Identifying Family Businesses: The Surname Matching Approach

Ondřej Machek, Daniela Kolouchová, Jiří Hnilica

Abstract**—**Family business has received considerable academic attention in the past decades. One of the most contentious issues is the very definition of family business, since the results of research studies with different definitions provide different results. Obtaining a comprehensive database of family businesses may be difficult when companies have no legal obligation to disclose if they are family firms or not. In this article, we present the surname matching approach to obtain a large sample of family firms. Besides the method, we also illustrate its use in the Czech Republic. Although employing arbitrary judgement, we believe that there exists no other way of obtaining a comprehensive database of family businesses when companies have no disclosing obligation.

Keywords**—**Family business, database, surname matching, Czech Republic

I. Introduction

THE fact that for many the phrase "family business" connotes a small or medium-sized company with just a local significance does not reflect the powerful role that family-controlled enterprises play in the world economy. They also include companies like Walmart, Samsung, Tata Group, Estee Lauder and Porsche, and account for more the 30% of all companies with sales in excess of $1 billion [1]. In most countries, regardless of company size, family businesses account for a major share of business ([2] (United States), [3] (Spain), [4] (Chile), [5] (western Europe), [6] (Australia), [7] (Germany)). As such, family businesses make a significant contribution to employment, turnover, added value, investments and accumulated capital [8].

Therefore it is no wonder that interests of academicians have been attracted towards studying family businesses. However it is important to mention that family business as an academic discipline is relatively new. The first professional association, Family Firm Institute, was established in 1986. Family Business Review, the first scholarly publication devoted exclusively to exploration of the dynamics of family-controlled enterprise, was established in 1988 [9]. The importance of the topic is further highlighted by establishing "Centers for Family Business" at prestigious universities in the world (e.g. St. Gallen University; Center for Family Enterprises at Kelogg School of Management; Research Institute for Family Business at Wirtschaftsuniversität Wien; etc.)

While in many countries of the world, family businesses have received considerable academic attention, in post-communist European countries, the role of family businesses remains relatively undiscovered. Among these countries, we may cite Poland, Hungary, Slovakia, Romania, Bulgaria, or Croatia, among others.

While at the beginning of 1990´s we could hardly speak of any family businesses in these countries (with possibly an exception of those somewhat drawing upon the heritage of their predecessors who ran their own family businesses before the nationalization which occurred after the Second World War), then some 25 years later it is quite common that owners already have transferred their businesses to their heirs or have at least started considering it. From this perspective the reality of family businesses in post-communist countries including the Czech Republic resembles the situation in other countries around the world.

In the Czech Republic the role of family businesses has been particularly neglected. Some research has already been conducted ([10]-[14]), but it does not by far reflect the intensity devoted to this topic in the international academic literature.

One of the most contentious issues in family business studies is the very definition of family businesses, i.e. what actually constitutes a family firm. In the literature review, we present the most widely used approaches. Generally, family firms have no legal obligation to disclose whether they are family businesses or not. However, obtaining a database of firms based on a theoretical definition is often impossible since sometimes, qualitative aspects or unmeasurable statements are used in the existing definitions. Therefore, the possibilities of obtaining a comprehensive database of family firms are very limited.

One possible approach to obtain a sample of family firms is to use stratified random sampling. For instance, one may choose a sample of 1,500 random firms and then, using a questionnaire survey, filter firms which identify themselves as family firms or otherwise fulfil a requirement on family firms [15]. Such approach can be used to obtain a representative

This work was supported by the Internal Grant Agency of the University of Economics in. Prague, project no F3/55/2015 "Family Businesses in the Czech Republic – performance, governance, succession".

O. Machek is with the Faculty of Business Administration, University of Economics, Prague, Czech Republic (e-mail: ondrej.machek@vse.cz).

D. Kolouchová is with the Faculty of Business Administration, University of Economics, Prague, Czech Republic (e-mail: daniela.kolouchova@vse.cz).

J. Hnilica is with the Faculty of Business Administration, University of Economics, Prague, Czech Republic (e-mail: hnilica@vse.cz).

sample of family firms, but surely will not result in a comprehensive database of family firms.

