The Impact of Spousal Relationship on Profitability: A Matched-Pair Investigation of Copreneurial Firms

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***Abstract*—Family businesses are generally considered to be more profitable than nonfamily businesses. At the same time, couple-run companies controlled or managed by husband and wife are often excluded from the studies since they do not fulfill the basic attribute of family businesses–the intention for succession. However, they are supposed to have certain similar properties. In this study we tested the performance gaps between couple-run and professionally managed companies in the Czech Republic using the matched-pair investigation. The sample was composed of 130 pairs of companies in the period 2007-2012. Using Student paired t-test, we determined the differences in return on assets, return on equity, return on sales, return on capital employed, and levels of earnings. In most of the observations, the median and averages are higher in the case of couple-run companies; however, they are statistically significant only in a few cases. The results suggest that couple-run companies could have some positive benefits similar to those of family businesses.**

***Index Terms*—couple-run companies, copreneurship, profitability, return, performance gaps, family business**

I. Introduction

While it is generally accepted that family businesses are different from professionally led companies [1], little is known about companies which are led or owned by married couples [2]. The spousal commitment of a company's managers or owners may have beneficial as well as harmful consequences. According to Ponthieu and Caudill [3], "copreneurs" are married couples or life partners who jointly own and operate business organizations or who otherwise share risk, ownership, responsibility, and management by working together in any phase of a business venture.

Family business as an academic discipline is relatively new–it was first anchored by establishing the Family Firm Institute in 1986 and by issuing the first number of Family Business Review in 1988 [4], a scholarly publication devoted exclusively to exploration of the dynamics of family-controlled enterprise.

As an emerging field the family business discipline has been establishing especially in the two following directions: defining a family business and exploring performance differences between family and non-family businesses.

In spite of the fact that there is no unanimous agreement upon the definition of what constitutes a family business, each definition usually includes three dimensions [5]:

- One or several families hold a significant part of the share capital;
- 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;
- Family members hold top management positions.

We will make use of this approach when defining of what constitutes a couple-run business for our research. When defining a couple-run company, we started from the classification of De Bruin [6] who identified the following types of spousal entrepreneurial activities:

- The solo entrepreneur with a supporting spouse;
- Dual entrepreneurs, each of them with an independent venture;
- Copreneurs where both spouses are involved.

We will be interested in the third type of couple-run companies.

Before introducing the methodology and data, however, we will discuss the little existing research in this area. The question we ask in this article is how do spousal relationships affect a firm's financial profitability.

II. Literature Review

The past research on couple-run enterprises focused on social support [7], work and family conflicts [8], or communication between spouses [9]. However, only little research has been devoted to examining the performance of copreneurial firms.

Matser [10] noted that the perceived financial performance of small and medium-sized copreneurial ventures was positively correlated to non-family involvement (the extent to which the copreneurial couples involve non-family members), shared vision and quality of relationship, and concludes that spousal social capital also has a positive impact on the financial performance.

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A. Positive Effects of Spouse Involvement

The positive effects of relationship of couples are often attributed to the fact that transactions of economic resources between spouses (not necessarily money, but also time and effort) can contribute to the development of business, at least to the reduction of delinquency and moderation of the effects of misbehavior [11]. Spousal relations are also supposed to provide emotional support to individual partners. Committed spouses may work cooperatively toward common goals which can be associated with a strong business performance [12].

Moreover, without changing the topic to family businesses, we may suppose that the positive benefits of family control over a company hold in the case of couple-run companies as well, in particular:

- While the separation of ownership and control in professionally managed companies may lead to agency costs (which are due to different goals of owners and hired managers), this separation could be mitigated in the case of couple-run businesses [13].
- Values shared across family business stakeholders (such as managers, owners, employees, suppliers) generate synergistic effects [14].

B. Negative Effects of Spouse Involvement

On the other hand, possible conflicts between spouses may deteriorate work performance of individuals [15]. Galbraith [16] found that divorces do have a significant impact on short-term financial performance of family businesses. Indeed, divorces are generally considered to be capable of “killing” a copreneurial venture. Higher risk of divorce may be due to various conflicts. They may concern:

- Separation of work and family commitment [17] and lack of physical boundaries between work and family which may contribute to the distress of a business [18].
- Division of responsibility and decision making (nowadays, the husband still tends to be the boss which may represent a source of potential conflicts, see [19]).
- A possible competition between spouses,
- Having no hiding place at home and no possibility of being alone, too much togetherness [20].
- Avelenda [21] cites the opinion that spousal relationships may pressure employers to hire unqualified spouses.
- Lack of personal time, bringing home work-related problems (we may cite Wong and Kleiner [22] who quote that “work time may be spent solving personal problems with the spouses rather than working”).

An important question is whether the positive or negative effects prevail. In the following section, we will analyze the differences in profitability which is, however, only one dimension of a business success.

