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GENDER EFFECTS ON PERFORMANCE IN BULGARIAN PRIVATE ENTERPRISES[1]

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Abstract

Many of the newly established private enterprises in transition economies in Central and Eastern Europe (CEE) are owned and managed by women (Degtiar, 2000). However, there are limited research and knowledge on gender, management, and organization in CEE (Metcalfe and Afanassieva, 2005) and, particularly, on the performance of female-owned companies. Sporadic empirical evidence shows that female-owned companies have worse performance than male-owned companies in transition economies (Drnovsek and Glas, 2006; Aidis, 2006). The purpose of this paper is twofold. First, we study the factors that affect the performance of female-owned companies in a transition context. Second, we compare how performance varies between female and male-owned businesses in such a context. Combining the Feminist Theory, the Institutional Theory, and the literature on determinants of firm performance, we derive hypotheses about the determinants of the performance of female-owned companies and about gender differences in performance. The proposed hypotheses are tested in a sample of 501 private Bulgarian companies. Our results indicate that a number of individual, organizational, and environmental characteristics are significant determinants of the performance of both female and male-owned companies. Although there are gender differences in performance, they disappear when other factors are controlled for. We conclude with some recommendations for policy implications and place the current results in respect to future research.

Key words: gender, firm performance, transition economies

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1. Problem statement and research objectives

The field of female entrepreneurship has been dominated by research on the economies of the United States and UK (Ahl, 2002; Verheul, 2005). Therefore, the existing findings about performance of female-owned businesses are valid only for mature economies with abundant resources, entrepreneurial role models and developed institutional environment (Schwarz et al., 2006). Despite the increasing importance of female entrepreneurship in transition economies for employment, poverty alleviation, and social inclusion (Stoyanovska, 2001), there are limited research and knowledge on gender, management, and organization in CEE (Metcalfe and Afanassieva, 2005) and, particularly, on the performance of female-owned companies. Sporadic empirical evidence suggests that female-owned companies have worse performance than male-owned companies in various transition countries (Drnovsek and Glas, 2006; Aidis, 2006). These studies are of limited importance because they do not control for other factors that may affect performance and in relation to which female and male entrepreneurs and their companies differ.

Although women under communism enjoyed significant gender equality advantages in comparison with other industrialized countries, they were victims of female subordination in all social spheres (Pollert, 2003). The transition period has not only failed to build on gender equality advantage of communist legacy, but also damaged it (Pollert, 2003). Moreover, it has produced new gender inequalities in both the public and the private spheres. Despite the negative influence of market reforms on women's status, paid employment opportunities for women have expanded and alternative opportunities for women such as self-employment and creation of small enterprises have appeared during the transition period (Degtiar, 2000). Entrepreneurship became an attractive employment option that might enable women to overcome shortcomings in the labour market and to combine work and family lives and could play important role for improving the status of women in the economy and society as a whole (Degtiar, 2000).

As the role of female entrepreneurship in these transition economies increases, it is important to examine discrepancies in the performance of female and male-owned businesses. The purpose of this paper is twofold. First, we study the factors that affect performance of female and male-owned companies in a transition context. Second, we compare how performance varies between female and male-owned businesses in such a context. A comprehensive view of gender effects on firm performance is a key to formulate public policy measures for entrepreneurship development and

assisting of female entrepreneurship. Our research will attempt to overcome some methodological weaknesses of previous research. It was recognized that effects of factors correlated with gender could be misleadingly attributed to gender (Verheul, 2005). Also, factors affecting performance of male-owned business may have different effect on the performance of female-owned businesses. Few studies have made a systematic distinction between the different effects of gender on business performance (e.g., Collins-Dodd et al., 2004). Therefore, this study will attempt to distinguish between direct, indirect, and moderation effects of gender on business performance and thus will contribute to the better understanding of gender differences in entrepreneurship in a transition context.

This paper is organized in the following way. In the next section, we present a theoretical framework for explaining gender differences in business performance. In the following section, we discuss theories and evidence about other determinants of business performance. Empirical evidence about gender effects on business performance is reviewed in section 4. The conceptual model and the hypotheses of the study are outlined in section 5. In the next two sections, we describe our research method and empirical findings. The final section includes discussion of the main findings and conclusions as well as some recommendation for policy implications and places the current results in respect to future research.

2. Explaining gender differences in business performance

The literature in the relatively new research field of female entrepreneurship has increased significantly over the past decades often lacking a specific theoretical framework (Brush, 1992; Ahl, 2002; Greer and Greene, 2003; Fischer et al., 1993; Mirchandani, 1999). Recently, two theoretical frameworks – the Institutional Theory and the Feminist Theory – have been proposed for researching female entrepreneurship. Similarities between both theories can be found in their shared understanding of cultural specificity of economic reality and the power of gender norms (Van Staveren and Odebode, 2007).

2.1. Institutional Theory

Although gender received mixed treatment by institutional theorists (Aidis et al., 2007), in contemporary society gender norms are recognized as influential institutions (Van Staveren and

Odebode, 2007). A century ago, the economist Thorstein Veblen noted that gender norms are a product of historical and cultural patterns and expressed a deep concern with patriarchal institutions (Van Staveren and Odebode, 2007). Veblen's concern with patriarchy is generally absent from the contemporary institutional analysis and "today, institutional economics seems to be less concerned with gendered institutions" (Van Staveren and Odebode, 2007:904). Recently, Douglas North (1990:8) mentions the role of women in society as an example of informal constraints but does not devote further attention to this issue (Aidis et al., 2007). North (1990) argues that changes in relative prices of work, leisure, and contraception fundamentally shaped the structure of the family in the twentieth century. In addition, the change in family structures led to changes in ideological attitudes to moral issues and to the role of women in society. However, North (1990) emphasizes that the changes in the relative prices alone can not account for the complex changes in norms of behaviour of modern women. According to North (1990), this process was accompanied also by changes in ideas and the way they take to hold. Drawing upon the work of Martin (2004) on gender as social institution, Van Staveren and Odebode (2007) continue the analysis of gender norms within the institutional framework. They argue that gender norms are asymmetric institutions because:

- both constrain and facilitate behavior by group members
- are characterized by particular expectations, rules, and procedures
- are internalized by group members as identities
- have a legitimating ideology, and
- are organized in accord with and permeated by power.

Institutional Theory is consistent and appropriate conceptual framework for researching entrepreneurship (Veciana, 1999) and was applied in various empirical studies (Urbano, 2003). Institutional Theory has been advanced as an appropriate interpretative framework for investigating female entrepreneurship in transition economies by Welter et al. (2003). The main reason for this is the important role of the existing institutional framework in countries in transition for shaping the nature and extent of entrepreneurship and its economic contribution, which has been confirmed empirically (Welter et al., 2003). The authors acknowledge that "institutions set boundaries for enterprise behaviour" of women in transition countries (Welter et al., 2003:248). Particularly, they highlight the distinctive role formal and informal institutions for (female) entrepreneurship: "formal institutions create opportunity fields for entrepreneurship; informal institutions determine the collective and individual perception of entrepreneurial opportunities" (Welter et al., 2003:248). The

authors stress that informal constraints may become highly important in unstable or weakly structured environments where formal rules often fail or are absent. Welter et al. (2003) elaborate on how institutional environment in transition economies restricts women's access to entrepreneurship. They argue that gender-specific formal rules and informal constraints in transition context may affect the behaviour of women by depriving them from opportunities or by shaping their perception of opportunities for entrepreneurship.

2.2. Feminist Theory

It was acknowledged that "approaches to women and entrepreneurship would benefit greatly from theoretical insight on the gendered processes in work settings developed within feminist theory" (Mirchandani, 1999:225). Feminist thought comprises no single dominant perspective, but many diverse viewpoints, which have been developed and exist simultaneously (Tong, 1998; Bristor and Fischer, 1993). The sub-fields in feminist theory can be classified in three groups according to their assumptions about whether women and men are essentially similar, essentially different, or gender differences are socially constructed[2] (Ahl, 2006).

Liberal feminism assumes that men and women are essentially similar with regard to their capacity for rationality (Ahl, 2002, Fischer et al., 1993). Physical differences between women and men are irrelevant for rationality as it is a purely mental capacity (Fischer et al., 1993). Gender differences are due to the fact that women do not have equal access to opportunities and resources and are discouraged to develop their full capacities (Ahl, 2002; Fischer et al., 1993). This perspective suggests that if there was no discrimination, women and men could actualize their potential more equally and would have similar behaviours, preferences and accomplishments (Ahl, 2002; Fischer et al., 1993). The removal of legal and other barriers to women's access to education and employment is the solution to women's lesser achievements (Greer and Greene, 2003). Thus, women and men will be free to develop their talents, skills and potential (Greer and Greene, 2003). A large body of research on female entrepreneurship is consistent with liberal feminist perspective (Greer and Greene, 2003). This research either assumes or looks for empirical evidence of disadvantages or sex-based discrimination in entrepreneurship (Fischer et al., 1993; Mills and Voerman, 1997; Carter and Williams, 2003; Cliff, 1998).

[2] For more information on feminist perspectives included in this group see Ahl (2002, 2006).