In this article, we present the use of surname matching approach to identify family businesses. The successful use of surname matching in other sciences when investigating ethnicity [16], proportion of a group in a given population [17], triangulating identity of a target in genomics [18], or exploring a family history [19] reflects the potential of family names to be used to find relatives. We will show that it can also be used when identifying family firms.

II. Literature Review

The family business discipline has been establishing in multiple directions. In this section, we will present the main areas of interest of family business. First, we will discuss the issues of defining family businesses. Subsequently, we will present a brief overview of differences between family and non-family businesses in terms of performance and capital structure. Finally, we will discuss governance and management issues.

A. *Defining family business*

The very definition of family business is crucial because usually the research outcomes do compare family and non-family businesses from many perspectives. A number of possible definitions can be found in the past research.

Rosenblatt et al. [20] defined family business as a company where the majority of ownership or control rights are possessed by one firms and in which two or more family members are involved. Leach [21] defined family business as a company where family members possess at least 50% of ownership. Among other frequently cited definitions, we can cite the definition where a family owns 20% or more of voting rights [22]. We may also mention the definition of Klein [23] who used a special indicator, called SFI (substantial family influence), to measure the family involvement as a sum of shares of a family in management, ownership and supervisory boards.

In spite of the fact that there is no unanimous agreement upon it, it seems that each definition of family business explicitly or implicitly includes three dimensions [24]:

1. one or several families hold a significant part of the share capital;
2. family members retain significant control over the company, which depends on the distribution of capital and voting rights among nonfamily shareholders, with possible statutory or legal restrictions;
3. and family members hold top management and/or supervisory board positions.

Such criteria are also called “involvement” criteria [25] since they deal with the involvement of family in different areas of control over a company.

Other approaches involve the “essence” approach which include the “intention for succession”, self-identification as a family business, or behavioural aspects (“familiness”) as distinguishing factors of family firms. For instance, Chua et al. [26] defined family business as “a business governed and/or managed with the intention to shape and pursue the vision of the business held by a dominant coalition controlled by members of the same family or a small number of families in a manner that is potentially sustainable across generations of the family of families”. An alternative definition was presented by Habbershon and Williams [27] who proposed that “family firms should be distinguished by the presence of unique and synergistic resources and capabilities arising from family involvement and interactions between family members”. The difference between the two definitions is clear; Chua et al. [26] require the vision of continuing a business across multiple generation, while Habbershon and Williams [27] require the behaviour of companies to produce positive/negative synergistic outcomes.

Researchers (e.g. [28]) conclude that due to unique institutional legal contexts in countries across the globe it makes no sense to come up with a definition that could be universally applicable. Nevertheless each study must explicitly state what is understood under the family business because different definitions do lead to different findings [29].

The European definition of family business [30] is as follows:

- In the case of the non-listed firm, the majority of votes is in possession of the natural person(s) who established the firm, or in possession of the natural person(s) who has/have acquired the share capital of the firm, or in the possession of their spouses, parents, child or children’s direct heirs. Listed companies meet the definition of family enterprise if the person who established or acquired the firm (share capital) or their families or descendants possess 25 percent of the right to vote mandated by their share capital.
- The majority of votes may be indirect or direct.
- At least one representative of the family or kin is involved in the management or administration of the firm.

Note that this definition does not require multiple relatives from a family to officially participate in ownership or management.

The academic debate on whether “involvement” criteria are sufficient or they should be accompanied by “essence” criteria is still open and will deserve academic attention.

It is noteworthy that all definitions mentioned in this overview do not define what actually constitutes a family. Whether the family includes the nuclear family, extended family or segment of the extended family, is still not clear-cut [24]. To close the discussion, we will present the overview of De Massis et al. [24] of recurring criteria used to define a family business (see Table 1) in past studies (until 2012). Obviously, the “involvement” criteria have been by far more prevalent than other criteria.

Table 1: Criteria used to define a family business

Definitional criterion	Frequency (%)
Ownership	79%
Management	53%
Directorship	28%
Self-identification	15%
Multiple generations	9%
Intra-family succession intention	7%

Source: Adopted from De Massis et al. [24].

