Articles

Assessing the Creditworthiness of Patchwork Portfolio Entrepreneurs in Emerging Markets: an Investment Theory-Based Approach

Polina K. Kirilova*

Summary:

Many portfolio entrepreneurs can only sustain their financial independence by engaging simultaneously in more than one business enterprise. Furthermore, diversifying their income sources may enable them to withstand economic turbulences more easily than entrepreneurs that are solely dependent on one company. This paper addresses the specific issue of how this so-called patchwork entrepreneurship affects the creditworthiness of entrepreneurs striving to endeavour in additional business in difficult economic situations (e.g., in emerging markets). The focal point is the local bank, which is being approached from an existing entrepreneurial customer seeking further debt financing to extend the business portfolio. The described situation (credit analysis) is considered a supplementary function within the purpose-oriented business valuation theory. Therefore, the investment theory-based model for the central business valuation purpose (decision function) is taken as a basis and adjusted to the special requirements of the presented problem.

Key words:

habitual entrepreneurship, functional business valuation, investment theory, credit analysis

JEL Classification: G11, M13, G21

1. Introduction

Funding new business enterprises is a risky endeavour for equity and debt financers alike. They both consider the value of the business in their decision of whether or not to provide financing for the given project. The functional valuation theory (Matschke, Brösel & Matschke 2010) recognises in the credit analysis a supplementary function of business valuation. Supplementary functions, as opposed to the main ones (decision, arbitration and negotiation), do not involve a change in the ownership relations of the estimated entity. The decision function is thereby central and the corresponding decision value is consequently the most important as well as best studied function. Further examples of supplementary functions are value-oriented management, contract design, performance-related remuneration, information, accounting, taxation, etc. (Brösel 2006). Many of these

* Research Assistant, Chair of Business Administration, Investment Theory and Business Valuation, FernUniversität, Hagen, Germany; email: polina.kirilova@fernuni-hagen.de

valuation purposes are not yet explored in a satisfactory functional manner. This holds true also for the estimation of the creditworthiness (Matschke & Brösel 2013, pp. 67-68). This valuation purpose has not yet been subject to in-depth consideration and is insufficiently studied. This paper aims to help close this research gap.

The research question of this paper is the specific situation of an entrepreneur acting in emerging market striving to establish another business parallel to his current one(s). This phenomenon when one person owns more than one business at the same is called portfolio entrepreneurship and is part of the habitual (multiple) entrepreneurship (Kirilova 2013; Schulte & Kober 2007; Ucbasaran et al. 2008). They may do this because one business does not suffice to provide for their financial independence (patchwork portfolio entrepreneurs), as the group that this paper studies does. Some portfolio entrepreneurs do not necessarily need more than one business to generate enough independent income but still gladly engage in multiple parallel entrepreneurial activities. They are called opportunist portfolio entrepreneurs.

It is not always easy to identify each portfolio entrepreneur as the patchwork or the opportunist type. It is especially difficult to decide upon the right category when different future scenarios are to be considered. In some scenarios the income from one company may suffice (making the entrepreneur an opportunist portfolio type), in others this may not be the case (giving the same entrepreneur the characteristics of the patchwork portfolio group). In this case the motive is risk diversification (Iacobucci 2002; Kirschenhofer 2008, p. 52; Wright, Robbie & Ennew 1997).

Entrepreneurs operating in instable and erratic markets such as the emerging markets (Anayiotos, Toroyan & Vamvakidis 2010; Bakker & Klingen 2012; Berglöf et al. 2010; Connolly 2009; Hawes 2013) are more likely to choose to engage in more than one business in order to diminish the risk of failing to generate enough income to provide for themselves (and, as the case may be, their family). The private assets of the founders and their family and friends typically are already exhausted for the first venture and creditors are unwilling to grant large loans because of low collateral and high risk of loss (Berger & Schaeck 2011; de Bettignies 2008; Hall & Woodward 2010; Robb & Robinson 2014). The local bank is already funding the first entrepreneurial engagement and thus faces the risk of total loss, if it fails. Failure due to sudden market cataclysm is less likely if the debtor holds a more diversified entrepreneurial portfolio. Hence the question arises, if the bank is not better off enabling the portfolio extension by providing further financing.

