CAPITAL STRUCTURE IN START-UP FIRMS IN THE CONDITIONS OF THE CZECH ECONOMY

Gabriela Chmelíková1, Kristýna Somerlíková2

1 Department of Regional and Business Economics, Faculty of Regional Development and International Studies, Mendel University in Brno, Zemědělská 1, 613 00 Brno, Czech Republic
2 Department of Demography and Applied Statistics, Faculty of Regional Development and International Studies, Mendel University in Brno, Zemědělská 1, 613 00 Brno, Czech Republic

Abstract


The aim of this article is to characterise the form of capital structures in start-up companies in the Czech economy and to identify what determines them. The choice of theme for this research was motivated by the important role that start-up companies have played in the development of economies especially in its contribution to employment, while having a low empirical understanding of the structure of capital resources of the firms. In this contribution, we have managed to identify the average form of the capital structures of start-up companies in the Czech economy. Moreover, they were in keeping with the Trade-Off Theory of Capital Structure testing the factors determining the composition of the capital resources of the firms. However it was only possible to empirically support the conclusions in part.

Keywords: start-up firms, employment, capital structure, trade-off theory, determinants of capital structure

INTRODUCTION

Start-up companies are commonly defined as economic entities which were established at a time before which they had posted no economic activity. Although they are small companies, their role in the economy exceeds their size. They are seen as providing the energy for economic growth, which is also shown in the statistical figures of national economies (M. Horell and R. Litan, 2010). Fast growing economies usually have a larger number of start-up companies than in a stagnating economy. The role of start-up companies in an economy has several dimensions. One of the most important attributes of their relationship to the socio-economic system is the creation of new jobs. T. Kane (2010) showed as part of documenting job creation in the USA that start-up firms are the one stage in the life cycle of a company which provides a growth in jobs. In the other stages of the life cycle of a company, the net job creation figures are on average negative.

The support of start-up companies is extremely important from the point of view of sustainable employment. Any type of economic entity can only establish itself with free capital, which can be financed through the assets of the start-up company and the willingness of the owners to invest in the company. Most forms of support for start-up companies are actually directed to the very areas which improve the institutional framework for allocating free capital resources in the company. However, start-up companies have a limited amount of empirical data modelling the behaviour which is shown in the capital structures of companies in the first stage of their life cycle. Theoretical research primarily concentrates on large established companies, as does the follow-up empirical verification. Such companies can include a wide range of financial market instruments among their resources, unlike the situation facing small companies. Moreover, if some research was focused on researching small companies, it covered mostly companies that were already in existence (e.g.
C. Aybar-Arias, A. Casino-Martinez, J. Lopez-Gracia (2012) or M. Mateev, P. Poutziouris and K. Ivanov (2013). Nevertheless it is essential to understand the behaviour of the capital structures of such systems in order to be able to focus support for the start-up of new economic entities.

Characteristic Start-up Features

As with any living organism, companies go through several stages of its life cycle during their existence, for which specific approaches are typical for managing, financing and organising overall the running of the company. During the last three decades, the concept of the life cycle has been applied in several disciplines including micro-economics (D. Muller, 1972), management (D. Miller and P. H. Friesen, 1984), accountancy (M. Liu, 2008) and finance (H. De Angelo, 2005; and L. Bulan and Z. Yan, 2010). There is a key factor to all disciplines for determining the stage of the life cycle – the age of the company. The final classification of factors determining the individual stages is, however, dependent of the character of the discipline in which the model is used. One of the most often used classifications of stages of the life cycle is the model of the authors D. Miller and P. H. Friesen (1984). The authors have determined the individual stages on the basis of observing the behaviour of selected quantitative and qualitative characteristics with samples of companies with a life expectancy of at least 20 years. The numerical characteristics included the length of each individual stage and the growth in turnover, while qualitative included the level of bureaucracy of the organising structure of the company. According to D. Miller and P. H. Friesen (1984), it can be illustrated in the following Diagram (Fig. 1) which the observed companies showed on average. D. Miller and P. H. Friesen (1984) observed that each stage lasted on average 3 years for the companies observed. However, the length of time for each stage showed high variability across the sectors. The initial stage, labelled embryonic or start-up, is typical for having a simple and centralised organisational structure. The company is run by the owner himself, who is usually the dominant investor, which in itself characterises the typical capital structure. In order to move onto the next stage, a certain growth in turnover should be achieved, which the authors of the study averaged at 15%.