B. Performance differences between family and non-family businesses

While a large number of empirical investigations find superior financial performance of family businesses compared to non-family ones (e.g. [22], [31], [1]), other authors, such as Dyer [32] and O'Boyle et al. [33] find no significant main effects. According to a recent study, there exists an economically weak, albeit statistically significant, superior performance compared to non-family firms [34]. A matched-pair investigation of Czech family and non-family businesses has been carried out with a sample of large and medium-sized companies [14] finding that family firms were performing better in terms of profitability (however, the analysis was not based on random sampling, so the results cannot be generalized, but they suggest that there exist differences between these two classes of companies).

The differences are often explained by a more effective management due to familial nature of businesses, with the following emphasized:

- Reduction of agency costs: The separation of ownership and control in companies may lead to agency costs. Since the interests of owners (principals) and hired managers (agents) are not the same, managers may act in order to maximize their own utilities instead of those who hired them [35]. This separation can be mitigated in family businesses as managers in family businesses (often family members or family "friends") act more like stewards ([28], [36]). However, other authors suggest that with family altruism and conflict between majority and minority shareholders, principal conflict can exist, offsetting advantages.
- Long-term orientation of the shareholders´ family: The intention of family business owners is usually to preserve the family inheritance for its transmission to following generations. This leads to better investment policies in comparison to non-family businesses ([37], [38]).
- Reduced levels of debt in balance sheets: Modern corporate finance considers a judicious amount of debt as a good thing because through financial leverage it may create value. On the other hand debt decreases room to manoeuvre if a setback occurs. Family firms tend to be more risk averse and as a result carry less debt ([1], [39]). Therefore they do not need to make big sacrifices to meet financing demands during recessions.

C. Goals and Objectives of Family Firms

It is generally assumed that firm-value maximization is not the only objective of family firms [40]. A number of authors, such as Stafford et al. [41], find evidence of family-centered goals. Such goals have been classified into economic and non-economic goals, such as wealth creation, maintaining socio-emotional wealth [42] and family harmony, as well as providing employment to family members. The management's choice between family-centered and other goals may be determined by family values [25]. It seems that family ownership itself is not the sole predictor of the adoption of family-centered goals [43]. However, the importance of economic and non-economic goals and their relation to performance remain a challenge for future researchers. The academic literature has been particularly silent on the goal formulation process in family firms [24].

D. Management and Corporate Governance

The most discussed topics in this area of research have been professionalization (such as employing non-family CEOs) and succession (transition of the firm to the next generation). Past literature has been focused on modeling the professionalization process and on the practices necessary to support the integration of non-family members into companies. However, this research topic remains emerging and fragmented [24]. The effect of professionalization on performance has also received academic attention but remains a relatively unexplored area.

Succession belongs to the critical points in the life-cycle of a family business. It is estimated that only one third of family and businesses survive into the second generation [44].

III. Methods

The surname matching approach is based on a repeated search for matches in family names of people involved in management/control and ownership of companies. It can be seen as one of the "involvement" criteria mentioned in section II.A. As such, it required a comprehensive database of all companies on which the search is applied.

Databases provided by public (government offices) or private (such as Creditinfo Group or Bisnode Group which operate in multiple European countries) institutions have become a classical source of financial data for research studies. Such institutions typically serve as providers of credit information and risk management solutions and gather data on all companies with registered identification number or any other kind of ID, such as Tax Identification Number (TIN) in most European countries. Besides financial data obtained from financial statements and annual reports, such companies also provide data on people in management, ownership and in supervisory boards. When it's possible to make queries on such databases, the surname matching can be applicable.

The first step in our surname matching approach is to filter all records where the following conditions are met:

1. Among owners there are at least two individuals with the same surname, or
2. within the supervisory board there are at least two individuals with the same surname, or
3. within the management board there are at least two individuals with the same surname.

The procedure will result in a rough set of firms which may or may not be true family firms.

The second step is to manually check all records for possible mistakes. Although it may be a time-consuming procedure, it can be simplified by verifying the matched surnames in management, ownership and supervisory boards. To see why this procedure is necessary, consider the following situations.

- There are only two people with the same surname, a husband and wife. The husband controls 90% of the company, the wife controls the remaining 10%. In this case, the family influence is not strong, so the company is unlikely to be a true family business.
- There are three people with the same surname (a man, his wife and his son) who jointly control and own the company. In this case, it's obvious that the company is a true family business.

The advantage of surname matching is the possibility of obtaining the exact shares of a family in management, ownership, and supervisory boards, if this information is available.