As stated above, this question falls under the credit analysis supplementary function from the purposive business valuation point of view. This function has been insufficiently studied. The central function – the decision function – has been thoroughly studied and modelled. Hering's state marginal price model (Hering 2000) combines the strength of prior models while avoiding their weaknesses, thus providing a way to calculate the decision value under realistic, imperfect market conditions. This model has since been discussed in the English-speaking scientific literature (for example: Hering, Olbrich & Steinrücke 2006; Olbrich, Brösel & Hasslinger 2009; Matschke, Brösel & Matschke 2010; Brösel, Matschke & Olbrich 2012; Hering, Toll & Kirilova 2013, 2014).

In order to help create knowledge, this paper adapts the state marginal price model to the special situation of potential risk diversifying patchwork portfolio entrepreneur in emerging markets. The potential benefit of applying functional

valuation theory methods in times of crisis has been advocated before (Brösel, Toll & Zimmermann 2012).

The structure of this paper is as follows: In the second chapter, the fundaments as well as a brief literature review is given for each of the three central topics of the paper – Habitual Entrepreneurship, Functional Business Valuation Theory and State Marginal Price Model. The conventional methods of credit analysis will not be thematised explicitly, as the proposed model is only meant to provide further assistance in isolated cases and not to override or generally supplement the established procedures. The third chapter describes the model development. In the first section the special requirement are worked out. The second section shows how the optimal entrepreneurial patchwork portfolio can be determined. In the final section of the third chapter, it is shown how this optimal portfolio selection method can be used by financial institutions to assess the creditworthiness of further entrepreneurial projects from clients who are already entertaining a business. Chapter four rounds up the paper, and offers a short summary of the findings and their implications as well as scope for further research.

2 Literature Review and Fundaments

2.1 Habitual Entrepreneurship

Multiple business engagement is not a new phenomenon (Jeremy 1984; Oxenfeld 1943; Scranton 1993). The beginning of the purposeful scientific attention to this topic is considered to be MacMilans Editorial for the *Journal of Business Venturing* in 1986 – "To Really Learn About Entrepreneurship, Let's Study Habitual Entrepreneurs". Of course, this phenomenon has also been studied in earlier works (see the literature overview in Ronstadt 1988). The amount of publications in this research field has grown since then but remains manageable (a comprehensive overview can be found in Schulten 2010, the last few years have also not shown exponential growth).

One of the major problems in this research field is the lack of a uniform definition or even of uniform terminology (Alsos & Kolvereid 1998; Birley & Westhead 1993; Kirschenhofer 2007, pp. 41-43). A definition is a purposeful choice each researcher has to make – a definition cannot be "false" (just as it cannot be "true"), as it is not a fact. Nevertheless a correct definition is essential for sensible research (Bernard 2012, pp. 34-40). A first attempt to at least systemise the term habitual entrepreneurs narrows down the dimensions to the five questions of Who, How, What, Why and When (Kirilova 2013). The definition of (one type of) habitual entrepreneur depends on the definition of entrepreneur, on the way in which the entrepreneur status is reached, on the definition of a venture, on the question of whether the motives behind the entrepreneurship matter and finally on the time dimension.

Two main groups of habitual entrepreneurs are commonly recognised – serial and portfolio entrepreneurs. The serial entrepreneurs have ended their prior entrepreneurial engagement before they venture into a new one. It is usually further distinguished whether the prior endeavor was a failure (so-called restarters) or not. The portfolio (this term is also not uniformly used, Morrish 2009, p. 34) entrepreneurs are simultaneously involved in at least two enterprises. Their motivation may be opportunity seizing or economic need (Schulte & Kober 2007). The last group (patchwork portfolio entrepreneurs) is the one this paper focuses on.

2.2 Functional Business Valuation Theory

In year 1923 Renner started his article with the "old battle between the objectivity

and the subjectivity". The main difference between all historic value (and price) theories has always been found in the adjectives "subjective" or "objective". The functional valuation theory (Matschke & Brösel 2013; see in English Matschke, Brösel & Matschke 2010) attempts to end this controversy by stating that there are many different reasons why a business has to be valued. Each value is characterised by the purpose that has led to the need of its establishment. Each of these purposes requires a different valuation technique, which may be entirely subjective or require some objectivity (while the one and only true "objective" value simply does not exist).