A second group of feminist theories suggests that women and men are or have become essentially different (Ahl, 2006). Social feminism is "a combination of ideas about gender socialization pieced together with elements of psychological and philosophical theory about innate differences between men and women in personality makeup or moral development" (Greer and Greene, 2003:17). This perspective posits that men and women exhibit fundamentally different views of the world because of differences in their experiences (Fischer et al., 1993). Women and men are socialized in different roles and are confronted with different role expectations, which do not follow directly from biological differences (Grapard, 1997, Kimmel, 2004). Different socialization of men and women results in the appearance of feminine and masculine rationality and mode of knowing, which are equally important for society (Fischer et al., 1993). In contrast, radical feminism posits that gender differences are innate and linked largely to reproductive differences between women and men (Greer and Greene, 2003). Radical feminists associate reproductive differences with the existence of patriarchy and women's oppression (Ahl, 2002; Tong, 1998). Women's and men's reproductive roles and experiences induce different characteristics and traits: women are characterized with connectedness, nurturance, and lack of aggression, while men are more separated from others (Greer and Greene, 2003). Feminine traits such as carrying, empathy, and emotional expressiveness are constantly devaluated in patriarchal society and become a basis for women's subordination and oppression (Ahl, 2002; Greer and Greene, 2003). Most research that compares female and male entrepreneurs is based on the assumption of differences rather than sameness (Greer and Greene, 2003). This group of feminist theories suggests problematics related to psychological traits, values, start-up motivation, goals, strategies and opinions about doing business, and business performance (Fischer et al., 1993; Mills and Voerman, 1997; Carter and Williams, 2003; Cliff, 1998; Watson, 2001; Johnsen and McMahon, 2005).

3. Other Determinants of Business Performance: Theoretical Background and Empirical Evidence

In this section we review theories and empirical studies adopting different levels of analysis to provide insights about various determinants of business performance such as entrepreneur's characteristics, firm's characteristics, and environmental factors. Entrepreneurship literature posits that the entrepreneur is a key factor for new venture creation and success (Schumpeter, 1934; McClelland, 1961; Gartner, 1985; Chrisman et al., 1998; Miller and Toulouse, 1986). The strategic

role of organization's resources and capabilities for organizational performance is highlighted in the Resource Based View of the Firm (RBV) (Wernerfelt, 1984; Barney, 1991). Two theoretical perspectives suggest a link between environment and business performance: the Population Ecology Theory (Hannan and Freeman, 1977, 1984) and the Theory of Competitive Strategy (Porter, 1980).

3.1. Entrepreneur's characteristics

Psychological approach, which was dominant in entrepreneurship research in the seventies and eighties, assumes that successful entrepreneurs exhibit different psychological characteristics than less successful ones (Veciana, 1999). Psychological approach was very much focused on individuals who create new ventures as "flesh and blood" persons (Veciana, 1999:12) aiming at differentiating them from those who have selected other career or those who have been unsuccessful in new venture creation. The proposed link between entrepreneurs' personality traits such as risk-taking propensity, locus of control, autonomy, flexibility, need for achievement, etc. and entrepreneurial success has been confirmed empirically (Miller and Toulouse, 1986; Duchesneau and Gartner, 1990; Ginn and Sexton, 1990; Begley and Boyd, 1986, 1987; Lerner and Haber, 2000; Frank et al., 2007; Rauch and Frese, 2007).

Behavioural approach to entrepreneurship tries to identify, describe and explain the overt behaviours of entrepreneurs (Veciana, 1999). Decisions and behaviours of the entrepreneur are seen as important determinants of the survival and success of the new venture (Sandberg and Hofer, 1987; Chrisman et al., 1998). Entrepreneurs determine initial conditions and secure the necessary resources (Garnsey, 1998). Their ambitions shape the growth aspirations for the firm (Garnsey, 1998). It was acknowledged that the entrepreneur's decisions and behaviours are influenced by her or his personal characteristics such as skills, experience, motivation and values (Scherer et al., 1989; Chrisman et al., 1998). The Resource Based View of the Firm (RBV) (Wernerfelt, 1984; Barney, 1991) also recognizes the role of knowledge, skills, and experience for firm performance. The RBV postulates that differences in firm-specific sets of resources can generate differences in competitive advantage (Barney, 1991). Intangible resources such as knowledge, skills, and experience play important role for establishing capability differentials among firms (Hall, 1992). Numerous empirical studies demonstrate that entrepreneur's education, skills, and experience are associated with business success in non-transition as well as in transition economies (Ibrahim and Goodwin, 1986; Cooper et al., 1994; Brush and Chaganti, 1998; Stuart and Abetti, 1990; Lerner and Haber,

2000; Lerner and Almor, 2002; Lerner et al., 1997; Lules et al., 2004; Wasilczuk, 2000; Manolova et al., 2007).

3.2. Firm's characteristics

The RBV emphasizes the differences between firms and shows that the performance of firms is not determined by industrial structure but by the resources that they possess. The activities of firms are "distinguished by their relation to the use of productive resources for the purpose of producing and selling goods and services" (Penrose, 1995:24). Barney (1991:101) suggests that firm resources comprise "all assets, capabilities, organizational processes, firm attributes, information, knowledge, etc. controlled by a firm that enable the firm to conceive of and implement strategies that improve its efficiency and effectiveness". Barney (1991) classifies firm resources into three categories: physical capital resources (the firm's plants and equipment, technology, geographic location and its access to raw inputs), human capital resources (experience, judgments, intelligence, relationships and training of both managers and employees), and organizational capital resources (formal and informal structure, planning, controlling and coordinating systems).

Central to the resource-based view of the firm are the assumptions of heterogeneity and immobility of resources (Barney, 1991). The RBV assumes that strategic human capital, physical capital, and organizational capital resources may differ across firms in an industry or a group (Barney, 1991). Resource immobility refers to the inability of a firm to purchase or create strategic resources held by a competing firm (Barney, 1991). According to the RBV, firm resources are sources of competitive advantage. One of the principal insights of the RBV is that not all resources are of equal importance or possess the potential to be a source of sustainable competitive advantage. Much attention among RBV scholars has been devoted to identifying the characteristics of advantage-creating resources (Dierickx and Cool, 1989; Grant, 1991; Collis and Montgomery, 1995; Amit and Schoemaker, 1993; Peteraf, 1993; Barney, 1991). For example, Barney (1991) argues that sustained competitive advantage can only be established through implementing unique product market strategies and suggests that advantage-creating resources must meet four conditions: value, rareness, inimitability and non-substitutability. Empirical evidence has confirmed the role of (initial) tangible and intangible resources for business performance in different types of companies in various sectors (Collis, 1991; Chatterjee and Wernerfelt, 1991; Harrison et al., 1993; Chandler and Hanks, 1994;

Jarillo, 1989; Brush and Chaganti, 1998; Carter et al., 1997; Cooper et al., 1994; Carter and Allen, 1997; Lerner and Almor, 2002; Lyles et al., 2004).

3.3. Environmental factors

The Population Ecology Theory posits that environmental characteristics largely determine the survival of organizations through selecting the fittest organizational forms (Hannan and Freeman, 1977, 1984). Organizations face both internal and external constraints on their capacity for adaptation (Hannan and Freeman, 1977, 1984). The presence of considerable structural inertia in organizations makes adaptation less likely than environmental selection (Hannan and Freeman, 1977, 1984). Structural inertia derives from various internal and external factors. Internal factors that foster structural inertia include sunk costs in personnel, premises, and equipment, the dynamics of political relationships, and the tendency for converting precedents into normative standards (Hannan and Freeman, 1984). External factors that lead to structural inertia are entry and exit barriers and exchange relations with other organizations. Selection favors organizational forms with high inertia because they exhibit high reliability, accountability, and reproducibility (Hannan and Freeman, 1984). The population ecology perspective on performance has been supported in several empirical studies (Boeker, 1991; Shane and Kolvereid, 1995; Nielsen and Hannan, 1977; Delacroix and Carroll, 1983; Messallam, 1998; Carroll and Huo, 1986).

The dominant paradigm in Industrial Organization, the Structure-Conduct-Performance Paradigm, posits that industry structure affects competitive behaviour of firms, which in turn influences performance (Scherer, 1980). In Strategic Management literature this paradigm was extended by Porter (1980). He argued that a firm's performance depends on its strategy, which is determined by the structure of the industry. Competitive strategy must be based on a deep understanding of the rules of competition that determine an industry's attractiveness (Porter, 1979, 1998). Porter (1979) argues that five forces determine the attractiveness of an industry and affect a firm's ability to make a profit: the bargaining power of customers, the bargaining power of suppliers, the threat of new entrants, the threat of substitute products, and the level of competition in that industry. Empirical research provides ample evidence about the effect of industry on business performance (Schmalensee, 1985; Westhead and Birley, 1995; Hansen and Wernerfelt, 1989; Covin and Slevin, 1990; Eisenhardt and Schoonhoven, 1990; Manolova et al., 2007).

4. Gender Effects on Business Performance: Empirical Evidence

The comparison of the performance of male and female-owned businesses is subject of numerous studies (Watson and Robinson, 2003). These studies have produced very ambiguous results about the existence and the reason for differences between male- and female-owned businesses. This is partly due to the fact that most studies use very different performance measures and control variables. Therefore, it is almost impossible to compare their findings directly. According to the empirical evidence about gender effects on business performance (direct gender effect, indirect gender effect, lack of gender effect, and moderation effect of gender), the available literature relating gender and business performance in non-transition countries can be categorized in several groups (Table 1). As demonstrated in Table 1, often in the same study, researchers using multiple measures of performance find direct gender effect on some performance measures and indirect gender effect on other performance measures. Several studies yield consistent results about a direct gender effect on some performance measures (Watson, 2001; Robb, 2002; Rosa et al., 1996; Fasci and Valdez, 1998; Fischer et al., 1993; Cooper et al., 1994; Carter et al., 1997; Du Rietz and Henrekson, 2000; Cron et al., 2006; Danes et al., 2007), i.e., an effect that can not be attributed to gender differences in other independent variables included in the analyses (Verheul, 2005). A second group of studies reports an indirect gender effect (Kalleberg and Leicht, 1991; Loscocco et al., 1991; Watson and Robinson, 2003; Collins-Dodd et al., 2004; Du Rietz and Henrekson, 2002; Watson, 2002; Watson, 2003; Johnsen and McMahon, 2005; Chell and Baines, 1998; Alsos et al., 2006; Boohene et al., 2008) on various performance measures, i.e., the gender effect is mediated by other independent variables (Verheul, 2005). A third group of studies finds no effect at all of gender on some performance measures, mainly Collins-Dodd et al. (2004), Cooper et al. (1994), and Kalleberg and Leicht (1991). Finally, several empirical studies in non-transition economies show that gender can moderate the effect of other determinants of performance (Collins-Dodd et al., 2004; Robb, 2002; Boden and Nucci, 2000; Danes et al., 2007).