Start-up companies can be viewed from the angle of several academic disciplines. From the management angle, which was covered by the above-mentioned studies, the basic determining factor is time, the speed of growth in turnover and the typical organisational structure. From the angle of the theory of both national and regional economic development, there the pivotal view is for the relations between start-up companies and employment. According to A. E. Knaup and M. C. Piazza (2007), they are defined as business units which are new in the observed period, i.e. they had not shown any level of employment previously. Eurostat defines start-up companies in a very similar fashion in their methodology for the Business Demography Project BDP as active economic entities who were not active in the previous two years and have not split off from another active company. From the finance theory angle, the primary feature of the individual stages is the form of capital structure. L. Bulan and Z. Yan (2010) are examples of authors who tested the theory of hierarchical order for the individual stages of the life cycle and found out that this form of capital structure is typical for companies in the later stages of the life cycle (in the mature stage) more than in their initial stages (growth stage).

Capital Structure and Determining Factors

Capital structure is understood as the structure of financial resources used to acquire the company’s property. Capital structure is divided up according to several criteria: owner – own and other; time – long-term and short-term capital; origin – internal and external. All groups are characterised by specific features, especially a varied price which is paid by the owner of the capital resource for their own use and the risk which is born by the owner of the financial resource in question.

Own capital is a form of financial resource which was invested in the company by a businessman or a group of businessmen who are called the owners of the firm in question. On the other hand, other capital is financial resources invested in the company by creditors, i.e. banks, suppliers and other investors. Fig. 2 shows the items which are the main components of capital structures of joint-stock companies, divided up for owners in the way known in the Czech accounting system.

A special group of liabilities is made up of items of a temporary character, which are known as accruals. This group cannot be sorted into either own or other sources.

The optimal capital structure is considered to be a composition of financial resources which maximise the company’s value. Economic theory has recorded that several theoretic approaches

1: Company life cycle
Source: D. Miller and P. H. Friesen (1984), adapted
have appeared over the course of its development to explain the capital structures observed among individual companies. Modigliani and Miller's (1958) theorem is seen as the cornerstone of capital structure theories. This was preceded by the Traditional Theory of Capital Structure (D. Duran, 1952), and was the basis of the so-called Trade-Off Theory (A. Kraus and R. H. Litzenberger, 1973), the Pecking Order Theory (S. C. Myers, 1984) and the Incentive-Signalling Theory (S. A. Ross, 1977). The principle of creating capital structures across the various sectors and in various phases of the life cycle is explained in different ways by the individual theories. They only have the determining factors in common which are seen as relevant in contemporary economic theory for a company's value in connection with the company's changing capital structure. The motivation to include debt is especially its relatively low cost. Unlike own financial resources, other capital involves creditors. In the event of bad results, the creditors will be amongst the first to call in their rights to the company's remaining value. Therefore, they are willing to accept a lower yield on their invested capital than other shareholders. Interest payments are part of company expenses and therefore are also a tax-deductible item. Dividends and other pay-outs of profits do not have this feature. As a result, the tax rate on legal entities makes it advantageous to involve other capital since it reduces the price. It creates a so-called tax shield. The use of other capital does, however, bring some negative consequences which are termed by the economic theory as the cost of financial distress and the agency cost.

**The Cost of Financial Distress** – Including debt into financial resources commits the company to pay interest and principal payments. This commitment does not apply where financing is through own capital. Company financial managers are well aware of the risks they take by involving other capital in capital structures. Future developments are always uncertain, so it is impossible to guarantee at the moment of borrowing that the company will be solvent at the time of repayment, or that it will not be in financial distress. W. L. Megginson (1997) lists the cases of the cost of financial distress: “(1) financial distress can be caused by a fall in demand for the company's products or an increase in costs to produce them; (2) the beginning and whole process of bankruptcy proceedings incurs costs which otherwise would not occur.” W. L. Megginson (1997). The first type of cost of financial distress is described as the indirect cost of financial distress in the economic theory, while the second group is known as the direct cost of financial distress, or alternatively the cost of bankruptcy.