The functional business valuation theory differentiates between main and supplementary valuation functions. The main ones concern a situation, in which the assessed object is to be subjected to transition of ownership (traditionally, sale or purchase). The central one is the decision function, which determines the marginal or critical price for the presumptive seller or buyer. The presumptive seller needs to know his decision value in form of a minimum demandable price (see for an example in English Hering, Toll & Kirilova 2014). This value represents his last retreating line in a negotiation – if he accepts a lower price, he will suffer economic loss from the transaction. The presumptive buyer's decision value is his maximum affordable price (Hering, Toll & Kirilova 2013 provides a sample calculation in English). This number is also his last line of retreat – if he pays more, the transaction will prove economically disadvantageous for him.

The other two main functions are the arbitration and the argumentation function. The arbitration function aims at finding the arbitration value that is acceptable for both parties. In order to judge whether an arbitration value is acceptable, the party needs to know at least their own line of last retreat, their decision value (ideally, they should also be able to make an educated guess of the other party's decision value). So the arbitration value is only sensible if accompanied by the decision value. As neither the buyer nor the seller is willing to disclose his real decision value, all values they bring into the negotiation will be argumentation values. They are either "fake" decision values (higher than the actual minimum demandable price from the seller or lower than the maximum affordable price from the buyer) or potential arbitration values that are especially favourable for the one proposing them. To estimate if an argumentation value is beneficial, at least the own decision value must be known. Thus the decision function is truly pivotal.

The supplementary functions do not involve a planned change in the ownership of the assessed object. They are infinite, as new functions are added as legislation or business practices change. Examples for supplementary functions are value-oriented management, contract design, crisis management, performance-related remuneration, value-based dividend policy, insurance, information, accounting, taxation, etc. The assessment of the credit worthiness is also one of these supplementary functions. The financial institute is not interested in buying an equity share of the entrepreneurial venture. It only needs to know if it can count with the credit including interest being paid back on time. Nevertheless, the same instruments that the entrepreneur uses to optimise his portfolio can be utilised by the credit institute. How this can be done will be shown in the next chapter. Prior to that, the next section will introduce the state marginal price model.

2.3 State Marginal Price Model

The state marginal price model can be applied to compute the maximum affordable price for the buyer as well as the minimum

demandable price for the seller. So, the valuation subject (from whose point of view the valuation is to be conducted) can be either presumptive seller or buyer. As the entrepreneurs want to enlarge their portfolios, only the buyer version will be shown in the following. For the seller's point of view see Hering 2014, pp. 74-87 as well as the example in English Hering,Toll & Kirilova 2014. This model combines the advantages of Laux and Franke's (1969) mixed integer model with the two-step procedure of Jaensch (1966) and Matschke (1975).

The valuation process depends on the target function (usually wealth or income maximisation) as well as on the decision field, which consists of all the available opportunities for action. Further, the status quo should be determined. The status quo encompasses all investment and financing decisions which have already been met, as well as all investment and financing decisions that are predetermined (and thus subjectively seen as irreversible), even if they are not already contractually binding. The possibility to step out of contractually binding decision (with all consequences) constitutes a separate opportunity for action.

The decision field theoretically further consists of all opportunities for action available to the valuation subject. This excludes all opportunities for action that are unavailable (for example due to local legislation). In the decision function, opportunities for action that are factually available but are considered unacceptable from the valuation subject's point of view (for example because of his religious views) are also considered unavailable. Realistically, the search for available opportunities for action is confronted with serious limitations in terms of information gathering and processing. Many technically available and subjectively acceptable opportunities for action are simply overlooked and as a consequence cannot become part of the decision field. Due to the time and capacity restrictions perceived opportunities for action that do not appear promising are not further explored. As the consequences of these opportunities for action cannot be described, they are also not part of the decision field. Also the decision field practically encompasses all those available and perceived opportunities for action, that can be described, i.e. whose consequences can be subjected to an educated guess. The search for opportunities for action as well as the subsequent decision, which ones are to be explored, can be optimised, if it is known what the valuation subject preferences are.

The target function describes what the valuation subject desires to achieve. Usually it is a monetary goal, although it is also possible to integrate other (non-monetary) goals in the target function. The monetary goal can be maximal income stream or maximal wealth at given point(s) in time (Schneider 1992, p. 65). Income maximisation means that the size of a given temporal income structure is being maximised. The simplest construction is a uniform income stream, in which the same amount is planned as income for each period. The wealth maximisation aims to achieve maximum wealth amount at one or more (if necessary prioritised by means of weightings) points in time. The present and the accumulated value are two common variants. The present value is wealth maximisation at the beginning of the planning period and the accumulated value is wealth maximisation at the end of the planning period.

