firms as it is among the firms in Western countries, the importance of them among the users is largely similar. The perceived importance of performance measures has also somewhat increased between the two surveys as can be seen in Table 3. Especially the extent of use of controllable profit, employee attitude surveys and income minus interest are significantly higher (p-values of 0.015, 0.051 and 0.011, respectively) in the 2008 sample than they were in 2006. Accordingly, the findings support Hypothesis 1.

4.2 The use of formal management controls

Table 4 reports the extent of use and relative importance for formal controls. The results on the extent of the use of formal controls are similar to those reported for performance evaluation measures, i.e. a relatively high proportion of Russian firms have adopted some of the formal controls, but the extent of use sharply decreases for the most infrequently used formal controls such as activity-based costing. The results on the relative importance of the formal controls are also similar to those reported for performance measures in Table 3. In other words, the use of Western type of formal controls is not as widespread in Russia as it is in Western countries, but the relative importance of the controls among the users is largely at the same level. The most widespread formal controls for both of the samples are performance or operational auditing by outside auditors, standard cost analysis of cost variances and statistical quality control for production. The importance of outside auditing may be a relic of the command economy, where monitoring by the state and following given guidelines played an important role (cf. Bailey 1995).

For the formal controls the relative importance of some controls was also significantly higher among the sample of 2008 than that of 2006. These formal controls were standard costs and the analysis of cost variances (p-value: 0.058), statistical quality control of production (0.009), inventory control and production scheduling by means of operations research techniques (0.011), marginal of incremental costing in pricing decisions (0.003) and activity based costing (0.016). These findings indicate the effects of the development of the business environment. The environment has become somewhat more stable, but because of the international competition more emphasis

Table 3. Use and importance of the performance evaluation measures

	Relative use			Relative importance			Relative use			Relative importance			Difference		
	2006			2006			2008			2008			t- value	p- value	
	Rate	Rank	Mean	SD	Rank	Rate	Rank	Mean	SD	Rank	Mean	SD			Rank
Controllable profit	82%	1	5.74	(1.43)	1	92%	1	6.23	(1.08)	1	6.23	(1.08)	1	2.464	(.015)
Qualitative measures	80%	2	4.66	(1.39)	8	84%	3	4.75	(1.50)	9	4.75	(1.50)	9	.363	(.717)
Customer satisfaction surveys	79%	3	5.44	(1.33)	3	89%	2	5.31	(1.48)	5	5.31	(1.48)	5	-584	(.560)
Evaluation of suppliers' satisfaction	78%	4	4.74	(1.45)	7	76%	4	4.75	(1.61)	9	4.75	(1.61)	9	.025	(.980)
Employee attitude surveys	76%	5	4.07	(1.42)	11	71%	9	4.69	(1.46)	11	4.69	(1.46)	11	2.583	(.011)
Budget variance analysis	76%	5	5.46	(1.59)	2	77%	5	5.83	(1.47)	2	5.83	(1.47)	2	1.437	(.153)
Non-financial measures	71%	6	5.25	(1.33)	5	77%	5	5.26	(1.62)	6	5.26	(1.62)	6	.029	(.977)
Team performance	65%	7	4.89	(1.55)	6	72%	7	5.17	(1.57)	7	5.17	(1.57)	7	1.017	(.311)
Income minus interest	63%	8	5.25	(1.65)	5	72%	7	5.81	(1.51)	3	5.81	(1.51)	3	1.973	(.051)
Divisional profit	48%	9	5.42	(1.61)	4	56%	10	5.76	(1.42)	4	5.76	(1.42)	4	1.142	(.256)
Balanced scorecard	47%	10	4.66	(1.39)	8	51%	11	5.08	(1.59)	8	5.08	(1.59)	8	1.479	(.143)
Return on investment	44%	11	4.25	(1.75)	10	43%	12	4.59	(1.43)	13	4.59	(1.43)	13	.861	(.392)
Cash flow return on investment	31%	12	4.61	(1.75)	9	37%	13	4.65	(1.58)	12	4.65	(1.58)	12	.076	(.939)

The table shows the mean values and the standard deviation on a seven-point Likert scale ranging from (1) "Not used at all/not important" to (7) "Used to a great extent/very important" is used to obtain the respondents' views. Rate shows the share of firms that use the MACS to some extent (values 2 to 7 on Likert scales). The last column show the result of t-test on the difference of the use between years 2006 and 2008.

must be put on internally making the operations more efficient (cf. Trofimenko and Vorobieva 2007). Besides, the use of costing and pricing techniques becomes more applicable in a more stable environment and standard costing becomes thus possible. Therefore, our findings for the use of formal management controls support Hypothesis 2.