Among the possible disadvantages, we can consider that firms with the same extent of family involvement may not consider themselves family firms [29], so the "self-identification" and "intention for succession" can't be confirmed.

IV. Results and Discussion

We selected all Czech companies with registered tax identification number whose financial data are included in the Bisnode's Magnus database [45]. The criteria for inclusion were having more than 50 employees and a greater turnover than 30 mil. CZK. The sample of all such firms contained 10,285 companies.

After having applied the surname matching algorithm to this sample of firms, we obtained 3,349 companies marked as family firms. Out of these companies, we selected 2000 subjects with the largest headcount. Then, we carefully checked all records for possible mistakes in order to obtain a reliable sample of family firms with a considerable family influence. During this step, of course, some degree of arbitrary judgment was inevitable. The most frequent sources of mistakes or uncertainty were namesakes (accidental occurrence of the same last names, especially the most frequent Czech family names such as Novák or Svoboda, in which case the kinship cannot be confirmed) and marginal family influence (for instance, two relatives among tens of other non-related people in the supervisory board, in which case the company is clearly not a pure family business, or relatives in insignificant positions such as press officers).

We deleted 34.6% companies of the sample which means that in 65.4%, the matching by surnames was correct. The final sample contains 1,308 firms which can be objectively classified as family businesses. Such a sample is large enough to test performance gaps between family and non-family firms; in our meta-analysis [46] we found that the average sample size in past 78 most important studies was of 936 firms, while the median was of 465 firms.

To gain a better image on the efficiency of our surname matching procedure, we compared the database of 50 largest Czech family firms presented by Forbes in 2014 [47] with our database. The algorithm didn't detect 11 companies of this ranking, so 39 companies have been identified correctly. The most frequent reasons for these mistakes were the fact that the real owners could not be found (place of business abroad, especially in Cyprus).

Generally, when applying the surname matching approach, several issues should be taken into consideration:

- Naming customs in the country. For instance, family names of spouses in Slavic countries (Czech Republic, Poland, Russia, etc.) usually end in –ova;
- Relatives may own or control a company via an intermediary company (legal person). There may be intermediary companies which are located in tax havens (such as Cyprus) where the real owner will be hidden. In this case, we cannot confirm the family ties.
- The algorithm will not detect companies where relatives are not officially involved in ownership or management but contribute to a substantial part of the firm's success by various types of work, help and support.

V. Conclusion

Obtaining a comprehensive database of family firms is contentious since usually, family firms are not obliged to disclose whether they are family firms or not. Besides that, it is still not clear-cut what actually constitutes a family business and how to define it.

In this article, we presented the use of surname matching to detect family businesses. Although it is necessarily affected by errors such as accidental namesakes or impossibility to find the real owner, it allowed us to create a first larger database of family firms in the Czech Republic which is large enough to empirically test performance differences between family and non-family firms.

Such database can be used to collect further non-financial data, for instance, using phone interviews combined with on-line questionnaires with decision-makers (like CEOs) on goals and objectives, perceived opportunities and threats, succession issues, or professionalization.

The further research will be focused on building a greater database of family firms. Especially small firms must be included to the sample since their importance in the economy is crucial.

REFERENCES

[1] N. Kachaner, G. Stalk, and A. Bloch, "What you can learn from family business," *Harvard Business Review*, vol. 90, no. 11, pp. 102-106, Nov. 2012.

[2] J. H. Astrachan, and T. A. Kolenko, "A neglected factor explaining family business success: Human resource practices," *Family Business Review*, vol. 7, no. 3, pp. 251-262, Sept. 1994.

[3] M. A. Gallo, and M. J. Estapé, "Family business among the top 1000 Spanish companies," IESE Research Paper 231, 1992.

[4] J. I. Martinez, "Family business in Chile," Family Business Network Newsletter, No 9, p. 5, 1994.

[5] B. Maury, "Family ownership and firm performance: Empirical evidence from western European corporations," *Journal of Corporate Finance*, vol. 12, no. 2, pp. 321–341, Jan. 2006.

[6] R. Owens, "Australian family business, ethics, energy and long term commitment: The hallmarks of success," Family Business Network Newsletter, vol. 9, p. 4, 1994.

[7] H. Reidel, " Family business in Germany," Family Business Network Newsletter, vol. 9, p. 6, 1994.