The indirect cost of financial distress depends on the character of the end product (companies with products with the character of short-term use or of one-off services will involve more debt than companies whose customers require a guarantee that the company will be able to provide ongoing after-sales service and to refit the products). Moreover it depends on the character of human capital (the interaction between the labour market and the capital structure is stronger with companies whose employees invest more in work skills and experience specific to the company, i.e. the work experience which could be used in another company if the company got into financial distress or went bankrupt). The last character is that of the assets.

The consequence of insolvency can be bankruptcy proceedings. The administrative costs represent another element of the cost of financial distress. This involved court fees, lawyers fees and other administration costs. These make up the direct cost of financial distress ending in bankruptcy.

**Costs Incurred in Relationships Between Managers, Owners and Creditors (the Agency Cost)** – When the capital structure changes, the relationship also changes between the owners of the capital and those who use it. If the company is fully financed by own capital, the relationship between managers and owners changes with the increasing share of other capital to one of owners/managers and creditors. The following conflicts can arise due to the different preferences of the individual interest groups if something unusual occurs:

- A conflict between managers and owners arises where managers do not receive the full 100% of the profits from their managerial activities. If
a manager has free capital available, he will not obtain so much from investing in the company's rising market values as he/she would by investing in some managerial perks. According to the laws of Homo Economicus managers will use more managerial perks than invest in projects increasing the market value of the company, since the first asset will provide them with a greater benefit for the same cost. Debt financing has a positive influence on their behaviour and prevents the negative consequences of financing with own capital. M. C. Jensen and W. H. Meckling (1976) state that interest payments represent a negative cash flow, which reduces the amount of funds that managers can use on their perks. This principle is called by Jensen and Meckling the "bonding mechanism", i.e. both a bond and binding mechanism. It can be assumed that this positive influence of debt financing is not reflected in a start-up company in the character of its capital structures, since the roles of manager and owner in most cases have not been split among several people at this initial stage of the company's life style.

- A conflict between creditors and owners/managers is caused by spreading the responsibilities of managers (representing the owners) to the total capital. M. C. Jensen and W. H. Meckling (1976) observed the different behaviour of managers/owners when the latter owned 100% of the total value of the company and when the company was partly financed by other capital. In the first situation, the entrepreneur carries all the costs of his behaviour, while benefitting from all the profits. In the second case, the situation is a little unusual, since the entrepreneur has the decision-making authority, will benefit from all the profits, while not taking the full costs of the business. In this situation, the entrepreneur is more inclined to take the benefits which he would not indulge in if he were financing everything. An example can be the purchase of luxury and for the company redundant property or investing in risky projects. Such behaviour is bad for creditors since it reduces the safety of their investment. H. Harris and A. Raviv (1991) talk about the so-called "asset substitution effect". Creditors protect themselves against such behaviour by writing detailed contractual addenda to credit contracts. This limits the field for capital expenditure by managers and they try to keep constant credit conditions for the whole period of the loan. W. L. Megginson (1997) talks about this as the agency cost of debt. The dependency of these figures on debt is directly proportional and therefore puts the involvement of other capital at a disadvantage. The agency cost of debt rises with rising information opacity and we can assume that that the cost will be high due to the zero history of the start-up companies.

**METHODOLOGY AND DATA**

The methodology used to characterise capital structures involves observation, analysis and synthesis. The object of this stage of research was the data characterising the structure of capital resources of start-up companies. Processing the data using the above-mentioned methods has made it possible to identify the average capital structure of the companies in the individual years of the period being monitored. In the second stage of the research, whose aim is to find the factors determining the average capital structures, the hypotheses are tested of the influence of chosen factors on the capital structure of start-up companies. The hypotheses are formulated in line with expectations stemming from the conclusions of the mainstream theory – the Trade-Off Theory. Basic statistical methods are used to test the hypotheses – regression and dispersion analysis. The data acquired is interpolated with the regression function, specifically with the logarithm. Then the determination index is calculated showing what percentage of the dispersion of empirical values of the dependant variable is the consequence of the dispersion of theoretical values of the dependant variable which are estimated on the basis of the logarithmic function chosen. The method of dispersion analysis is based on testing the soundness of the difference between the averages of several interdependent files whose role it is to break up the overall variability into smaller components (depending on the influence of the individual factors monitored) and to a residual component.