The available literature on gender and entrepreneurship in the countries in transition from centrally planned to market economy is very scarce in comparison with the research conducted in non-transition countries. There is a clear lack of contingent research comparing men and women business owners and their ventures. Only few studies examining gender differences in entrepreneurship and business ownership in a larger sample from a transition context have been identified (Welter et al., 2005; Manolova et al., 2007; Davidkov, 2006; Isakova et al., 2006).

Empirical research on gender and business performance in transition economies demonstrates that female-owned companies have inferior performance than male-owned companies in relation to a number of objective and subjective performance measures. A major limitation of this literature is that gender differences in performance are registered without controlling for other factors that may affect performance and are correlated with gender. Therefore, this literature does not contribute to deep understanding of gender effects on firm performance in a transition context.

Table 1: Empirical evidence about gender effects on business performance in non-transition countries.

Direct gender effect		
Studies	**Performance measures**	**Control variables**
Fischer et al. (1993)		industry, education, experience, and motivation
Cooper et al. (1994)	employment growth	industry, education, race, experience, use of professional advisors, number of partners, capital invested, and entrepreneurial parents
Rosa et al. (1996)		sector, business age, and co-ownership
Carter et al. (1997)	business survival	firm age, initial size of business, capital from formal lending institutions, and owner experience
Fasci and Valdez (1998)	profit ratio	business, personal, and attitudinal characteristics
Du Rietz and Henrekson (2000)	sales growth	firm size, industry, target market, exporting or importing, growth prospects and growth propensity, application for bank credit, and use of full capacity
Watson (2001)	total income, profit (loss)	business age, sector, days worked per week, and owners' education and experience
Robb (2002)	business survival	legal form, organizational structure, size, age, industry, and location
Cron et al. (2006)	income	industry experience, hours worked, financial motivation, population of community, average income, firm size
Danes et al. (2007)	gross revenue	primary owner characteristics, business characteristics, business innovation practices, business management practices, responses to disruption
Indirect gender effect		
Studies	**Performance measures**	**Control Variables**
Kalleberg and Leicht (1991)	growth in gross earnings	industry, firm age and size, corporate form, age, and experience
Loscocco et al. (1991)	sales volume	human and financial capital of the owner, industry, business characteristics, personal orientation, family situation
Chell and Baines (1998)	sales turnover, growth orientation	industry and firm size
Du Rietz and Henrekson (2000)	growth in profits, number of employees, and number of orders	firm size, industry, target market, exporting or importing, growth prospects and growth propensity, application for bank credit, and use of full capacity
Watson (2002)	the relation of output measures (total income and profit) and input measures (total assets and owner's equity)	industry, firm age, number of day the business operated

Table 1: Empirical evidence about gender effects on business performance in non-transition countries (continued).

Indirect gender effect		
Studies	**Performance measures**	**Control Variables**
Watson (2003)	failure	industry
Watson and Robinson (2003)	the relation of annual profit (reward) to variability in profit (risk)	firm age, firm size, industry
Collins-Dodd et al. (2004)	gross revenue, net profit	type of business, number of employees, hours worked per week, motivation, age and education, number of dependent children, place of living
Johnsen and McMahon (2005)	employment growth, return on total assets, return on owner's equity	demographic factors, firm size and age, industry, legal organization, financial leverage, time dedicated to business
Alsos et al. (2006)	early business growth	capital need, start-up team, perceived environmental dynamism, industry, funding perceptions and behaviour
Boohene et al. (2008)	multi-item observed measures	personal values, strategy
Lack of gender effect		
Studies	**Performance measures**	
Kalleberg and Leicht (1991)	survival over 3-year period	
Cooper et al. (1994)	survival over 3-year period	
Collins-Dodd et al. (2004)	satisfaction with business performance	
Moderation effect of gender		
Studies	**Performance measures**	**Predictors**
Boden and Nucci (2000)	survival	retail trade, services, 10+ years prior work experience, 1+ years prior management experience, average hours worked per week by owner
Robb (2002)	business survival	race
Collins-Dodd et al. (2004)	gross revenue, net profit	type of business, number of employees, hours worked per week, motivation, age and education, number of dependent children, place of living
Danes et al. (2007)	gross revenue	business management practices, responses to disruption

Source: Own elaboration.

Size distribution of female-owned companies in transition economies mirrors the situation in Western countries. Micro-enterprises account for the most significant proportion of female-owned businesses (Welter et al., 2005; Aidis et al., 2007). Empirical evidence supports the findings in Western countries that female entrepreneurs tend to operate smaller companies than their male colleagues (Drnovsek and Glas, 2006; Aidis, 2006). Isakova et al. (2006) show that male-owned companies in the Ukraine more often generate income exceeding expenditures than female-owned companies. Drnovsek and Glas (2006) report that female-owned firms in Slovenia are smaller, less export-oriented and predominantly sell in local markets. These companies performed worse than male-owned companies in terms of sales growth, return on equity, employment growth, and sales

per worker. Many female entrepreneurs in transition economies exhibit growth intentions (Welter et al., 2005; Wells et al., 2003; Lituchy and Reavley, 2004). Isakova et al. (2006) find that although both Ukrainian female and male entrepreneurs choose growth more often than other objectives, female entrepreneurs are less growth-oriented than male entrepreneurs.

5. Conceptual model and hypotheses

Business performance is a multidimensional phenomenon (Murphy et al., 1996), which is determined by a large number of factors on various levels of analysis. Derived from the theoretical perspectives and empirical evidence discussed in section 3, the conceptual model developed for this section posits that a number of characteristics of the entrepreneur, firm, and environment play a central role in performance of female-owned ventures (Figure 1). It was acknowledged that there may be some overlap between owner-related resources and firm-related resources (Lerner and Almor, 2002). Following Lerner and Almor (2002), the two were separated in our conceptual model. As Figure 5.1 illustrates, the entrepreneur's characteristics include demographic characteristics (age and education), psychological traits (risk propensity and locus of control), start-up motivation, management style, and management training/skills. The firm's characteristics comprise firm age, initial resources (personnel and capital), diversity of personnel, and legal form. The environmental factors include sector, location, and support from family and friends. We offer the following hypotheses about the link between performance and entrepreneur's characteristics, firm's characteristics, and environmental factors:

H1: Performance of female-owned businesses is influenced by entrepreneur's characteristics including age, education, risk propensity, locus of control, start-up motivation, management style, and management training/skills.

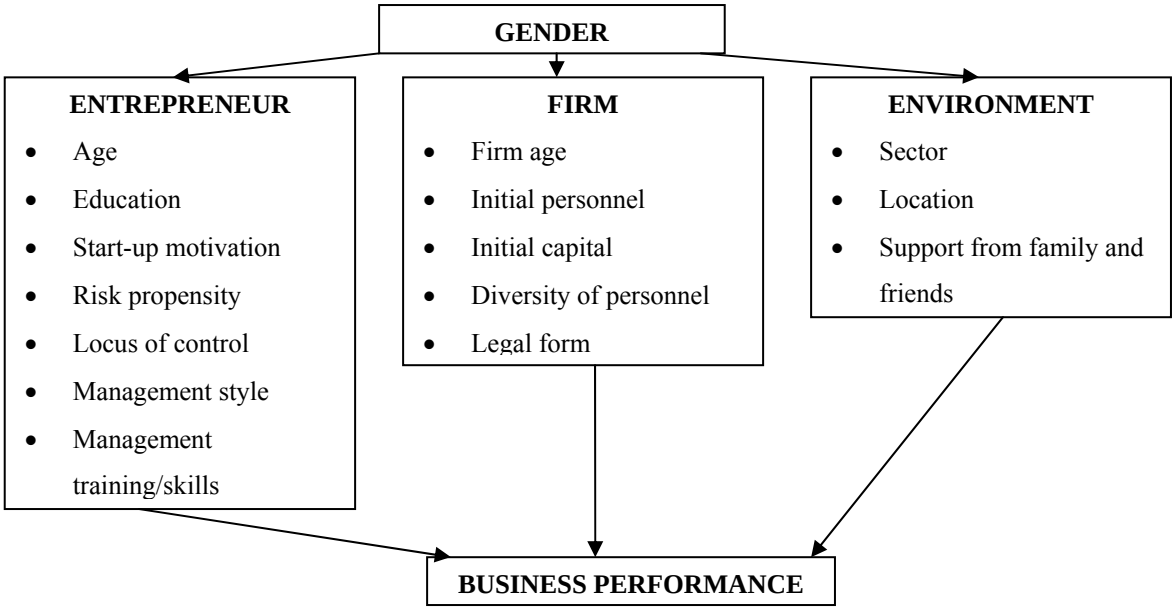
H2: Performance of female-owned businesses is influenced by firm's characteristics including firm age, initial personnel, initial capital, diversity of personnel, and legal form.