Knowing the status quo, the decision field and the target function of the valuation subject the optimal investment and financing programme without the considered new company may be computed as follows

(Hering 2014, pp. 50-61, the approaches for income and wealth maximisation are slightly different and thus are provided separately):

	Income maximisation	Wealth maximisation
max. TF	TF := IS	$TF := WM = \sum_{t=0}^{n} w_t \cdot W_t$
[t = 0]	$-\sum_{j=1}^{m} g_{j0} \cdot x_j \leq b_0$	$-\sum_{j=1}^{m} g_{j0} \cdot x_j + W_0 \leq b_0$
$\forall t \in \{1, 2 \ldots n\}$	$-\sum_{j=1}^{m} g_{jt} \cdot x_j + w_t \cdot IS \leq b_t$	$-\sum_{j=1}^{m} g_{jt} \cdot x_j + W_t \leq b_t$
$\forall j \in \{1, 2 \ldots m\}$	$0 \leq x_j \leq x_j^{max}$	$0 \leq x_j \leq x_j^{max}$
$\forall t \in \{1, 2 \ldots n\}$	$IS \geq 0$	$W_t \geq 0$

b_t	predetermined CF at point in time t (balance from the status quo)
g_{jt}	CF (cash flow) of the object j at point in time t
IS	income stream size
j	object
m	count of objects
n	count of periods
t	point in time
TF	target function realisation
x_j	realisations of object j
x_j^{max}	maximum possible realisations of object j
w_t	weighting of the wealth draft/income stream size at point in time t
W_t	wealth draft at point in time t
WM	sum of all weighted wealth drafts

The linear optimisation approach calculates the optimal investment and financing programme (base programme), which maximises the monetary target function value without the new company that is being valued (IS*/WM*). This target function level must be at least achieved in the valuation programme (with the transaction involving the new company). In the valuation approach for the purchase of the valuation object, the price for it is being maximised (as the maximum affordable price is searched). The target function level is no longer being maximised, but should only be reached again (satisfied).

Income maximisation		Wealth maximisation
max. p		
[t = 0]	$-\sum_{j=1}^{m} g_{j0} \cdot x_j + p \leq b_0$	$-\sum_{j=1}^{m} g_{j0} \cdot x_j + W_0 + p \leq b_0$
$\forall t \in \{1, 2 \ldots n\}$	$-\sum_{j=1}^{m} g_{jt} \cdot x_j + w_t \cdot IS \leq b_t + g_{Ct}$	$-\sum_{j=1}^{m} g_{jt} \cdot x_j + W_t \leq b_t + g_{Ct}$
	$IS \geq IS^*$	$\sum_{t=0}^{n} w_t \cdot W_t \geq WM^*$
$\forall j \in \{1, 2 \ldots m\}$	$0 \leq x_j \leq x_j^{max}$	$0 \leq x_j \leq x_j^{max}$
$\forall t \in \{1, 2 \ldots n\}$	$IS \geq 0$	$W_t \geq 0$

b_t	predetermined CF at point in time t (balance from the status quo)
g_{jt}	CF of the object j at point in time t
g_{Ct}	CF from the purchased company C at point in time t
IS	income stream size
IS*	maximum income stream size resulting from the base programme
j	object
m	count of objects
n	count of periods
p	purchase price
t	point in time
TF	target function realisation
x_j	realisations of object j
x_j^{max}	maximum possible realisations of object j
w_t	weighting of the wealth draft/income stream size at point in time t
W_t	wealth draft at point in time t
WM	sum of all weighted wealth drafts
WM*	maximum sum of all weighted wealth drafts resulting from the base programme

The solution of the valuation approach provides the maximum affordable price for the purchased object as well as the complementary optimal investment and financing programme. The potential company purchaser can afford to pay this price and still achieve the same target function level as without the transaction.

The future is of course uncertain. In order to take this into account, one may carry out a sensitivity analysis (Hering 2008, pp. 308-320), calculate different scenarios or carry out a simulation (Hering, Schneider & Toll 2011, 2013). Especially in insecure turbulent markets, it is recommended to at least consider a few scenarios.