4.3 The use of informal management controls

Table 5 reports the extent of use and relative importance for informal controls. The results on the extent of the use of informal controls differ from those reported for formal systems in Tables 3 and 4. The adoption rates of informal controls are consistently higher than those of formal controls or performance evaluation measures in both of the samples. Yet, the relative importance of informal controls among the firms that use these controls is also consistently lower than the relative importance of formal mechanisms among the users. The most widespread informal controls for both of the samples are managers' encouragement to develop new ideas even if they fall outside the individual's area of responsibility and opens channels for free flow of information. Tolerance of manager's mistakes and learning and sharing lessons from them was the most widely adopted informal control in 2006, but dropped to the 6th place in 2008 dropping 9 percentage points. However, the relative importance of tolerance of mistakes and learning from them among the users does not change significantly between the two samples.

The comparison between the relative importance of informal controls supports Hypothesis 3, as the relative importance of informal management control systems is lower among the sample of 2008 than that of 2006. Significant decreases can be observed in the relative importance of the two most widely adopted systems 'Managers encouraged to develop new ideas even if they fall outside the individual's area of responsibility' (p-value 0.108) and 'Open channels of communications and free flow of information' (0.025) as well as 'Managers share information with colleagues' (0.001) and 'Current corporate culture encourages informal signaling of potential problems' (0.000). Actually, these findings are in accordance with what is traditionally seen emblematic to Russian business: problems in knowledge sharing, because information i

Table 4. Use and importance of the formal management control systems

	Relative use			Relative importance			Relative use			Relative importance			Difference	
	Rate	Rank	Mean	SD	Rank	Rate	Rate	Rank	Mean	SD	Rank	t-value	p-value	
	2006			2006			2008			2008				
Performance or operational auditing by outside auditors	93%	1	6.33	(1.18)	1	92%	2	6.53	(0.99)	1	-1.205	(.230)		
Standard costs and the analysis of cost variances	88%	2	5.82	(1.27)	2	89%	3	6.18	(1.21)	2	1.905	(.058)		
Statistical quality control of production	83%	3	5.55	(1.56)	3	93%	1	6.15	(1.36)	3	2.651	(.009)		
Systematic evaluation of managerial and senior staff personnel qualification	82%	4	4.84	(1.44)	9	86%	5	5.07	(1.59)	10	.978	(.329)		
Inventory control and production scheduling by means of operations research techniques	79%	5	5.01	(1.70)	7	89%	3	5.65	(1.47)	5	2.586	(.011)		
Marginal or incremental costing in pricing decisions	78%	6	5.35	(1.33)	4	84%	6	5.97	(1.28)	4	2.969	(.003)		
Flexible budgeting or activity level budgeting	74%	7	5.22	(1.56)	5	76%	7	5.58	(1.62)	7	1.395	(.165)		
Internal auditing	72%	8	5.19	(1.49)	6	65%	9	5.36	(1.73)	8	.595	(.553)		
Activity based costing	62%	9	4.92	(1.59)	8	76%	7	5.63	(1.64)	6	2.443	(.016)		
Use of internal rate of return or net present value in evaluating investments	42%	10	4.64	(1.62)	10	43%	10	5.28	(1.75)	9	1.663	(.101)		
Performance or operational auditing by outside auditors	93%	1	6.33	(1.18)	1	92%	2	6.53	(0.99)	1	1.205	(.230)		

seen as power and therefore hoarded (Michailova 2002). On the other hand, the more developed performance evaluation measures and formal control systems may provide the needed information as hypothesized.