II. Methodology

In order to analyze the performance gaps we used the matched-pair investigation method which is often used to measure performance gaps between family and nonfamily firms (see e.g. [23], [24], or [25]).

This method is based on creation of pairs of two companies (one couple-run company, one non couple-run company) which have the same profile, i.e. operate in the same industry and have the same size. Subsequently, a paired t-test is applied in order to compare the differences in means of selected indicators.

To create the pairs, we assigned to every couple-run company a set of companies which operate in the same industry (classified by the five digit code NACE) which eliminated the differences due to different industries.

From the set of companies operating in the same industry, we selected the company with the same number of employees, or alternatively, if there were multiple companies with the same number of employees, we selected the company with the closest turnover. This way, we eliminated the differences due to firm size.

After having created the pairs of companies, we applied the paired t-test to determine the statistical significance of mean differences (the null hypothesis is that the average difference of means is zero) of selected indicators:

- Return on assets (ROA) defined as the ratio of earnings before interests and taxes (EBIT) and total assets;
- Return on equity (ROE) defined as the ratio of earnings after taxes (EAT) over equity;
- Return on sales (ROS) as the ratio of EBIT over sales;
- Return on capital employed (ROCE) as the ratio of EBIT over long-term capital (equity and long-term liabilities);
- Earnings before interests and taxes (EBIT);
- Earnings after taxes (EAT).

The above-mentioned indicators were calculated for the period 2007-2012.

III. Data

The collection of data is a challenging task since in the Czech Republic there is no database of couple-run companies and economic subjects have no legal obligation to disclose whether their husband of wife participates in the business or not [26]. In order to identify couple-run companies we used the database Albertina (maintained by the Bisnode company) which contains financial data on all Czech economic subjects with registered ID.

To identify the rough sample of couple-run companies in the Czech Republic, we selected all Czech companies with more than 50 employees for which one of the following conditions holds

- There is one male and one female of the same surname in the management board;
- There is one male and one female of the same surname in the supervisory board;

- There is one male and one female of the same surname among the owners.

The recognition of spouses in the Czech Republic is simplified since surnames of females usually end in “ová” like in other Slavic languages.

It is important to note that this algorithm will not detect non-married couples or people with marital status where the wife decided to keep her former family name.

Then, we had to check manually all records in order to eliminate possible namesakes (especially in the case of frequent Czech names like Novák or Svoboda) and we also removed pure family businesses (where more than two family members participated in the ownership or management). After another control for blank (non-disclosed) values, the final sample contained 130 couple-run firms (copreneurial ventures).

The final sample contains only large and medium-sized firms which is similar to the study of Menéndez-Requejo [25] who used the matched-pair investigation to compare family and nonfamily firms.

It should be noted that while the sample of couple-run companies remained the same during the period 2007-2012, the corresponding non-couple-run companies were not necessarily the same, since their number of employees and turnover has been varying.

While the above-mentioned method is suitable for comparative analyses of performance, it should be noted that it requires relevant and consistent data since the paired t-test is very sensitive to extreme values. At the same time, the differences in means should follow the normal distribution. It means we had to eliminate obvious outliers. That’s why the number of companies has been variable in the respective years.

IV. Results and Discussion

As noted previously, most studies find better performance of family businesses compared with nonfamily businesses, but little research has been devoted to comparing couple-run companies with professionally managed firms. In Table I and Table II, we compare couple-run companies (CRF) with non couple-run firms (NCF). The results are discussed below.

A. Profitability Measures

The hypothesis on a better financial performance of couple-run firms seems to be valid in most observations. Almost all related financial profitability ratios are greater in the case of couple-run companies.

Over the period under consideration, the mean value of return on assets (ROA) of couple-run companies has been higher. In 2007 and 2008, the differences have been statistically significant. In the years to follow, however, the difference has not been significant, although the differences have been in favor of copreneurial ventures.

The return on equity (ROE) of couple-run companies has been higher in all years except 2009, the difference was significant in 2008. Broadly speaking, the results indicate that couple-run companies perform better from the point of view of shareholders. However, the null hypothesis could not be rejected at $\alpha = 0.01$, which means we cannot be sure that ROE of couple-run and professionally managed firms is not the same in average.

Perhaps the most significant results can be observed in the case of return of sales. ROS of couple-run companies has been higher and significant especially in 2007, 2008 and 2009. However, in 2011, the difference was negative (not significant). The results suggest that the profit margin of couple-run companies is higher compared to professionally managed firms.