The incoming data has involved information on all newly-established companies in the period 2004–2011 who published their end-of-year financial statements in the collection of records in the company register. A condition for being included in the representative sample was that the company started up in the year in question, to publish the end-of-year accounts at the end of the accounting period and achieving a turnover at least at the level of the annual minimum wage in order to exclude speculatively-established companies. It was also filtered to check whether the founding executive(s) had posted a return in the same field but as a different legal entity. This restriction fulfilled the condition for defining a start-up company – its newness and its zero contribution to employment in the previous period. The total number of such companies in the period monitored ranged between 5,000 and 10,000 in each year monitored (2004: 2,867 companies 2005: 6,851 companies, 2006: 7,487 companies, 2007: 10,675 companies, 2008: 10,398 companies, 2009: 10,061 companies, 2010: 8,825 companies, 2011: 4,282 companies). The number of economic entities that were founded in the monitored period in the Czech Republic ranged on average between 80,000 and 100,000 per year. 80% of them on average
were made up of individual entities and 20% of legal entities, the latter being the only ones to have to publish their results publicly by law. So it can be said that the sample of companies analysed covers on average 11% of all newly-established economic entities and 50% of all newly-established legal entities in the Czech Republic in the individual years researched.

RESULTS

Capital Structure of Start-up Companies in the Czech Republic

However, there are only individual pieces of empirical evidence on the form of capital structure in start-up companies, especially in the conditions of the Czech economy. Since there is an absence of such information, an analysis has been made on a sample of Czech start-up companies of the form of their capital structures.

It's clear from Fig. 3 that other capital is currently the dominating resource for financing start-up companies. This capital is predominantly made up of long-term and short-term liabilities, amounting to over 60% of the financing of a start-up company. Registered capital and capital funds only takes up a small share of the overall capital structure. The structure of these items including their determining factors will be analysed in detail later in the text.

The classification of capital into own and other is key to approaching the evaluation of risk when investing in a company. The two types of investors face a different level of risk since they are in different positions in the event of bankruptcy proceedings. This has implications on applying variously-conceived methods for evaluating the risk. The results of the analysis of the form of capital structures of start-up companies have pointed to the dominating share of other sources. Fig. 4 shows the development of capital structures.

The results of the analysis of capital structures indicates a consistent composition of capital resources over time for start-up companies. It can be said that start-up companies on average finance 1/3 from own capital and 2/3 from other capital. This finding is the opposite of the average capital structure of all companies of the Czech economy, which averages at 1/2 own capital and 1/2 other capital. Therefore it can be said that investors in start-up companies prefer to be involved by buying a share in other capital rather than buying a share in own capital.

The essential element for supporting investment in a start-up company is the ability to evaluate the risk of an investment. The character of the chosen technique for risk evaluation depends on the relationship of a specific investor with the company in question. If it is an internal investment in the share of own capital (the founder, an employee, a family member), then he/she is likely to invest a considerable portion of his property.

3: The average capital structure of start-up companies in the Czech Republic in 2011
Source: Company Register, Own Calculations

1 The average capital structure of Czech companies has been identified as an average value of the overall indebtedness of all legal entities to publish their final financial statements in the collection of records in the Company Register during the period in question.
in the company and it is unlikely that this share is part of a well-diversified portfolio. The external investor in a share of own capital (individual investor, capital fund) stands in the opposite situation to the share in own capital, since for him/her this share only represents one of many investment opportunities. Both positions are different in the extent of risk that their owners perceive. While the external investor only raises the risk of his assets by a relative amount when acquiring the share, the internal investor exposes his property to the total risk of the business. The following forms of capital can be considered from the point of view of splitting capital resources into external and internal:

- Internal own capital – financial resources which the entrepreneur, his family members or employees invest in the company using own capital.
- External own capital – financial resources which individual investors (business angels) or investment companies invest in the company using own capital.
- Internal other sources – financial resources which the entrepreneur, his family members or employees lent to the company.

- External other sources which banks, business partners, the state, etc. have lent to the company.

Fig. 5 documents the internal and external sources of financing for start-up companies.