H3: Performance of female-owned businesses is influenced by environmental factors include sector, location ,and support from family and friends.

The theoretical perspectives and evidence from empirical research discussed in previous sections also suggest that variables characterizing entrepreneur, firm, and environment may mediate the relationship between gender and performance. The conceptual model adopted in this section (Figure 1) depicts the indirect gender effect on business performance. Indirect gender effects (Verheul,

2005) refer to gender effects on performance that are a result of differences between male and female entrepreneurs with respect to their personal characteristics, the characteristics of their enterprises, and environment factors. In contrast to indirect gender effects, direct gender effects (Verheul, 2005) are differences in performance that can not be attributed to differences between male and female entrepreneurs in other independent variables included in the model. The conceptual model in Figure 5.1 posits that gender has only indirect effect on business performance. We combine the Feminist Theory and the Institutional Theory to explain differences between female and male entrepreneurs that may lead to differences in business performance.

Figure 1: Conceptual model of gender effects on business performance.



Source: Own elaboration.

Following the liberal feminist perspective, we propose that gender differences in performance may be due to female entrepreneurs' personal disadvantages, such as lack of formal education and management skills and less support from family and friends, and organizational disadvantages, such as lack of resources. Despite the implemented formal rules establishing the formal equality between the sexes in CEE by the communist regime, de facto women did not have equal status with men. Women did and continue to bear disproportionate part of family responsibilities and household work. Moreover, women were and continue to be less represented in high political and managerial positions even in professions and sectors dominated by women such as education, health and social services, public administration, retail trade, etc. (Stoyanovska, 2001; Smallbone and Welter, 2001; Aidis et al., 2007; Aidis, 2006). Empirical research confirms that female entrepreneurs in transition

countries do not possess enough management training and skills (Izyumov and Rasumnova, 2005; Hisrich and Fulop, 1994) and in comparison with men they possess less management and business experience (Aidis, 2006). Following liberal feminist perspective, we suggest that because women were systematically less likely to have access to managerial positions they were less likely to obtain management training/ skills.

Female entrepreneurs may experience more difficulties to acquire start-up resources than male entrepreneurs, which may lead to gender differences in performance. Women in transition economies suffer more from poverty and impoverishment and possess less personal savings than men due to their role as family caretakers, limited territorial mobility and lack of appropriate skills (Stoyanovska, 2001; Isakova et al., 2006). They have acquired fewer personal funds due to occupying less qualified positions (Drnovsek and Glas, 2006). Very traditional beliefs and attitudes toward women's role in society dominate in the countries in Eastern Europe (Tilley, 2002; Aculai et al., 2006; Welter et al., 2006). These facts lead us to suggest that female entrepreneurs may experience more difficulties than male entrepreneurs in acquiring initial resources such as start-up capital and personnel. Previous empirical research confirms that female entrepreneurs in transition economies do experience severe problems with acquiring resources for starting and running a business (Lituchy and Reavley, 2004; Welter et al., 2005; Ylinenpaa and Chechurina, 2000; Hisrich and Fulop, 1994).

Female and male entrepreneurs may differ in their choices of legal form and sector, which in turn may result in gender differences in performance. Female entrepreneurs may choose certain legal forms associated with lower capital requirements and more favourable tax and social security regulations due to lack of resources. According to Bulgarian legislation, sole proprietorship has the lowest capital requirements and is associated with relieved tax and social security regimes. Female entrepreneurs may also choose sectors with low entry barriers such as trade and services, because they are less likely to possess enough resources for starting and running a business (Izyumov and Rasumnova, 2005; Hisrich and Fulop, 1994). Under the communist system women were appointed predominantly as "directors" of "female industries" including retail trade, food processing, services, and textiles (Izyumov and Rasumnova, 2000:5), which determines their choice of industry (Hisrich and Fulop, 1994).

Referring to social feminist perspective we argue that female entrepreneurs may have different motivation for start-up compared with male entrepreneurs, which may influence the performance of their ventures. Empirical research in Western countries demonstrates that female entrepreneurs enter business ownership in order to balance work and family responsibilities (Cromie, 1987; Fielden et al., 2003; Caputo and Dolinsky, 1998; DeMartino and Barbato, 2003). Men more often than women seek wealth creation and financial advancement (DeMartino and Barbato, 2003; Wilson et al., 2004; Cromie, 1987). In transition economies, financial motives seem to be very important for female entrepreneurs (Zapalska, 1997; Izyumov and Rasumnova, 2005; Welter et al., 2005). However, male entrepreneurs in countries in transition more frequently than female entrepreneurs mention increasing income (Aculai et al., 2006) or short-term economic gains as start-up motives (Zapalska, 1997). As in Western countries, female entrepreneurs in transition countries are influenced strongly by non-financial factors such as self-fulfillment (Izyumov and Rasumnova, 2005), independence (Hisrich and Fulop, 1994), and family demands (Welter et al., 2005). In Bulgaria, female entrepreneurs consider family and children are the most important values regardless of education level and career path (National Statistical Institute (NSI), 2004). Furthermore, matrimonial satisfaction influences stronger self-assessment of the way of life of these entrepreneurs than material and job satisfaction (National Statistical Institute (NSI), 2004).

According to social feminist perspective, differences of psychological traits of female and male entrepreneurs may lead to differences in the performance of their businesses. A large amount of studies in psychology, sociology, economics, and management demonstrate that women are more risk averse than men in various environments (Arch, 1993; Byrnes et al., 1999; Johnson and Powell, 1994; Davidkov, 2006; Aculai et al., 2006; Isakova et al., 2006). Empirical evidence also suggests that women are characterized with a more external locus of control than men across different cultures (Semykina and Linz, 2007; Rosenthal et al., 1996; Rossier et al., 2005). Differences in social roles and everyday activities between men and women may account for gender differences in risk propensity. Women are the main nurturer and care provider and exhibit greater overall preoccupation about the well-being of others than men (Davidson and Freudenburg, 1996) In transition countries women consider family happiness as more important than career (Aculai et al., 2006). Women's concern for family and children leads to lower willingness to take risks in their business activities in comparison with men in transition context (Özcan, 2006).

Referring to social feminist perspective we argue that differences in management styles of female and male entrepreneurs may be associated with gender differences in business performance. Some authors have argued that skills and experiences women acquire in running a household and raising children influence their management style (Scott, 1986). Indeed, previous research shows that women exhibit participative management style (Chaganti, 1986; Hisrich and Brush, 1984; Neider, 1987). Female entrepreneurs tend to use relational practices with their employees and clients including preserving, achieving, mutually empowering and creating team (Buttner, 2001). Female and male entrepreneurs may have different business goals, views of business (Brush, 1992), and preferences for growth (Cliff, 1998); therefore, their businesses may be concentrated in different sectors and may exhibit preferences for legal forms.

Drawing upon the Institutional Theory, we argue that gender stereotypes that entrepreneurship is a "male" occupation and traditional beliefs about the role of women in society may lead to less support for female entrepreneurs from their families. Using data from World Values Survey carried out in 43 countries, Tilley (2002) shows that inhabitants of the countries in Eastern Europe, including Bulgaria, hold the most traditional beliefs about women's role in society. Furthermore, age differences among the young and the old in attitudes toward women's work are very small in Eastern Europe, while in other country clusters there is a clear tendency younger to be more liberal than elders.

H4: Female-owned firms have worse performance than male-owned firms.

H5: After controlling for relevant entrepreneur's characteristics, firm's characteristics, and environmental factors, there are no statistically significant differences in performance between male and female-owned businesses.

Additionally, we follow our study of the direct and indirect effects of gender on performance with an examination of whether the effects of other independent variables on firm performance differ by gender. Several empirical studies in non-transition economies show that gender can moderate the effect of other determinants of performance (Collins-Dodd et al., 2004; Robb, 2002; Boden and Nucci, 2000). Our last hypothesis is:

H6: The independent variables have different influences on performance depending on whether the owner is a woman or a man.

6. Research Methodology

6.1. Sample

To test the proposed hypotheses we use data obtained from a database about Bulgarian private enterprises and their owners containing a representative sample of more than 1000 companies (Davidkov, 2006). The database was created in 2004 through a survey using standardized interviews with the owner-manager or one of the owner-managers of the companies. The survey was representative for the population of Bulgarian private enterprises with regard to legal form and location and was accurate to 0.05 (5%). Approximately 40% of the interviewed owner-managers were female, while 60% were male, which is comparable to the gender distribution of the total population of entrepreneurs in Bulgaria according to the National Statistical Institute (NSI, 2004).

Table 2: Characteristics of entrepreneurs and their businesses.