[8] J. Allouche, B. Amann, J. Jaussaud, and T. Kurashina, "The impact of family control on the performance and financial characteristics of family versus nonfamily businesses in Japan: A matched-pair investigation," *Family Business Review*, vol. 21, no. 4, pp. 315-330, Dec. 2008.

[9] P. Sharma, J. J. Chrisman, and K. E. Gersick, "25 Years of Family Business Review: Reflections on the Past and Perspectives for the Future," *Family Business Review*, vol. 25, no. 1, pp. 5-15, Mar. 2012.

[10] V. Koráb, A. Hanzelková, and M. Mihalisko, *Rodinné podnikání.* Brno: Computer Press, 2008.

[11] A. Hanzelková, "Re-establishing Traditional Czech Family Businesses," Ph.D. dissertation thesis. School of Business and Economics, University of Jyväskylä, 2004.

[12] P. Odehnalová, and K. Olševičová, "Agent-based Simulation of Development Stages of Family Businesses," *E+M Ekonomie a Management/ E+M Economics & Management*, vol. 4, pp. 77-82, 2009.

[13] J. Hnilica, O. Machek, and M. Hanuška, "The Significance and Profile of Large and Medium- Sized Family Businesses in the Czech Republic," in *Proc. Managing and Modelling of Financial Risks. 7th International Scientific Conference, 8. – 9. 9. 2014*, Ostrava, 2014, pp. 256-264.

[14] O. Machek and J. Hnilica, "Assessing the Impact of Family Influence on Financial Performance of Companies Using Matched-Pair Investigation," *Politická ekonomie*, vol. 4, 2015, to be published.

[15] R. Flören, L. Uhlaner, and M. Berent-Braun, "Family Business in the Netherlands: Characteristics and Success Factors," Centre for Entrepreneurship, Nijenrode Business University, Breukelen, 2010.

[16] H. Quan, F. Wang, D. Schopflocher, C. Norris, P. D. Galbraith, P. Faris, M. M. Graham, M. L. Knudtson, and W. A. Ghali, "Development and validation of a surname list to define Chinese ethnicity," *Medical care*, vol. 44, no. 4, pp. 328-333, Apr. 2006.

[17] B. Grofman, J. Garcia, "Using Spanish Surname Ratios to Estimate Proportion Hispanic via Bayes Theorem," UC Irvine: Center for the Study of Democracy, 2014.

[18] M. Gymrek, A. L. McGuire, D. Golan, E. Halperin, and Y. Erlich, "Identifying personal genomes by surname inference," Science, vol. 339, no. 6117, pp. 321-324, Jan. 2013.

[19] L. S. Jensen, and J. G. Shanahan, "Exploiting sequential relationships for familial classification," In *Proc. 19th ACM international conference on Information and knowledge management (CIKM '10)*, ACM, New York, NY, USA, pp. 1901-1904. Available: http://doi.acm.org/10.1145/1871437.1871759(2010).

[20] P. Rosenblatt, L. de Mik, R. Anderson, P. Johnson, *The Family in Business*. San Francisco: Jossey-Bass, 1985.

[21] P. Leach, *Family Businesses: The Essentials.* London: Profile, 2007.

[22] R. Anderson, and D. Reeb, "Founding family ownership and firm performance: Evidence from the S&P 500," *Journal of Finance*, vol. 58, no. 3, pp. 1301–1328, June 2003.

[23] S. B. Klein, „Family businesses in Germany: Significance and structure," *Family Business Review,* vol. 13, no. 3, pp. 157-181, Sept. 2000.

[24] A. Massis de, P. Sharma, J. H. Chua, and J. J. Chrisman, *Family Business Studies – an annotated bibliography*. Cheltenham, UK: Edward Elgar Publishing, 2012.

[25] J. J. Chrisman, J. H. Chua, and S. A. Zahra, "Creating wealth in family firms through managing resources: Comments and extensions," *Entrepreneurship Theory and Practice*, vol. 27, no. 4, pp. 359-365, June 2003.

[26] J. H. Chua, J. J. Chrisman, and P. Sharma, "Defining the family business by behavior," *Entrepreneurship theory and practice*, vol. 23, pp. 19-40. , Dec. 1999.