It is clear from the graph that more than half of the resources for financing start-up companies are made up from internal sources. Nevertheless, it is more attractive for an investor to be involved in business via other capital than investing in a share of own capital. The greater part of internal other sources is made up of liabilities to the executive partners and to employees. When looking at the division into internal and external sources, the characteristics of an average capital structure indicate the high importance of internal sources in the capital structures of start-up companies in the Czech Republic.

**Identifying the Factors Determining Capital Structure in Start-up Companies in the Czech Republic**

The above-mentioned interconnection between the level of indebtedness and the value of a company makes it possible to deduce certain expectations about the form of capital structure of start-up companies. It can be assumed that the decisive factor for determining the involvement of other capital will be the character of assets which minimises the cost of financial distress and information opacity, the intensity of which determines the level of the agency cost of debt.

Capital structure and the determining factors for start-up companies has been the subject of research for several studies, e.g. G. Cassar (2004); P. Sanyal and C. L. Mann (2010) or D. Yazdenfar (2013) and S. Abbasian (2013). G. Cassar (2004) researched the impact of the character of assets, organisational structure and the owner's character on the form of capital structures of start-up companies. His conclusions were consistent with theoretical models incorporating information asymmetry and the agency cost. The study of authors P. Sanyal and C. L. Mann (2010) on a sample of 98 companies of the US economy presented that the important factors determining the capital structure of start-up companies are the character...
of assets that the company uses, the gender and racial background of the owners of such companies and, last but not least, the information opacity of the company's activities. The study of the authors D. Yazdelfar and S. Abbasian (2013) did not research the composition of capital structure as such, but rather the division into other and own capital. Nevertheless, the study researched in detail the intensity of involving the individual forms of own and other capital (loans from family members, bank loans, financing from individual investors or capital funds) depending on the character of the owner. A sample of 2,814 Swedish companies revealed that nationality is key for external investment in start-up companies. Age, education, previous business experience, and the legal form of business are only of marginal significance in influencing external sources of financing.

The following findings can be expressed about its character in relation to the above-mentioned theoretical correlation between capital structure and the cost of debt. Companies whose assets are specific for a particular activity and are therefore not simple to apply to secondary markets will in a time of financial distress for the company decline in value much more quickly than assets which can be applied much more widely. Companies with a relatively higher proportion of such assets in total property are likely to incline to financing their activities using own capital since the cost of financial distress induced by involving debt into the capital structure is greater that for companies with non-company specific activities. How specific the assets are can be equated with their tangible character. Assets with the character of property, material or cash have much better prerequisites for applying to secondary markets than assets of an intangible character such as the results of research and development and intellectual property, but also trademarks, licences, etc.

Moreover companies producing goods with short-term consumption after purchase or whose consumption is not connected with high demands on its quality can expect a lower cost of financial distress and therefore a relatively greater share of debt in their capital structure.

Another aspect of the changing capital structure is the agency cost of debt, according to the theory of corporate finance. The higher the information opacity of the company, the higher the agency cost of debt that results from the relationship between owners/managers and creditors. If there is the presumption that the company does not release information of its activities, then the agency cost of the debt will be higher and its share in the capital structure can be expected to be lower. Start-up companies which are seen by the public to be less trustworthy are more likely to have a higher level of information opacity. According to P. Sanyal and C. L. Mann (2010), information opacity can be checked through variables such as locating the company where the entrepreneur lives, the number of owners and the owner's previous experience with doing business. When a start-up company has a head office in a different place to the home residence and shows itself able to generate enough regular monthly payments to pay the rent, it proves its creditworthiness. The same is true of the trustworthiness connected with the number of owners, since the more owners, the higher the probability that at least one of the entrepreneurs will meet the expectations of the creditors about the trustworthiness of their clients. The owner's previous business experience provides a clear indication that there are records of their creditworthiness, and makes it much easier to be involved in the debt in the company's capital structure.