Sector	**%**	**Gender of the owner**	**%**
Manufacturing	14.4	Women	43.7
Trade	51.7	Men	56.3
Services	33.9		
Size classes	**%**	**Age of the owner**	**%**
Less than 6 employees	77.2	Less than 36	22.2
Between 6 and 10 employees	11.8	Between 36 and 45	34.3
Between 11 and 25 employees	5.4	Between 46 and 55	29.1
Between 26 and 50 employees	3.8	More than 55	14.4
More than 50 employees	1.8		
Firm age	**%**	**Education of the owner**	**%**
Less than 5 years	24.8	University studies	41.9
Between 5 and 10 years	50.6	Other	58.1
More than 10 years	24.6		
Legal form	**%**	**Marital status**	**%**
Sole proprietorship	83.8	Married	80.8
Other	16.2	Other(*)	19.2

The database does not contain information about other partners' gender in the case of multiple ownership. Therefore, we extracted a sample of 501 companies with a single owner to be used in the present study. In this study, entrepreneurs are defined as owner-managers of private businesses. Our sample meets the requirement for using empirical evidence drawn from the same population at the same time when examining gender differences in order to avoid the interference of situational or temporal factors when comparing women studied in one setting at one time and men studied in another setting at another time (Fischer et al., 1993). The characteristics of entrepreneurs and their

businesses included in the sample are presented in Table 2. The sample is composed by 282 male entrepreneurs (56.3%) and 219 female entrepreneurs (43.7%). As in Wells et al. (2003) and Hisrich and Fulop (1994), the vast majority of interviewed owners stated that they are married. Only about 42% of the owners have graduated university. This percentage is lower than the proportion of university-educated entrepreneurs in other transition countries (Zapalska, 1997; Welter et al., 2005; Wells et al., 2003). Similarly to evidence from other transition countries (Welter et al., 2005; Zapalska, 1997), most of the entrepreneurs in our sample fall in the age category of 36 to 55 years old.

6.2. Variables

In this study we use examine several primary, subjective, and entrepreneurial measures of SMEs' performance according to Rosa et al.'s (1996) classification. As a primary performance measure we use firm size. Size measured as a number of employees has been used in various studies on performance in small business (Murphy et al., 1996; Du Reitz and Henrekson, 2000; Rosa et al.'s, 1996; Lerner and Almor, 2002; Singh et al., 2001). SIZE is a categorical variable taking:

- value 1, if the owner has not hired employees;
- value 2, if she has less than 6 employees;
- value 3 if she has between 6 and 10 employees;
- value 4 if she has between 11 and 25 employees;
- value 5 if she has between 26 and 50 employees;
- and value 6 if she has more than 50 employees.

Profit satisfaction will be used as a subjective performance measure. Small firms are often difficult to access by researchers and usually reluctant to reveal financial information, while publicly available financial data about small firms is missing (Davidkov, 2002; Covin and Slevin, 1989) and difficult to interpret for various reasons (Covin and Slevin, 1989). Therefore, the use of subjective performance measures was recommended in the case of small firms (Covin and Slevin, 1989; Begley and Boyd, 1987; Sandberg and Hofer, 1987). It was acknowledged that self-reported performance measures are valid and reliable measures of small business performance (Chandler and Hanks, 1993; Brush and Vanderwerf, 1992; Venkatraman and Ramanujam, 1987). The variable

PROFIT indicates if owners are satisfied or rather satisfied with their profits (code 1) or not satisfied or rather not satisfied (code 0).

As an entrepreneurial measure of performance we use growth intentions. The use of growth intentions as a measure of entrepreneurial performance is justified because intentions are a good predictor of behaviour (Ajzen, 1991) and in a transition context growth intentions and expansion plans, in particular, are a good proxy measure of growth (Pistrui, 2003). Entrepreneurs might seek growth either by expanding their business or by pursuing alternative growth patterns such as starting or acquiring another business (Wiklund and Shepherd, 2001). Therefore *growth intentions* (GROWTH) are operationalized as the intentions to grow one's business or to start or acquire a new business. The respondents, who stated that they plan to expand their current activity or to start new activity, were coded 1. The rest of the owners were coded 0.

The study employs three groups of independent variables described in Table 3. The first group comprises individual characteristics of the owner: *gender, age*, *level of education, management style, presence of management training/skills, risk propensity, locus of control,* and *financial motivation for start-up*. Following Verheul (2005), in this study we use the term "gender" to emphasize that we consider differences between female and male entrepreneurs to be a function mainly of social arrangements and practices rather than a function of biology. However, in the empirical analyses gender is measured with the biological sex of the (potential) entrepreneur[3]. According to Verheul (2005), this approach leads to measurement consistency and allows for comparing empirical results reported in here with previous research on female entrepreneurs and their ventures. GENDER is a dummy taking value 1 if the owner is female and value 0 if the owner is male. The variable AGE is included as a control variable. It is measured with the natural logarithm of entrepreneur's *age* expressed in number of years. The variable EDU indicates the owner's *level of education* (coded 1 if the respondent has completed University studies and 0 if they have lower educational level). The variable FIN_MOTIVES was coded 1 if financial motivation was of great importance for start-up and 0 otherwise. The variable MANAGEMENT indicates if owners have *managerial training/skills* (coded 1) or not (coded 0).

[3] For information about the meaning attached to the terms "sex" and "gender" by social and behavioural scientists see Borna and White (2003) and Kimmel (2004).

In order to identify the *management style* of respondents, they were provided with four short descriptions of different styles of making and implementing management decisions in organizations adopted from Hofstede (1996:470). Management style (M_STYLE) was measured by asking respondents to choose the description, which more closely resembles the owner-manager in their company. The first two descriptions characterized the autocratic and persuasive management styles, while the other two descriptions portrayed consultative and participative management styles. The respondents were coded 1 if they had autocratic or persuasive management style and 0 if they had participative or consultative style.

Risk-taking propensity was "conceptualized as one's orientation toward taking chances in a decision-making situation" (Sexton and Bowman, 1985:131). Experiments with risky gambles have been frequently used in previous research for measuring risk-taking propensity (Powell and Ansic, 1997; Levin et al., 1988; Holt and Laury, 2002; Schubert et al., 1999). In this study, the respondents were confronted with three investment opportunities and were asked to choose whether they will invest a certain amount of money. The owners, who refused to make an investment in all three cases, were regarded as risk averse. The three cases involved the likelihood of both winning and losing specified amounts of money after one year. The required amount to invest was different across the three cases ranging from relatively small to large amount of money compared with the average annual salary in the country at the time of the interview. The variable RISK_AVERSE is binary and expresses the likelihood that the owner is risk averse. Locus of control of respondents was explored asking the following question: "To what extent does the solving of the problems of your business depend on you? (I deal with everything alone = 1 2 3 4 5 = Nothing depends on me, everything depends on others)". The variable LOCCONT takes value 1 if respondents had selected statements 1 or 2 (*internal locus of control*), and value 0 in the rest of the cases (*external locus of control*).

The second group of variables included in the analysis consists of the following characteristics of the business: *firm age, legal form, diversity of personnel, initial resources*. LEGAL_FORM is a binary variable indicating whether the company is registered as *sole proprietorship* (value 1) or has other *legal form* (value 0). *Firm age* (FIRM_AGE) is defined with the natural logarithm of firm age expressed in number of years. The dichotomous variables PERSONNEL and CAPITAL indicate if the entrepreneur experienced lack respectively of personnel and capital at start-up (value 1) or not (value 0) when she initiated her business. The variable DIVERSITY measures *the diversity of*

personnel. It takes value 1 if the company employs people, who are neither members of the entrepreneur's family, nor her/his relatives and value 0 otherwise. As a control variable in some analyses we use a dummy variable SIZE1 indicating whether the company employs more than 5 people (value 1) or not (value 0).

Table 3: Variables used in the study.

Variable	Definition
SIZE	1 = no employees, 2 = less than 6 employees, 3 = between 6 and 10 employees, 4 = between 11 and 25 employees, 5 = between 26 and 50 employees, 6 = more than 50 employees
SIZE1	1= more than 5 employees; 0 = 5 or less employees
PROFIT	1 = the entrepreneur is satisfied with profit; 0 = otherwise
GROWTH	1 = the entrepreneur has growth implementation intentions, 0 = otherwise
FIRM_AGE	natural logarithm of firm age (in number of years)
MANUFACTURING	1 = the main business activity of the company is in the manufacturing sector, 0 = otherwise
TRADE	1 = the main business activity of the company is in the trade sector, 0 = otherwise
LEGAL_FORM	1 = sole proprietorship, 0 = other legal form
PERSONNEL	1 = not enough personnel at start-up, 0 = otherwise
DIVERSITY	1 = the company employs people, who are neither members of the entrepreneur's family, not her/his relatives; 0 = otherwise
CAPITAL	1 = not enough start-up capital, 0 = otherwise
LOCATION	1 = the business is located in a big town, 0 = the business is located in a small town or a village
GENDER	1 = female, 0 = male
EDU	1 = the respondent has completed University studies, 0 = the respondent has a lower level of education
M_STYLE	1 = autocratic/persuasive management style, 0 = consultative/participative management style
MANAGEMENT	1 = if the respondent has management training or have acquired management skills in her previous working experience, 0 = otherwise
RISK_AVERSE	1 = the respondent is risk avers, 0 = otherwise
LOCCONT	1 = internal locus of control, 0 = external locus of control
FIN_MOTIVES	1 = the respondent reports financial motives as very important for start-up, 0 = otherwise
AGE	natural logarithm of entrepreneur's age (in number of years)
SUPPORT	1 = the respondent receives support from family and friends, 0 = otherwise

The third group of variables included in the analysis consists of the following characteristics of environment, in which entrepreneurs operate their business: *the presence of support from family and*

friends, location and *sector*. MANUFACTURING indicates if the main business activity of the company is in the *manufacturing sector* (coded 1) or not (coded 0). TRADE shows if the main business activity of the company is in the *trade sector* (coded 1) or not (coded 0). The variable SUPPORT is dichotomous and reveals the likelihood that the entrepreneur receives *support from family and friends* in relation to her business activities. LOCATION is dichotomous (1 = the business is located in a big town, 0 = the business is located in a small town or a village).