Table 5. Use and importance of the informal management control systems

	Relative use			Relative importance			Relative use			Relative importance			Difference	
	2006			2006			2008			2008			t-value	p-value
	Rate	Rank	Mean	SD	Rank	Rate	Rank	Rate	Rank	Mean	SD	Rank		
Tolerance of manager's mistakes, learning and sharing lessons from them	97%	1	5.17	(1.38)	5	88%	6	4.86	(1.36)	5	-1.613	(.108)		
Managers encouraged to develop new ideas even if they fall outside the individual's area of responsibility	96%	2	5.64	(1.44)	2	95%	2	5.24	(1.60)	2	-1.863	(.064)		
Open channels of communications and free flow of information	95%	3	5.43	(1.56)	3	97%	1	4.95	(1.47)	3	-2.252	(.025)		
Managers share information with colleagues	94%	4	5.40	(1.62)	4	90%	5	4.56	(1.81)	6	-3.470	(.001)		
Fast reaction to take advantage of unexpected opportunities	94%	5	5.08	(1.61)	6	95%	2	4.95	(1.55)	4	-.585	(.559)		
Easy informal access to senior managers	93%	6	5.60	(1.73)	1	94%	4	5.38	(1.79)	1	-.866	(.387)		
Current corporate culture encourages informal signaling of potential problems	88%	7	4.66	(1.73)	8	81%	9	3.74	(1.87)	9	-3.567	(.000)		
An emphasis on consensus-seeking, staff participative decision making	88%	8	4.55	(1.85)	9	88%	8	4.17	(1.85)	8	-1.429	(.155)		
An emphasis on initiative, and adaptation to the local situation rather than specialization and top level co-ordination	86%	9	4.33	(1.87)	10	89%	7	4.31	(1.85)	7	-.075	(.940)		
An emphasis on adaptation without concern for past practice	61%	10	2.94	(1.85)	11	61%	10	3.09	(2.05)	10	.515	(.607)		

5 Conclusions

The purpose of this paper is to explore the extent to which Western MACS are used in Russian firms and how the extent has changed. The paper thus contributes to the almost non-existent knowledge of management accounting in Russia. Besides, Russia as a fairly young, but growing European market economy that provides an interesting setting for exploring the diffusion of a large range of Western MACS, in contrast to studying the diffusion of some specific innovations (cf. Malmi 1999). We use unique data collected with two surveys in face-to-face interviews in 2006 and 2008. Across both of the samples relative high portion of Russian firms have adopted some performance measurement and formal control systems, but the adoption rates are lower than those in Western countries (cf. Chenhall and Langfield-Smith 1998). Yet, the importance of these systems among the users is largely similar. The adoption rate of the performance measurement and formal control techniques is higher in the second sample similarly as the importance of the techniques. Especially it seems that the controls related to improving operations (quality control, inventory control and scheduling) and costing and pricing have become more important. This may indicate that the local environment has become somewhat more stable, international competition and the knowledge on Western MACS has increased and competitiveness is thus based on wider range of issues than in the early days of the market economy. Therefore, more formal control mechanisms for improving efficiency become more important for firms

Consistent with our findings about the formal performance evaluation and controls the results also indicate that even though informal control mechanisms are widely used in Russian firms, their relative importance is lower in the 2008 survey than in 2006. This illustrates that the development of formal Western MACS may have decreased the need for informal controls. Accordingly, formal and informal controls may be somewhat substitutive in the transitional context. At first in the new market environment, when the knowledge about and ability to use Western MACS is low, control need to be established somehow and informal controls are relied on. However, as the knowledge develops and the environment also somewhat stabilizes, Western MACS become more applicable and the need for informal controls decreases. The results also suggest that Western formal MACS can also be beneficial in transitional economies, at least after the earliest phases of transition.

As with any research the limitations of this study need to be acknowledged. The limitations concerning the questionnaire sent to the respondents were already discussed in Section 3. Besides, because the samples of the survey rounds are different, direct comparisons between two surveys

need to be made with caution. For example the samples may differ in terms of the age and size of the surveyed firms and earlier literature shows that these issues affect the extent of MACS use (e.g. Baird et al. 2004, Chenhall and Langfield-Smith 1998, Innes and Mitchell 1995, Moores and Chenhall 1994; Davila 2005). Therefore, the exploratory nature of the current study leaves several issues that warrant future research. The contingencies such as firm and environment characteristics should be taken into account. In addition, Russian remains an interesting setting for studying more extensively the diffusion of management and accounting innovations. Cultural and institutional effects on the adoption of MACS and the derived benefits could also be studied.

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