3 Model development

3.1 Special requirements

Portfolio entrepreneurs underlie one further restriction – the workload that one entrepreneur is able (and willing) to invest in his portfolio (Hintze 1992, p. 422). This means that every entrepreneurial opportunity for action j becomes one more characteristic l_{jt} – "workload" at point in time t. Furthermore, the workload from the status quo should be considered at any point in time (l_{0t}). The sum of the workloads from all adopted entrepreneurial projects should not exceed the workload that he has at his disposal (L_t) at any time. This further restriction should be considered in the model.

In emerging markets the economic situation is insecure. This is why the optimal portfolio has to be proven crisis-proof. This means that the portfolio is capable to provide for the basic economic needs of the entrepreneur even under unfavourable conditions. This might be done by testing how the optimum portfolio for the expected situation performs in other (especially extreme) scenarios. The patchwork portfolio entrepreneurs in emerging markets and other instable markets have to entertain more than one business in order to make sure that they are able to sustain their financial independence in any economic situation. This means that it is not enough

to determine the optimum portfolio for one situation. It is important to see how this portfolio behaves under other conditions, especially under extreme ones. It is also beneficial to determine the optimum portfolios for the other scenarios as well as their consequences in all scenarios. Thus the patchwork portfolio can be chosen according to the needs of the entrepreneur. The portfolio should at least be able to provide a minimum income at any case.

Consequently, such portfolio would also be able to service the debt payments in any economic situation. Most entrepreneurs in emerging markets could only "hedge" their independent financial existence by the means of a patchwork portfolio if they are granted further external capital. Therefore, a model that helps them find the crisis-proof portfolio can also be useful in the negotiations with potential investors or creditors.

3.2 Optimal entrepreneurial portfolio

In the following, a model based on the principle of the state marginal price model is shown. This model begins by determining the optimal entrepreneurial portfolio under the given financing opportunities (base approach).

This approach is solved for each scenario, and the different optima are further tested under the conditions of the other scenarios.

Income maximisation		Wealth maximisation
max. TF	$TF := IS$	$TF := WM = \sum_{t=0}^{n} w_t \cdot W_t$
[t = 0]	$-\sum_{j=1}^{m} g_{j0} \cdot x_j \leq b_0$	$-\sum_{j=1}^{m} g_{j0} \cdot x_j + W_0 \leq b_0$
$\forall\, t \in \{1, 2 \ldots n\}$	$-\sum_{j=1}^{m} g_{jt} \cdot x_j + w_t \cdot IS \leq b_t$	$-\sum_{j=1}^{m} g_{jt} \cdot x_j + W_t \leq b_t$
$\forall\, t \in \{0, 1 \ldots n\}$	$l_{0t} + \sum_{j=1}^{m} l_{jt} \cdot x_j \leq L_t$	$l_{0t} + \sum_{j=1}^{m} l_{jt} \cdot x_j \leq L_t$
$\forall\, j \in \{1, 2 \ldots m\}$	$0 \leq x_j \leq x_j^{max}$	$0 \leq x_j \leq x_j^{max}$
$\forall\, t \in \{1, 2 \ldots n\}$	$IS \geq 0$	$W_t \geq 0$

b_t	predetermined CF at point in time t (balance from the status quo)
g_{jt}	CF of the object j at point in time t
IS	income stream size
j	object; entrepreneurial project or other investment or financing project
l_{0t}	work load from entrepreneurial projects in the status quo at point in time t
l_{jt}	work load at point in time t for entrepreneurial project j (0 for other investment or financing objects)
L_t	maximum available work load at point in time t
m	count of objects
n	count of periods
t	point in time
TF	target function realisation
x_j	realisations of object j
x_j^{max}	maximum possible realisations of object j
w_t	weighting of the wealth draft/income stream size at point in time t
W_t	wealth draft at point in time t
WM	sum of all weighted wealth drafts

This way the entrepreneur can chose his preferred portfolio for the standing financing opportunities. Given the limited financing opportunities for most entrepreneurs, the base programme will probably not be diversified enough to be crisis-proof. In a second step, the entrepreneur choses which new entrepreneurial project he wants to further engage in or which existing one he wants to enlarge. He can then calculate which financing conditions (interest) he may accept for the required extra financing, without putting himself in a worse position than if he has refrained from enlarging his portfolio.