6.3. Data analysis

Taking into account the objectives of this study and the nature of the variables used, we employ both ordered logit regression and binary logistic regression for the analysis of our data (Greene, 1997). These regressions do not assume normal distribution of the dependent variables, homoscedasticity, normally distributed error terms, and uniform increments between categories (Greene, 1997). These methods apply maximum likelihood estimation, which provides the most probable estimation of logistic coefficients. The ordered logit model can be expressed with the following equation:

$$p_i = p\,(SIZE = 1, 2, \ldots, 6) = \exp(b_0 + \sum b_r x_{rl}) / (1 + \exp(b_0 + \sum b_r x_{rl}))$$

where SIZE is the dependent variable ranging between 1 and n

b_0 is a constant term

b_r is a vector of parameters

x_{rl} is the observed value of the r-th independent variable in the l-th case.

The coefficients of significant independent variables are interpreted looking at marginal effects of change in the regressors.

The estimated binary logistic models take the following form:

$$\text{Prob (PROFIT=1)} = 1 / (1 + e^{-Z}),$$

where PROFIT can take values 0 or 1;

$Z = f(X_i, C)$, i.e. a linear combination of independent variables (X_i) and a constant (C).

$$\text{Prob (GROWTH=1)} = 1 / (1 + e^{-T}),$$

where PROFIT can take values 0 or 1;

$T = f(X_j, D)$, i.e. a linear combination of independent variables (X_j) and a constant (D).

The research hypotheses will be supported if regression analysis provides an acceptable accuracy of classification of cases and of goodness of fit measures. In addition, the impact of explanatory variables should be statistically significant at least at the 10 percent level (two-tailed test) with the predicted sign. Wald statistics will be used to estimate the significance of the independent variables. Moderation effects of gender are examined by estimating separate regressions for men and women. This approach is more appropriate taking into account the categorical nature of the independent and dependent variables used in this study. It avoids possible severe multicollinearity problems in the interactions model (Collins-Dodd et al., 2004). Correlations between independent variables are measured using Spearman's rho coefficients and Pearson correlation. Further, to check for multicolinearity we calculate the Variance Inflation Factor (VIF) for all regression models that we estimate. Statistical analyses are performed with EViews 6.1.

7. Empirical results

7.1. Correlation analysis

Table 4 shows correlations between all variables used in this study. There are both differences and similarities between female and male entrepreneurs and their businesses. Female and male entrepreneurs in our sample are very similar in personality traits such as locus of control and willingness to take risks, level of education, importance of financial motives for start-up, initial start-up resources such as capital and personnel, and support from family and friends. Gender differences can be observed in a number of other characteristics of Bulgarian entrepreneurs, their ventures, and the environment in which they operate. Female entrepreneurs are younger than male entrepreneurs. Male entrepreneurs are more likely to exhibit autocratic or persuasive management style, while female entrepreneurs – participative or consultative management style. In comparison with men, women are less likely to report growth intentions and to possess management training and skills. Women are more likely to choose sole proprietorship as a legal form and to run smaller businesses than men. Female-owned businesses are more likely to employ only family members and relatives and to operate in the trade sector, while male-owned businesses – in the manufacturing sector.

Table 4: Correlations between variables in the study.

		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
1	SIZE																				
2	GROWTH	.23***																			
3	GENDER	-.19***	-.12***																		
4	FIRM_AGE	.22***	-.05	-.18***																	
5	MANUFACTURING	.32***	.14***	-.14***	.12**																
6	TRADE	-.07	-.07	.16***	-.03	-.42***															
7	LEGAL_FORM	-.30***	-.17***	.16***	.03	-.27***	.14***														
8	PERSONNEL	-.29***	-.09*	.06	.06	-.02	-.01	.14***													
9	CAPITAL	-.02	-.07	.01	-.05	.05	.04	.05	.21***												
10	EDU	.10**	.10**	.03	-.01	.03	-.10**	-.18***	-.04	-.06											
11	M_STYLE	.05	-.01	-.13***	.001	-.06	.01	-.04	-.01	-.04	-.03										
12	MANAGEMENT	.16***	.08*	-.09**	.13***	.08*	-.03	-.11**	-.17***	-.09*	.11**	.08*									
13	RISK_AVERSE	-.15***	-.26***	.07	-.004	-.10**	.11**	.04	.04	.03	-.14***	-.02	-.03								
14	FIN_MOTIVES	.15***	.16***	-.03	.10**	.04	-.07	-.05	.01	-.01	.10**	.03	.07	-.13***							
15	SUPPORT	.12***	.06	-.02	.05	.05	-.004	-.03	-.09**	.03	-.06	.05	.08*	-.02	.01						
16	AGE	.03	-.16***	-.09**	.31***	.04	-.06	-.01	.03	-.05	.06	-.02	.08*	.14***	-.05	-.06					
17	LOCCONT	-.06	-.07	.01	.01	.05	.02	-.01	-.02	-.08*	-.11**	-.01	.06	.03	-.04	.05	-.05				
18	DIVERSITY	.61***	.26***	-.13***	.07*	.25***	-.16***	-.25***	-.27***	-.04	.20***	.07	.14***	-.19***	.19***	.12***	-.05	-.07			
19	LOCATION	.02	-.10**	.01	-.04	0,06	-.03	-.01	-.04	-.04	.17***	-.07	.001	-.03	.01	-.06	.12***	-.04	-.05		
20	PROFIT	.13***	.15***	.02	-.02	.09**	-.05	-.11*	-.12*	-.14***	.11*	.01	.10**	-.18***	.13***	.05	-.03	.06	.18***	-.03	
21	SIZE1	.79***	.22***	-.17***	.20***	.36***	-.17***	-.32***	-.16***	-.01	.07	.05	.16***	-11**	.14***	.08*	.10**	-.07	.43***	-.03	.11**

*** p < 0.01, ** p < 0.05, * p < 0.1

7.2. Gender and firm size

Table 5 contains the regression results of four ordered logit models with SIZE as a dependent variable. In the first model, we regress SIZE on all independent variables using the sub-sample of female entrepreneurs and their companies. In the second model, we repeat this procedure for the sub-sample of male entrepreneurs and their companies. Model 3 shows the effect of GENDER on SIZE without controlling for other factors, while Model 4 shows the gender effect on firm size after controlling for other factors correlated with gender. The tolerances for the regressions indicate that there are no serious multicollinearity problems, as they are all well within the acceptable limits (less than 2). All models show good fit to the data as demonstrated by likelihood ratio chi-square statistics (LR statistics) ($p < 0.01$) and pseudo R^2. The marginal effects of significant regressors estimated from the four models are reported in Table 6.

Table 5: Determinants of the probability of SIZE.

Variable	**Model 1** Female	**Model 2** Male	**Model 3** All	**Model 4** All
GENDER			-0.746011***	-0.268
AGE	-1.259891*	0.3593559		
EDU	-0.4886609	0.2728238		
RISK_AVERSE	-0.0072757	-0.0997542		
LOCCONT	-0.7214663*	-0.3609216		
FIN_MOTIVES	-0.092287	0.2926471		
M_STYLE	-0.132055	0.2837419		
MANAGEMENT	0.4056082	0.1925367		0.293
FIRM_AGE	0.962504***	0.5029705**		0.563***
LEGAL_FORM	-1.371097***	-0.6388603**		-0.903***
PERSONNEL	-1.118887***	-0.5874747**		
CAPITAL	0.4246437	-0.0344156		
DIVERSITY	3.378317***	2.700843***		3.033***
SUPPORT	0.8045116	-0.0145061		
MANUFACTURING	1.106226*	1.935618***		1.064***
TRADE	0.5061346	0.9002988***		
LOCATION	0.6211337**	-0.2801116		
Pseudo R-squared	0.2892	0.2294	0.0144	0.2256
LR statistic	147.79***	176.86***	18.81***	294.00***
Number of cases	219	282	501	501

* $p < 0.1$ ** $p < 0.05$ *** $p < 0.01$

According to Model 1 in Table 5 and the marginal effects reported in Table 5, several independent variables are statistically significant determinants of the size of female-owned companies. Older female-owned businesses and those employing personnel other than family members and relatives, tend to be larger. Sole proprietorships and businesses, which experienced lack of personnel at start-up, are more likely to report smaller firm size than others. Female-owned businesses located in big

towns tend to be larger than those located in small towns or villages. The coefficients of the variables AGE, LOCCONT and MANUFACTURING are significant at only 90% confidence level. Hypotheses H1, H2, and H3 are partially not rejected with regard to firm size.

Model 2 in Table 5 and the marginal effects reported in Table 6 reveal that the determinants of the size of male-owned businesses are very similar to those of female-owned businesses. Similarly to female-owned companies, male-owned companies tend to be smaller if they are younger, located in the manufacturing sector, registered as a sole proprietorship, employing only family members and relatives, and have experienced lack of personnel at start-up. There are also some differences between female and male-owned companies in the factors affecting size. On the one hand, the variable TRADE is not affecting the size of female-owned businesses, but appears as a significant determinant of the size of male-owned businesses. On the other hand, the variables AGE, LOCCONT, and LOCATION have statistically significant influence on the probability of having a larger firm size only in the sub-sample of female-owned companies. Therefore, hypothesis H6 can not be rejected completely by the evidence about firm size.

Table 6: Marginal effects estimated from the models in Table 5.