[27] T. G. Habbershon, and M. Williams, "A resource-based framework for assessing the strategic advantages of family firms," *Family Business Review*, vol. 12, no. 1, pp. 1–25, March 1999.

[28] M. Carney, "Corporate governance and competitive advantage in family-controlled firms," *Entrepreneurship: Theory & Practice*, vol. 29, no. 3, pp. 249–265, May 2005.

[29] P. Westhead, and M. Cowling, "Family firm research: The need for a methodological rethink," *Entrepreneurship Theory & Practice*, vol. 23, pp. 31–56, 1998.

[30] European Commission (2009). Final Report of the Expert Group – Overview of Family Business Relevant Issues: Research, Networks, Policy Measures and Existing Studies. Accessed March 12, 2015, available: http://ec.europa.eu/enterprise/policies/sme/promoting-entrepreneurship/family-business/family_business_expert_group_report_en.pdf

[31] J. B. Craig, and C. Dibrell, "The natural environment, innovation, and firm performance: A comparative study," *Family Business Review*, vol. 19, no. 4, pp. 275–288, Dec. 2006.

[32] W.G. Dyer, "Examining the "family effect" on firm performance," *Family Business Review*, vol. 19, no. 4, pp. 253-273, Dec. 2006.

[33] E. H. O'Boyle, J. M. Pollack, and M. W. Rutherford, "Exploring the relation between family involvement and firms' financial performance: A meta-analysis of main and moderator effects," *Journal of Business Venturing*, vol. 27, no. 1, pp. 1-18, Jan. 2012.

[34] D. Wagner, J. H. Block, D. Miller, Ch. Schwens, G. Xi, "A meta-analysis of the financial performance of family firms: Another attempt," *Journal of Family Business Strategy*, vol. 6, no. 1, pp. 3-13, March 2015.

[35] E. F. Fama, and M. C. Jensen, "Separation of ownership and control," *Journal of Law and Economic*, vol. 26, pp. 301–326, June 1983.

[36] J. H. Davis, F. D. Schoorman, and L. Donaldson, "Toward a stewardship theory of management," *Academy of Management Review*, vol. 22, no. 1, pp. 20-47, Jan. 1997.

[37] H. S. James, "Owner as manager, extended horizons and the family firm," *International Journal of the Economics of Business*, vol. 6, no. 1, pp. 41–55, 1999.

[38] J. C. Stein, "Efficient capital markets, inefficient firms: A model of myopic corporate behavior," *Quarterly Journal of Economics*, vol. 104, no. 4, pp. 655–669, Nov. 1989.

[39] D. L. McConaughy, C. H.Matthews, and A. S. Fialko, "Founding family controlled firms: Performance, risk and value," *Journal of Small Business Management*, vol. 39, no. 1, pp. 31–49, Jan. 2001.

[40] P. Sharma, J. J. Chrisman, and J. H. Chua, *A Review and Annotated Bibliography of Family Business Studies*. Assinippi Park, Norwell, MA: Kluwer Academic Publishers, 1996.

[41] K. Stafford, K. A.Duncan, S. Dane, and M. Winter, "A research model of sustainable family businesses," *Family Business Review*, vol. 12, no. 3, pp. 197-208, Sept. 1999.

[42] P. Berrone, C. Cruz, L. R. Gomez-Mejia, "Socioemotional Wealth in Family Firms: Theoretical Dimensions, Assessment Approaches, and Agenda for Future Research," *Family Business Review*, vol. 25, no. 3, pp. 258-279, Sept. 2012.

[43] P. Westhead, C. Howorth, "Ownership and management issues associated with family firm performance and company objectives," *Family Business Review*, vol. 19, no. 4, pp. 301-316, Dec. 2006.

[44] J. L. Ward, *Keeping the Family Business Healthy*. San Francisco: Jossey-Bass, 1987.

[45] Bisnode (2015). MagnusWeb [online], available: https://magnusweb.bisnode.cz.

[46] O. Machek, M. Brabec, and J. Hnilica, "Measuring Performance Gaps Between Family and Non-Family Businesses: A Meta-Analysis of Existing Evidence," *International Academic Research Journal of Business and Management*, vol. 2, no. 3, pp. 17-30, 2013.

[47] Mašek, J. et al. 50 největších rodinných firem. *Forbes*, 05/2014.