	Income maximisation	Wealth maximisation
	max. i_f	
[t = 0]	$-\sum_{j=1}^{m} g_{j0} \cdot x_j - g_{E0} \leq b_0 + g_{F0}$	$-\sum_{j=1}^{m} g_{j0} \cdot x_j + W_0 - g_{E0} \leq b_0 + g_{F0}$
$\forall t \in \{1, 2 \dots n\}$	$-\sum_{j=1}^{m} g_{jt} \cdot x_j - g_{Et} + w_t \cdot IS \leq b_t + g_{Ft}$	$-\sum_{j=1}^{m} g_{jt} \cdot x_j - g_{Et} + W_t \leq b_t + g_{Ft}$
	$IS \geq IS^*$	$\sum_{t=0}^{n} w_t \cdot W_t \geq WM^*$
$\forall t \in \{0, 1 \dots n\}$	$l_{0t} + \sum_{j=1}^{m} l_{jt} \cdot x_j \leq L_t$	$l_{0t} + \sum_{j=1}^{m} l_{jt} \cdot x_j \leq L_t$
$\forall j \in \{1, 2 \dots m\}$	$0 \leq x_j \leq x_j^{max}$	$0 \leq x_j \leq x_j^{max}$
$\forall t \in \{1, 2 \dots n\}$	$IS \geq 0$	$W_t \geq 0$

b_t	predetermined CF at point in time t (balance from the status quo)
g_{Et}	CF from the portfolio extension E at point in time t
g_{Ft}	CF from the additional financing F at point in time t (function of the interest i_f)
g_{jt}	CF of the object j at point in time t
i_f	interest for the further financing for the portfolio extension
IS	income stream size
IS*	maximum income stream size resulting from the base programme
j	object; entrepreneurial project or other investment or financing project
l_{0t}	work load from entrepreneurial projects in the status quo at point in time t
l_{jt}	work load at point in time t for entrepreneurial project j (0 for other investment or financing objects)
L_t	maximum available work load at point in time t
m	count of objects
n	count of periods
t	point in time
TF	target function realisation
x_j	realisations of object j
x_j^{max}	maximum possible realisations of object j
w_t	weighting of the wealth draft/income stream size at point in time t
W_t	wealth draft at point in time t
WM	sum of all weighted wealth drafts
WM*	maximum sum of all weighted wealth drafts resulting from the base programme

Based on this valuation approach, the entrepreneur knows how much interest he may at most afford to pay for a credit that enables him to extend his portfolio in the desired matter.

3.3. Assessing the Creditworthiness

The credit institute can apply the same technique to investigate how the extra credit will affect the entrepreneurial portfolio. Especially interesting are entrepreneurs, who are already clients and entertain one or more businesses, which do not yet form a crisis-proof portfolio. Especially on instable markets, the risk of an extremely unfavourable scenario should not be neglected. In this case, the interest and debt payments cannot be served. This means that the bank may suffer a total loss if the economic situation worsens. But if the bank provides finance for an extension of the entrepreneurial portfolio to increase its crisis-resistance, they might hedge the danger that the existing debt faults (Spielberger 1996, pp. 191-192).

4. Discussion of the results

Assessing the creditworthiness is a supplementary valuation purpose according to the functional business valuation theory. This function has yet been studied in depth. This paper's aim is to help create knowledge by adapting the existing decision value models to credit analysis. In this adapted model, the linear optimisation approach calculates the optimal investment and financing programme (base programme), which maximises the monetary target function value under the time/work load constraint given the definite financing opportunities. This optimisation process has to be repeated for all possible scenarios and then the optima should be tested under the conditions of the other scenarios. Having studied the outcomes, the entrepreneur can make his informed portfolio decision. In a second step he identifies portfolio extensions, which can make his entrepreneurial portfolio more crisis-proof. He then calculates which financing conditions (interest etc.) are acceptable for the needed extra financing. The entrepreneur can then use the documentation of this process to create a case for a financing application at favourable conditions.

The same technique can also be applied by financial institutes to explore whether further financing for a patchwork portfolio entrepreneur is reasonable from a debt financer's point of view. The relationship between entrepreneurs and credit institutions is very important (Black & Strahan 2002; Canales & Nanda 2012; Petersen & Rajan 1994). Bank and entrepreneur can then together find a way to simultaneously hedge their individual positions.