Variable	P(1)	P(2)	P(3)	P(4)	P(5)	P(6)
Model 1						
LN_AGE	0.198*	-0.151*	-0.039	-0.008	-0.007	-0.003
LOCCONT	0.097**	-0.063**	-0.021	-0.006	-0.005	-0.002
FIRM_AGE	-0.151***	0.115***	0.023***	0.006*	0.006**	0.002
LEGAL_FORM	0.151***	-0.063**	-0.054*	-0.015	-0.014	-0.006
PERSONNEL	0.152***	-0.098***	-0.033**	-0.009*	-0.008*	-0.003
DIVERSITY	-0.488***	0.289***	0.117***	0.034**	0.034**	0.014
MANUFACTURING	-0.130**	0.065***	0.040	0.011	0.01	0.004
LOCATION	-0.094**	0.069**	0.016	0.004	0.004	0.001
Model 2						
FIRM_AGE	-0.043**	-0.028*	0.046**	0.015**	0.007**	0.003*
LEGAL_FORM	0.047**	0.053	-0.064*	-0.023	-0.010	-0.004
PERSONNEL	0.047**	0.041	-0.056**	-0.019*	-0.009	-0.003
DIVERSITY	-0.297***	-0.051	0.214***	0.081***	0.038***	0.016**
MANUFACTURING	-0.109***	-0.26***	0.2***	0.099***	0.050**	0.022*
TRADE	-0.075***	-0.055**	0.084***	0.029**	0.013**	0.005*
Model 3						
GENDER	0.145***	-0.02	-0.057***	-0.032***	-0.024***	-0.012**
Model 4						
FIRM_AGE	-0.069***	0.014	0.036***	0.011***	0.006***	0.003**
LEGAL_FORM	0.089***	0.023	-0.07***	-0.024**	-0.014**	-0.006**
DIVERSITY	-0.409***	0.086**	0.192***	0.071***	0.042***	0.018*
MANUFACTURING	-0.01***	-0.04	0.085***	0.03**	0.017**	0.007**

* $p < 0.1$ ** $p < 0.05$ *** $p < 0.01$

According to Model 3 (Table 5) and the marginal effects reported in Table 6, the coefficient of GENDER is significant and negative, which means that women are more likely to own smaller companies than men. Hypothesis H4 is not rejected with regard to firm size. Model 4 (Table 5) reveals the influence of GENDER on SIZE taking into account the possible intervening effect of the variables correlated with both SIZE and GENDER as indicated in Table 4. These variables include MANAGEMENT, FIRM_AGE, LEGAL_FORM, DIVERSITY, and MANUFACTURING. The estimated coefficient of GENDER in Model 4 (Table 5) is not significant even at 90% confidence level. These results suggest that we can not reject hypothesis H5.

7.3. Gender and profit satisfaction

Table 7 presents results from three binary logistic regression analyses of the dependent variable PROFIT. The variable SIZE1 is added to analysis because the level of profit and respectively profits satisfaction may vary by firm size. Models 1 and 2 show good fit to the data as demonstrated by likelihood ratio chi-square statistics (LR statistics) ($p < 0.05$) and pseudo R^2. The tolerances for the regressions indicate there were no serious multicollinearity problems, as they were all well within the acceptable limits (less than 2). Model 1 in Table 7 displays determinants of the odds of profit satisfaction in the sub-sample of female-owned companies. Only one entrepreneur's characteristic - RISK_AVERSE - explain the probability of profit satisfaction. Risk averse owners are less likely to be satisfied with their profits. Two firm's characteristics seem to affect the odds of profit satisfaction: CAPITAL and DIVERSITY. The owners, who have experienced lack of capital at start-up, are less likely to be satisfied with their profits than others. The owners of companies employing not only family members and relatives are more likely to be satisfied with their profits. Environmental factors are not related to profit satisfaction of female entrepreneurs. Hypotheses H1 and H2 are not rejected completely with regard to profit satisfaction, while H3 is rejected.

Model 2 in Table 7 explores which are the determinants of the odds of profits satisfaction among male entrepreneurs. There are both differences and similarities in the factors affecting profit satisfaction if female and male entrepreneurs. The variables, which affect the odds of profits satisfaction among both female and male entrepreneurs, are RISK_AVERSE and CAPITAL. Although the variables FIN_MOTIVES and MANAGEMENT do not play a role in explaining the odds of profit satisfaction among female entrepreneurs, they tend to influence the odds of profits satisfaction among male entrepreneurs. The variable DIVERSITY is related to the probability of

profit satisfaction among female entrepreneurs, but not among male entrepreneurs. Therefore, hypothesis H6 can not be rejected completely by the evidence about profit satisfaction. According to Model 3 in Table 7, the coefficient of GENDER is not statistically significant, which means that contrary to our expectations male and female entrepreneurs do not differ in their profit satisfaction. Hypotheses H4 and H5 are rejected with regard to profit satisfaction.

Table 7: Determinants of the odds of PROFIT=1[a].

Variable	**Model 1** Female Coeff. (St. error)	**Model 2** Male Coeff. (St. error)	**Model 3** All Coeff. (St. error)
GENDER			0.09
AGE	-0.169	-0.129	
EDU	0.071	0.468	
RISK_AVERSE	-0.751**	-0.578***	
LOCCONT	0.199	0.425	
FIN_MOTIVES	0.217	0.478*	
M_STYLE	0.038	0.031	
MANAGEMENT	0.072	0.700*	
FIRM_AGE	-0.342	0.105	
LEGAL_FORM	-0.139	-0.171	
PERSONNEL	-0.130	-0.112	
CAPITAL	-0.776**	-0.546*	
DIVERSITY	0.717**	0.218	
SUPPORT	0.571	-0.143	
MANUFACTURING	0.332	0.335	
TRADE	-0.186	0.279	
LOCATION	0.094	-0.329	
SIZE1	-0.390	0.290	
Pseudo R-squared	0.0909	0.0957	0.0004
LR statistic	27.60**	37.33***	0.25
Number of cases	219	282	501

[a] A constant has been estimated but is not included in the table.

* p < 0.1 ** p < 0.05 *** p < 0.01

7. 4. Gender and growth intentions

Table 8 contains the regression results of four binary logistic regression models. In the first model, we regress GROWTH on all independent variables, SIZE1, and PROFIT using the sub-sample of female entrepreneurs and their companies. The variables SIZE1 and PROFIT are added to the analysis because growth intentions may vary by firm size and profit satisfaction. In the second model, we repeat this procedure for the sub-sample of male entrepreneurs and their companies. Model 3 shows the effect of GENDER on GROWTH without controlling for other factors, while Model 4 shows the gender effect on growth intentions after controlling for other factors correlated with gender. The tolerances for the regressions indicate there were no serious multicollinearity

problems, as they were all well within the acceptable limits (less than 2). All models show good fit to the data as demonstrated by likelihood ratio chi-square statistics (LR statistics) ($p < 0.01$) and pseudo R^2. Model 1 in Table 8 reveals that growth intentions of female entrepreneurs are associated with several entrepreneur's and firm's characteristics. The results show that female entrepreneurs with growth intentions are more likely to be younger and willing to take risks and to own companies, which are young, have more than 5 employees, and employ not only family members and relatives. Women who have experienced lack of capital at start-up are less likely to want to grow their business. These findings provide some support for hypotheses H1 and H2. Environmental factors do not influence growth intentions of female entrepreneurs, therefore hypothesis H3 is rejected.

Table 8: Determinants of the odds of GROWTH=1.

Variable	**Model 1** Female	**Model 2** Male	**Model 3** All	**Model 4** All
GENDER			-0.471**	-0.323
AGE	-1.446**	-0.927		-1.625***
EDU	0.105	0.287		
RISK_AVERSE	-0.816**	-1.013***		
LOCCONT	-0.699	-0.042		
FIN_MOTIVES	0.411	0.625**		
M_STYLE	0.159	-0.725**		
MANAGEMENT	0.024	0.460		0.223
FIRM_AGE	-0.499**	-0.056		
LEGAL_FORM	-0.477	-0.306		-0.470
SIZE1	1.435***	0.064		0.635**
PERSONNEL	0.438	-0.217		
CAPITAL	-0.877**	-0.052		
DIVERSITY	0.032*	0.925***		0.698***
PROFIT	0.242	0.236		
SUPPORT	0.494	0.100		
MANUFACTURING	0.742	0.360		0.260
TRADE	0.177	0.192		
LOCATION	-0.466	-0.477		
Pseudo R-squared	0.1723	0.1736	0.0098	0.0965
LR statistic	52.31***	65.34***	6.71***	66.26***
Number of cases	219	282	501	501

* $p < 0.1$ ** $p < 0.05$ *** $p < 0.01$

Model 2 in Table 8 demonstrates that except RISK_AVERSE and DIVERSITY other determinants of growth intentions of female and male entrepreneurs are different. Although the variables FIN_MOTIVES and M_STYLE are not associated with the odds of having growth intentions in the sub-sample of female entrepreneurs, they tend to affects significantly the probability of having growth intentions in the sub-sample of male entrepreneurs. The variables FIRM_AGE, SIZE, and CAPITAL are related to the odds of growth intention only in the sub-sample composed of female

entrepreneurs. The hypothesis H6 is not rejected completely by the evidence about growth intentions. According to Model 3 in Table 8 men are more likely to have growth intentions than women in our sample. Hypothesis H4 can not be rejected. In Model 4 (Table 8) we add potentially confounding variables that are correlated with both GENDER and GROWTH according to Table 8. These variables include AGE, MANAGEMENT, LEGAL_FORM, SIZE, DIVERSITY, and MANUFACTURING. The estimated coefficient of GENDER in Model 4 (Table 8) is not significant even at 90% confidence level. These results suggest that we can not reject hypothesis H5.