The following hypothesis can be formulated based of these factors in line with the model of the Trade-Off Theory (A. Kraus and R. H. Litzenberger, 1973):

\[ H_{0a}: \text{The higher the share of tangible assets are higher in the assets structure of a start-up company, the higher the share of debt in the company's capital structure.} \]

\[ H_{1a}: \text{The more intensive the information opacity, the lower the share of debt in the company's capital structure.} \]

In order to test and then possibly support the hypotheses, the following wording has been used for its preliminary version:

\[ H_{0a}: \text{If the share of tangible assets are higher in the assets structure of a start-up company, it is not accompanied by a higher share of debt in the company's capital structure.} \]

\[ H_{1a}: \text{The more intensive the information opacity, the higher the share of debt in the company's capital structure.} \]

The hypothesis \( H_{1a} \) has been tested in order to determine the relationship between the company's capital structure and the assets structure. The data obtained has been interpolated by a regression function, i.e. the logarithm. The rising nature of the function shows that indebtedness is positively dependant on the share of tangible assets in the assets structure of start-up companies. This is in line with expectations stemming from the compromise theory. Next, the determination index was calculated showing what percentage the dispersion of empirical values of the dependant variable is the consequence of the dispersion of theoretical values of the dependant variable which are estimated on the basis of the logarithmic function chosen. The calculated determination index indicates that the logarithmic function chosen explains 14.7% of the dependant variable. This is a low percentage which does not allow us to reject the hypothesis \( H_{1a} \) and therefore does not support the statement in hypothesis \( H_{1a} \).

The hypothesis \( H_{1b} \) has been tested to determine the impact of information opacity on the capital structure of a start-up company. In accordance with the study by P. Sanyal and C. L. Mann (2010), the accessibility of information is checked by the trustworthiness of the business entity. It is assumed that the business is closely dependant on the owner's business experience and the number
of executive owners, while indirectly proportionally dependant on the fact that the business address is the same as the home address of the entrepreneur. The impact of the following three factors were researched using a dispersal analysis: experience in the field, the place of business and the number of executive partners on a dependant variable of indebtedness. The impact of all three factors has been statistically shown to be of great importance (see Tab. I). Based on this result, the data was then subjected to the method of subsequent testing, i.e. using a Tukey’s test.

The first and second factor – experience in the field and the place of business – did not need the subsequent testing, since they only showed two variations in figures. Therefore, it is clear that a conclusive difference exists between the variations. The test was only used on the number of partners, since 6 alternative figures needed to be considered (see Tab. II).

The results in the Tukey’s test shows that there is a statistically extremely conclusive difference in indebtedness when comparing most of the possible alternatives in the number of partners, except in the combinations 5-6, 6-4, 6-3. No statistical difference was determined for these numbers.

The results of the dispersal analysis for all three characteristics of information opacity indicate a clear interconnection between the accessibility of information and the share of debt in the capital structure. Therefore, the figures monitored have managed to refute the hypothesis H₀b, consequently support the statement made in H₁b. As a result, this conclusion empirically confirms the theoretical conclusions of the trade-off theory that there is an impact of the cost of debt on the capital structure of start-up companies.

**CONCLUSION**

The motivation for choosing the theme of analysing capital structures of start-up companies is a combination of its importance especially from the perspective of contributing to employment and the lack of empirical understanding of how they behave. Start-up companies were defined generally in the introduction along with their main attributes from the standpoint of several academic disciplines. Moreover, the concept of capital structure was characterised and the determining factors were identified in line with the mainstream of capital structure theory.

The article has managed to characterise the average form of capital structures. The results of analysing capital structures show a composition of capital structures in start-up companies which is consistent over time. It can be said that start-up companies on average are 1/3 financed from own capital and 2/3 from other capital. This is in contrast to the average capital structure of all companies in the Czech economy, which have on average ½ own capital and ½ other capital over the period in question. It can be said that investors in start-up companies prefer to be involved by buying a share as other capital rather than own capital. Moreover the compliance was tested between the conclusions of one of the main theories of capital structure, the Trade-Off Theory and the real form of the composition of start-up capital resources in the Czech Republic.