This paper is a first attempt to observe the assessment of creditworthiness in a functional manner. Scope for further research can be found outside the specific situation of patchwork entrepreneurship in instable markets. Furthermore, the research topic has only been addressed in a theoretical manner by constructing a model. The application of the introduced model on statistical data or as a part of empirical experiments is the logical next step.

References:

Alsos, G.A. and Kolvereid, L., 1998. The business gestation process of novice, serial, and parallel business founders.

Entrepreneurship Theory and Practice, 22(4), pp. 101-114.

Anayiotos, G., Toroyan, H. and Vamvakidis, A., 2010. The efficiency of emerging Europe's banking sector before and after the recent economic crisis. *Financial Theory and Practice*, 34(3), pp. 247-267.

Bakker, B.B. and Klingen, C. (eds.), 2012. How emerging Europe came through the 2008/9 crisis. Washington: International Monetary Fund.

Berglöf, E., Korniyenko, Y., Plekhanov, A. and Zettelmeyer, J., 2010. Understanding the crisis in Emerging Europe. *Public Policy Review*, 6(6), pp. 985-1008.

Berger, A.N. and Schaeck, K., 2011. Small and medium-sized enterprises, bank relationship strength, and the use of venture capital. *Journal of Money, Credit and Banking*, 43(2/3), pp. 461-490.

Bernard, H.R., 2012. Social Research Methods: Qualitative and Quantitative Approaches. 2nd ed., Newbury Park: Sage Publications.

de Bettignies J.E., 2008. Financing the entrepreneurial venture. *Management Science*, 54(1), pp. 151-166.

Birley, S. and Westhead, P., 1993. A comparison of new businesses established by "novice" and "habitual" founders in Great Britain. *International Small Business Journal*, 12(1), pp. 38-60.

Black, S.E. and Strahan, P.E., 2002. Entrepreneurship and bank credit availability. *Journal of Finance*, 57(6), pp.2807-2833.

Brösel, G., 2006. Eine Systematisierung der Nebenfunktionen der funktionalen Unternehmensbewertungstheorie. *Betriebswirtschaftliche Forschung und Praxis*, 58(2), pp. 128-143.

Brösel, G., Matschke, M.J. and Olbrich, M., 2012. Valuation of entrepreneurial businesses. *International Journal of Entrepreneurial Venturing*, 4(3), pp. 239-256.

Brösel, G., Toll, M. and Zimmermann, M., 2012. Lessons learned from the financial crisis – unveiling alternative approaches within valuation and accounting theory. Financial Reporting, 4(4), pp. 87-107.

Canales, R. and Nanda, R., 2012. A darker side to decentralized banks: Market power and credit rationing in SME lending. *Journal of Financial Economics*, 105(2), pp. 353-366.

Connolly, R., 2009. Financial vulnerabilities in Emerging Europe: An overview. BOFIT Online, (3).

Hall, R.E. and Woodward, S.E., 2010. The burden of the nondiversifiable risk of entrepreneurship. *American Economic Review*, 100(3), pp. 1163-1194.

Hawes, D., 2013. From crisis to recovery: Old and new challenges in Emerging Europe. *Journal of Contemporary European Studies*, 21(2), pp. 305-307.

Hering, T., 2000. Das allgemeine Zustands-Grenzpreismodell zur Bewertung von Unternehmen und anderen unsicheren Zahlungsströmen. *Die Betriebswirtschaft*, 60(3), pp. 362-378.

Hering, T., Olbrich, M. and Steinrücke, M., 2006. Valuation of start-up internet companies. *International Journal of Technology Management*, 33(4), pp. 406-419.

Hering, T., Schneider, J. and Toll, C., 2011. Die simultane Investitions- und Finanzierungsplanungssimulation (SIPS) als heuristische Vorgehensweise auf dem unvollkommenen Kapitalmarkt unter Unsicherheit. *Zeitschrift für Planung & Unternehmenssteuerung*, 21(4), pp. 405-426.

Hering, T., Schneider, J. and Toll, C., 2013. Simulative Unternehmensbewertung. *Betriebs- wirtschaftliche Forschung und Praxis*, 65(3), pp. 256-280.

Hering, T., Toll, C. and Kirilova, P.K., 2013. Decision-oriented business valuation in preparation for a company purchase. In Proceedings of the 14th International Financial Management Conference 2013, Bd. I: Business Valuation, Value-based management, risk management, Stettin: Publishing House of University of Stettin, pp. 37-47.