TABLE I. Profitability Measures Comparison

	2007	2008	2009	2010	2011	2012
Return on assets (ROA)						
Mean CRF	12.58	10.92	7.03	7.22	6.38	6.23
Mean NCF	9.30	6.83	6.24	6.37	6.26	6.07
Difference	3.27*	4.09**	0.78	0.85	0.12	0.15
Sample (N)	130	111	128	115	115	115
Return on equity (ROE)						
Mean CRF	19.58	17.23	9.81	11.2	9.70	10.2
Mean NCF	15.60	10.35	10.1	10.7	9.38	6.8
Difference	3.98	6.88**	-0.25	0.55	0.32	3.47
Sample (N)	130	111	128	115	115	115
Return on sales (ROS)						
Mean CRF	5.00	4.92	4.43	3.76	3.11	3.71
Mean NCF	3.28	2.71	1.51	2.81	3.50	2.77
Difference	1.72*	2.21**	2.92*	0.94	-0.38	0.94
Sample (N)	130	111	128	115	115	115
Return on capital employed (ROCE)						
Mean CRF	22.00	19.67	11.7	12.3	11.1	10.9
Mean NCF	16.30	12.95	11.6	11.4	10.0	11.1
Difference	5.70**	6.72**	0.09	0.90	1.09	-0.24
Sample (N)	130	111	128	115	115	115

Note: CRF = couple-run firms; NCF = non couple-run firms; ** - $p < 0.01$, * - $p < 0.05$.

Return on capital employed analysis provides similar findings. The profitability of couple-run companies has been higher in 2007 and 2008 (significant in both years), and all the other years except 2012.

B. Absolute Level of Earnings

We also compared the absolute value of earnings of two kinds: earnings before interests and taxes (EBIT) and earnings after taxes (EAT). Table II compares the characteristics of the CRF group with those of the NCF group. The analysis reveals that the couple-run companies’ mean earnings are higher in all years under consideration and there are no important differences between EBIT and EAT in their magnitude.

However, in no case is there a statistically significant difference. In other words, we cannot reject the null hypothesis (which states that the average difference of means is equal to zero), so it still may be true.

C. Discussion of Results

The paired t-test used in this analysis tests the null hypothesis that the average of the differences between a series of paired observations is zero. We must be careful not to imply causality in relationships among the variables.

The findings partly support the hypothesis that couple-run companies are more profitable than professionally managed firms where managers and owners are not spouses. However, not all observations are statistically significant at the desired level, and in the case of absolute level of earnings, no observation of statistically significant difference has been made. Still, a greater profitability of couple-run companies is consistent with prior theoretical research. This can be justified by several reasons.

One of reasons why copreneurial companies may be more profitable are the possible synergistic effects generated by values shared between spouses, especially trust, team work, shared vision, and improved communication.

TABLE II. ABSOLUTE LEVEL OF EARNINGS COMPARISON

	2007	2008	2009	2010	2011	2012
Earnings before interests and taxes (EBIT) – millons CZK						
Mean CRF	19.1	16.8	13.2	15.4	13.8	13.8
Mean NCF	18.7	16.3	7.89	10.4	12.8	11.5
Difference	0.47	0.54	5.36	4.98	0.98	2.34
Sample (N)	130	111	128	115	115	115
Earnings after taxes (EAT) – millons CZK						
Mean CRF	13.4	12.0	9.09	11.5	9.54	9.00
Mean NCF	11.7	9.43	8.02	7.11	7.99	8.22
Difference	1.78	2.58	1.07	4.41	1.55	0.78
Sample (N)	130	111	128	115	115	115

Note: CRF = couple-run firms; NCF = non couple-run firms; ** - $p < 0.01$, * - $p < 0.05$.

Among other possible benefits, we can mention the elimination of agency costs [12] and costs due to employee theft and fraud [20] since the goals of spouses are commonly shared. The above-mentioned factors, along with an improved control, can contribute to a business stability and reduction of costs, which may ultimately result in improved profitability. Without spousal relationship, the anticipated improvements in results and returns do not occur.

However, in the absence of the main factors positively affecting profitability–namely equality, independence, trust and confidence [19]–the profitability is likely to deteriorate.

V. CONCLUSION

In this article, we tested the performance gaps between copreneurial ventures and professionally led firms. The results suggest that couple-run companies are more profitable than non-copreneurial companies. However, not all observations have been statistically significant, so the null hypothesis (stating that the average difference between means is zero) could have been rejected only in a few observations. It is also noteworthy that the methodology approach used in this research has several weaknesses.

First, the quality of data is fundamental. The definition of couple-run companies we used in this article helped us to identify some of the couple-run companies in the Czech Republic, but surely not all of them, since not all female spouses decide to change their name after marriage, or there may be couples which are not married at all. Such companies cannot be discovered using surname matching.

Second, we analyzed only the performance gaps within the class of large and medium-sized companies. However, most of the copreneurial ventures are small businesses.

Third, the paired t-test is very sensitive to extreme values. The pairs of firms have to be representative and the differences in means should follow the normal distribution. This has been mitigated by manually eliminating outliers.

Moreover, the article also suggests that further analysis is warranted. A larger sample incorporating small businesses could provide more insight into the differences in profitability. Several questions emerge from this article. Are the couple-run firms more productive than professionally managed firms? Do they carry less debt like family firms in general? Do they perform better in terms of asset or inventory turnover? There are further questions worthy of investigation.

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