---

### Table I: The results of the dispersal analysis on indebtedness and information opacity

<table>
<thead>
<tr>
<th>Source of Variability</th>
<th>Total Squares</th>
<th>Degree of Freedom</th>
<th>Average Square</th>
<th>F Value</th>
<th>Importance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Main Effects</td>
<td>1,789.171</td>
<td>7</td>
<td>255.596</td>
<td>8,602.314</td>
<td>0.0000</td>
</tr>
<tr>
<td>Experience in the Field</td>
<td>694.203</td>
<td>1</td>
<td>694.203</td>
<td>23,364.052</td>
<td>0.0000</td>
</tr>
<tr>
<td>Place of Business</td>
<td>115.385</td>
<td>1</td>
<td>115.385</td>
<td>3,883.375</td>
<td>0.0000</td>
</tr>
<tr>
<td>No. of Partners</td>
<td>235.040</td>
<td>5</td>
<td>47.008</td>
<td>1,582.099</td>
<td>0.0000</td>
</tr>
<tr>
<td>Explained</td>
<td>1,789.171</td>
<td>7</td>
<td>255.596</td>
<td>8,602.314</td>
<td>0.0000</td>
</tr>
<tr>
<td>Mistakes</td>
<td>796.324</td>
<td>26,801</td>
<td>0.030</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>2,585.495</td>
<td>26,808</td>
<td>0.096</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Source: Own calculations

### Table II: Tukey’s test explaining the variables in the number of partners

<table>
<thead>
<tr>
<th>Group</th>
<th>No.</th>
<th>Average</th>
<th>5</th>
<th>6</th>
<th>4</th>
<th>3</th>
<th>2</th>
<th>1</th>
<th>Conclusiveness</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>453</td>
<td>0.2433</td>
<td>**</td>
<td>**</td>
<td>**</td>
<td>**</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>10</td>
<td>0.2567</td>
<td></td>
<td></td>
<td></td>
<td>**</td>
<td>**</td>
<td>**</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>508</td>
<td>0.3648</td>
<td>**</td>
<td></td>
<td>**</td>
<td>**</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>4,956</td>
<td>0.4053</td>
<td>**</td>
<td>**</td>
<td>**</td>
<td>**</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>9,660</td>
<td>0.6758</td>
<td>**</td>
<td>**</td>
<td>**</td>
<td>**</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>11,222</td>
<td>0.8075</td>
<td>**</td>
<td>**</td>
<td>**</td>
<td>**</td>
<td>**</td>
<td>**</td>
<td></td>
</tr>
</tbody>
</table>

Source: Own calculations
In contradiction to the conclusion of a similar study by P. Sanyal and C. L. Mann (2010), whose authors identified the interconnection between indebtedness and the company's assets, this was not possible to identify in Czech start-ups. On the other hand, the interdependence of capital structure and information opacity were shown to be very important.

The understanding obtained can be very fruitful when designing and creating the tools supporting the establishment of running of small companies. This means especially tools that make access to free capital simpler. This is key especially from the standpoint of setting up a commercial entity and also for further development.

SUMMARY

The present study investigates the factors and form of capital structures in start-up companies in the Czech economy. The choice of theme for this research was motivated by the important role that start-up companies have played in the development of economies especially in its contribution to employment, while having a low empirical understanding of the structure of capital resources of the firms. The empirical results point to differences between average capital structure of Czech businesses and the start-up firms. The results of analysing capital structures show a composition of capital structures in start-up companies which is consistent over time. It can be said that start-up companies on average are 1/3 financed from own capital and 2/3 from other capital. This is in contrast to the average capital structure of all companies in the Czech economy, which have on average 1/2 own capital and 1/2 other capital over the period in question. It can be said that investors in start-up companies prefer to be involved by buying a share as other capital rather than own capital. The findings show that more than half of the resources for financing start-up companies are made up from internal sources. Nevertheless, it is more attractive for an internal investor to be involved in business via other capital than investing in a share of own capital. The greater part of internal other sources is made up of liabilities to the executive partners and to employees. Moreover the compliance is tested between the conclusions of one of the main theories of capital structure, the Trade-Off Theory and the real form of the composition of start-up capital resources in the Czech Republic. In contradiction to the conclusion of a similar studies whose authors identified the interconnection between indebtedness and the company's assets, this was not possible to identify in Czech start-ups. On the other hand, the interdependence of capital structure and information opacity were shown to be very important. The study contributes to a better understanding of the capital structure patterns within the Czech start-up firms, which can be very fruitful when designing and creating the tools supporting the establishment of new business.

Acknowledgement

This paper has arisen in the framework of the project: GA ČR (Czech Science Foundation) No. P403/12/ P731 “Ohodnocování Dot-Com firem”.

REFERENCES


Contact information
Gabriela Chmelíková: gabriela.chmelikova@mendelu.cz
Kristýna Somerlíková: kristina.somerlikova@mendelu.cz