Hering, T., Toll, C. and Kirilova, P.K., 2014. How to compute a decision-oriented business value for a company sale, Journal of Accounting. *Finance and Economics*, 4(1), pp. 43-52.

Hintze, S., 1992. Paretooptimale Vertragsgestaltung beim Unternehmenskauf, *Die Wirtschaftsprüfung*, 45(14), pp. 414-427.

Iacobucci, D., 2002. Explaining business groups started by habitual entrepreneurs in the Italian manufacturing sector, *Entrepreneurship and Regional Development*, 14(1), pp. 31-47.

Jaensch, G., 1966. Wert und Preis der ganzen Unternehmung. Köln: Westdeutscher Verlag.

Jeremy, D.J., 1984. Anatomy of the British Business Elite, 1860-1980. *Business History*, 26(1), pp. 3-23.

Kirilova, P.K., 2013. Dimensionen des Mehrfachunternehmerbegriffs. Forum Gründungsforschung 2013.

Kirschenhofer, F., 2008. Habitual Entrepreneurs: Einflussfaktoren auf die langfristigen Erfolge von Mehrfachgründern. Frankfurt am Main: Peter Lang.

Laux, H. and Franke, G., 1969. Zum Problem der Bewertung von Unternehmungen und anderen Investitionsgütern. *Unternehmensforschung*, 13(3), pp. 205-223.

MacMillan, I., 1986. To Really Learn About Entrepreneurship, Let's Study Habitual Entrepreneurs. *Journal of Business Venturing*, 1(3), pp. 241-243.

Matschke, M.J., 1975. Der Entscheidungswert der Unternehmung. Wiesbaden: Gabler.

Matschke, M.J., and Brösel, G., 2013. Unternehmensbewertung, Wiesbaden: Springer Gabler.

Matschke, M.J., Brösel, G. and Matschke, X., 2010. Fundamentals of functional business valuation. *Journal of Business Valuation and Economic Loss Analysis*, 5(1), pp. 1-39.

Morrish, S., 2009. Portfolio entrepreneurs: an effectuation approach to multiple venture development. *Journal of Research in Marketing and Entrepreneurship*, 11(1), pp. 32-48.

Olbrich, M., Brösel, G. and Hasslinger, M., 2009. The valuation of airport slots. *Journal of Air Law and Commerce,* 74(4), pp. 897-917.

Oxenfeld, A., 1943. New Firms and Free Enterprise. Washington: American Council on Public Affairs.

Petersen, M.A. and Rajan, R.G., 1994. The benefits of lending relationships: evidence from small business data. *Journal of Finance*, 49(1), pp. 3–37.

Renner, A., 1923. Objektivismus und Subjektivismus in der Preistheorie. Zeitschrift für die gesamte Staatswissenschaft, 77, pp.115-147.

Robb, A.M. and Robinson, D.T., 2014. The capital structure decisions of new firms. *Review of Financial Studies*, 27(1), pp. 153-179.

Ronstadt, R., 1988. The Corridor Principe. *Journal of Business Venturing*, 3(1), pp. 31-40.

Scranton, P., 1993. Build a Firm, Start Another. *Business History*, 35(4), pp. 115-151.

Schneider, D., 1992. Investition, Finanzierung und Besteuerung. 7th ed, Wiesbaden: Gabler.

Schulte, R. and Kober, A., 2007. Habitual Founders – Stand und Perspektiven der empirischen Forschung, in P. Letmathe et al. (eds.), Management kleiner und mittlerer Unternehmen, Wiesbaden: Deutscher Universitäts-Verlag, 23- 44.

Schulten, T., 2010. Selbständigkeitserfahrung von Mehrfachunternehmern. Hamburg: Dr. Kovač.

Spielberger, K., 1996. Kauf von Krisenunternehmen. Wiesbaden: Gabler.

Ucbasaran, D., Alsos, G.A., Westhead, P. and Wright, M., 2008. Habitual entrepreneurs, Foundations and trends. *Entrepreneurship*, 4(4), pp. 309-450.

Wright, M., Robbie, K. and Ennew, C., 1997. Venture capitalists and serial entrepreneurs. *Journal of Business Venturing*, 12(3), pp. 227-249.