8. Discussion and Conclusions

This study aims to address the gap of knowledge about gender differences in business performance in the transition context of Central and Eastern Europe. There is no doubt that business ownership provides women with an avenue for achieving career success, control of their destiny, flexibility to balance their career and family goals, and leadership in the community (Fasci and Valdez, 1998). Therefore, it is important to examine determinants of performance in female-owned businesses and how and why the performance of female-owned businesses differs from the performance of male-owned businesses. We identify determinants of performance of both male and female-owned businesses and explore direct and indirect gender effects on several primary (firm size), subjective (profit satisfaction), and entrepreneurial measures (growth intentions) of SMEs' performance (Rosa et al., 1996). Our study employs three groups of independent variables: individual characteristics of the owner, characteristics of her/his business, and environmental factors.

This investigation of factors influencing performance of Bulgarian female-owned businesses examined the applicability of several theoretical perspectives. Our findings lend support to psychological approach to entrepreneurship. Entrepreneur's psychological traits including willingness to take risks and to some extend locus of control tend to influence performance in our sample of Bulgarian private companies. The performance measures used in this research seem largely unrelated to entrepreneur's level of education, start-up motivation, management training/skills, and management style. Hence, many of the factors emphasized in the extant literature in non-transition countries, including educational background, motivation, and management style appear to be less critical for explaining the performance of female-owned businesses in a transition context. The resource-based view of the firm received strong support by the evidence examined here. The lack of initial personnel and diversity of personnel affect firm size of female-owned

businesses, while the lack of initial capital and diversity of personnel influences profit satisfaction and growth intentions of female entrepreneurs. In addition, younger female-owned companies and those registered as sole proprietorships are more likely to have inferior performance. These findings suggest that firm resources play important role for the performance of female-owned businesses. As in non-transition countries, the environments in which female-owned businesses operate exert some significant influence on their performance. The location and the sector are related to firm size of female-owned businesses. Environmental factors do not affect profit satisfaction and growth intentions of female-owned businesses.

This study provides evidence that the relationship gender-performance is a complex phenomenon. Gender tends to moderate the effect of other factors on performance. Operating in the trade sector appears as a significant positive determinant of the odds of large firm size only of male-owned businesses, while entrepreneur's age, locus of control, and the location of the business have statistically significant influence on the probability of having a larger firm size only in the sub-sample of female-owned companies. Financial motivation for start-up and management training/skills play an important role in explaining the odds of profits satisfaction only among male entrepreneurs, while diversity of personnel only among female entrepreneurs. Although financial motivation for start-up and management style are not associated with the odds of having growth intentions in the sub-sample of female entrepreneurs, they tend to affects significantly the probability of having growth intentions in the sub-sample of male entrepreneurs. Entrepreneur's age, firm age, firm size, and initial capital are related to the odds of growth intention only in the sub-sample composed of female entrepreneurs.

The key findings about gender differences in performance in our sample of 501 Bulgarian private enterprises can be summarized as follows. Female and male entrepreneurs do not differ significantly in their profit satisfaction, but female-owned businesses included in our sample have smaller size in terms of number of employees and their owners are less likely to exhibit growth intentions than male entrepreneurs and their businesses. This apparent contradiction could be explained with the fact that women are less overconfident than men (Barber and Odean, 2001; Pulford and Colman, 1997; Bengtsson et al., 2005; Correll, 2001) especially for tasks perceived to be in the masculine domain (Beyer and Bowden, 1997; Lenney, 1977) and therefore could be satisfied with lower profits. In addition to moderation effects, we find also evidence that other variables mediate the effect of gender on performance. In multivariate regression analyses of primary and entrepreneurial

performance with appropriate entrepreneur's, firm's, and environmental characteristics, the coefficient for the primary independent variable, entrepreneur's gender, did not emerge as statistically significant.

Gender differences in management training/skills, firm age, legal form, diversity of personnel, and sector seem to explain gender differences in firm size, while gender differences in age, firm age and size, legal form, management training/skills, personnel diversity, and sector account for gender differences in growth intentions. These findings suggest that women's relative lack of management training/skills and diverse personnel impede the performance of their businesses, which is consistent with liberal feminist perspective. The fact that female-owned businesses tend to be registered as sole proprietorships, to be younger, and concentrated in low-income sectors could be explained both with women's specific mode of doing business (social feminist perspective) and women's relative lack of resources and opportunities (liberal feminist perspective). These differences lead to lower performance of female-owned businesses in terms of size and growth intentions in comparison with male-owned businesses.

A significant advantage of this study is that it uses a sub-sample of sole owners and their businesses, which is extracted from a database developed from survey covering a wide range of topics and aimed specifically at providing a better understanding of entrepreneurs and their businesses in private sector in Bulgaria. The survey was representative for the population of Bulgarian private enterprises with regard to legal form and location and was accurate to 0.05 (5%). While we have controlled for a wide variety of characteristics of the entrepreneur, firm, and environment and have analyzed both direct, indirect and moderation effects of gender on performance that have been ignored in previous research in transition economies, there are some limitations in our study. First, data was collected through self-reported survey and thus may be subject to cognitive biases and errors due to problems with memory. In addition, entrepreneurs may exaggerate the performance of their businesses. The fact that the survey was anonymous may lessen some areas of potential biases. Second, our sample comprised only businesses with a single owner; therefore, our findings can not be generalized to the case of businesses started and managed by entrepreneurial teams dominated by men or women. Third, our findings may be influenced by the cultural environment and therefore may not be applicable to other transition economies. Finally, the cross-sectional nature of the data does not allow for inferring causation.

We suggest that the relationship between gender and performance in a transition context should be an area for future research for several reasons. First, although there is plenty of research on gender and performance in non-transition economies, this study is the first attempt to examine the gender effects on performance distinguishing between direct, indirect and moderation effects. Second, the gender–performance relationship is a complex phenomenon as was demonstrated in the preceding section and a number of variables not included in this study may affect this relationship. Third, although we use several primary, subjective, and entrepreneurial performance measures, data about financial performance of Bulgarian male and female-owned businesses was not included in this research. Future research on gender and performance may be undertaken in several directions. One possible line of related research could explore whether the findings of this study can be generalized to other transitional and non-transitional countries. This research could also be extended by identifying and controlling for other variables relevant for performance such as gender differences in inputs and risk (Watson and Robinson, 2003; Watson, 2002) and by applying other measures of success such as financial performance measures. And finally, a longitudinal analysis should complement the findings in this research in order to confirm the presence of causal relationships.

Our findings have several practical implications. Loan institutions, risk capitalists, and business angles trying to identify potential successful female entrepreneurs in a transition context should pay more attention on their psychological traits than on their level of education, start-up motivation, management training/skills, and management style. Initial start-up conditions, mainly the lack of personnel and capital, seem to have a long-lasting effect on business performance. Therefore, these conditions should also be an important area of consideration for investors.

Policy makers and support institutions aiming to enhance the performance of female-owned businesses in transition economies should be aware of the fact that the availability of resources is of great importance for the performance of female-owned businesses. Special programs and measures should help women starting a business to acquire the necessary resources especially personnel and capital in order to secure the success of the business. The fact that women tend to register their companies as sole proprietorships and to employ mainly family members and relatives is detrimental for their business success. Therefore, barriers and obstacles impeding women to choose other legal forms should be either removed if possible, or aspiring female entrepreneurs should receive advice and help about how to cope with capital requirements and governmental regulations associated with other legal forms. The provision of management training for women may improve their human

resource management skills and thus may help them to recruit more diverse workforce, which in turn may improve the performance of their businesses.

Since gender moderates the effect of various factors on performance, policy makers in transition economies should pay more attention on the possible differential effects of various policies and measures on the performance of female and male-owned businesses. Policies and measures oriented toward such factors may have no effect or reverse effect on the performance of female-owned businesses. As indicated by this research, for example, male- and female-owned business are concentrated in different sectors, therefore policies and measures aimed at some sectors may have disproportionately strong effect on female-owned businesses (Welter et al., 2005). Special attention should be devoted to female-owned businesses operating in small towns or rural areas as they seem to underperform those operating in large towns.

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Carles Gispert i Pellicer

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Alex Rialp i Criado

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Antonio Amorós Mestres

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M.T. Balaguer, D. Prior, J.M. Vela

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Emili Grifell - Tatjé, Pilar Marquès - Gou

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Rafel Crespi, Miguel A. García-Cestona, Vicente Salas

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Àlex Rialp-Criado, Josep Rialp-Criado, Gary A. Knight

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Stephan Hecking

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José Ángel Zúñiga Vicente, José David Vicente Lorente

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Alberto Bayo-Moriones, Pedro Ortín-Ángel

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Jordi Celma Sanz

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Piedad Cristina Martínez Carazo

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María Cristina Abad Navarro

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Sílvia Bou Ysàs

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Héctor Ruiz Soria

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Leticia Blázquez Gómez; Emili Grifell-Tatjé

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Gonzalo Castañeda

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Soledad Moya, Jordi Perramon, Anselm Constans

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Andrés J. Picazo-Tadeo, Diego Prior

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Raquel Fonseca, Natalia Utrero

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Vicente Salas Fumás, J. Javier Sánchez Asín

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Darrel Brown, Jesse Dillard, R. Scott Marshall

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Sílvia Bou

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Judit Montoriol Garriga

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Aitor Ciarreta, María Paz Espinosa

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Francisco Liñán, Yi-Wen Chen

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Andrea Bikfalvi, Christian Serarols, David Urbano, Yancy Vaillant

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Magda Cayón, Joaquim Vergés

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Kurt Desender, Christian Castro, Sergio Escamilla

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Marie Dutordoir, Patrick Verwijmeren

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Francisco Liñán, Francisco Santos, José L. Roldán

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Henrik Tötterman

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Manuel Sánchez, Ignacio Cruz, David Jiménez

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Desislava Yordanova