

**Studies on the Agricultural and Food Sector
in Central and Eastern Europe**

Diana Traikova

**Determinants of non-farm entrepreneurial
intentions in a transitional context**

Evidence from rural Bulgaria



**LEIBNIZ-INSTITUT FÜR AGRARENTWICKLUNG
IN MITTEL- UND OSTEUROPA**

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Studies on the Agricultural and Food Sector
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Edited by
Leibniz Institute of Agricultural Development
in Central and Eastern Europe
IAMO

Volume 72

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IAMO
2013

Bibliografische Information Der Deutschen Bibliothek

Die Deutsche Bibliothek verzeichnet diese Publikation in der Deutschen Nationalbibliografie; detaillierte bibliografische Daten sind im Internet über <http://dnb.ddb.de> abrufbar.

Bibliographic information published by Die Deutsche Bibliothek

Die Deutsche Bibliothek lists the publication in the Deutsche Nationalbibliografie; detailed bibliographic data are available in the internet at: <http://dnb.ddb.de>.

This thesis was accepted as a doctoral dissertation in fulfillment of the requirements for the degree "doctor agriculturarum" by the Faculty of Natural Sciences III at Martin Luther University Halle-Wittenberg on 02.04.2012.

Date of oral examination:	15.10.2012
Supervisor and Reviewer:	Prof. Dr. G. Buchenrieder
Co-Reviewer:	Prof. Dr. T. Herzfeld
Co-Reviewer:	Prof. Dr. S. Davidova

Diese Veröffentlichung kann kostenfrei im Internet unter www.iamo.de/dok/sr_vol72pdf heruntergeladen werden.

This publication can be downloaded free from the website www.iamo.de/dok/sr_vol72pdf.

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ISSN 1436-221X

ISBN 978-3-938584-75-0

Посвещавам тази книга на семейството ми. Благодарение на вас аз съм човекът, който съм. Въпреки хилядите километри между нас, вие винаги сте в сърцето ми. То е българско.

ACKNOWLEDGEMENT

Holding the printed final draft of this dissertation is an exciting experience for me. It is the last step of a long journey. It started when I came from Bulgaria to Germany for my M.Sc. studies. I had the luck to meet two extraordinary women, who showed me how inspirational science can be: Gertrud Buchenrieder and Judith Möllers. They were my mentors all the way. Their passion and example helped me to transform from a shy Bulgarian girl looking for a student assistant job to a Ph.D. candidate. They taught me to believe in myself, to keep asking until I find the real answer and to get up when I fall down. They always had an open ear for me, even at the cost of their scarce family time. Thank you from the depth of my heart!

Many other people also supported me in this journey. I would like to thank Martin Petrick for his honest, constructive and detailed feedback. Thanks to Jana Fritzsich for encouraging me to pick structural equations as a modelling approach. Thank you, Gabi Mewes, for assisting me with paperwork and always having a smile and good word for me. I am grateful to the data collectors involved and their team leader Hristina Harizanova for providing her personal car and driving us in the deepest rural areas even under harsh winter conditions. Thanks also to Cornelia Suta for providing a data entry mask.

The data was collected with the participation of the European Community through the SCARLED research project. Also IAMO assisted me financially and provided great research conditions. The IAMO Graduate School made it possible to join many external seminars and learn from some of the best people in our field.

I would like to thank my IAMO friends for the great time we had in Halle and the international perspective they gave me.

Diana Traikova, April 2012

ZUSAMMENFASSUNG

Regionale Disparitäten, geringe Einkommen, Arbeitslosigkeit und der fortschreitende Bevölkerungsrückgang in vielen europäischen ländlichen Regionen sind die Motivation für diese Forschungsarbeit. Der Fokus dieser Studie richtet sich auf ländliches Unternehmertum als möglichen Ausweg aus den genannten sozioökonomischen Problemen. Bis jetzt hat sich die Forschung im Bereich des Unternehmertums hauptsächlich auf städtische Einwohner entwickelter Länder konzentriert. Die vorliegende Dissertation beschäftigt sich dagegen mit dem ländlichen Raum in Bulgarien – einem Land, das den schwierigen Weg der Transition von Planwirtschaft zu Marktwirtschaft gegangen ist. Es ist mittlerweile Vollmitglied der Europäischen Union, hat aber immer noch mit einer ausgeprägten Mentalität der Vetternwirtschaft und Korruption zu kämpfen. Sie bedingt, dass die meisten ökonomischen Entscheidungen durch Korruptionspraktiken begleitet werden und ist ein Erbe aus kommunistischen Zeiten. Wenn die Verhaltensökonomik die Gründung von Unternehmen verstehen will, sollte dieser Aspekt nicht vernachlässigt werden. Die vorliegende Studie macht einen Schritt in diese Richtung, indem sie sich auf die Suche nach den Bestimmungsfaktoren der Gründung außerlandwirtschaftlicher Kleinunternehmen im ländlichen Raum Bulgariens macht.

Ausgangspunkt der Forschung ist eine etablierte und vielfach getestete Theorie – Ajzen's Theorie des Geplanten Verhaltens. Ihre Konstrukte (nämlich Einstellungen, soziale Normen und wahrgenommene Verhaltenskontrolle) wurden als Herz eines maßgeschneiderten analytischen Rahmens übernommen. Das Modell von Ajzen wurde aufbauend auf den theoretischen und empirischen Ergebnissen aus der Forschung zur außerlandwirtschaftlichen ländlichen Ökonomie angepasst, so dass es die *Push-Pull*-Motivation abbilden kann. Zusätzlich wurde die Kapitalausstattung als Determinante der Gründungsabsichten aufgenommen. Die Arbeit beinhaltet zudem eine theoretische Innovation, indem sie die Wahrnehmung der Korruption als Konstrukt in dem analytischen Rahmen integriert. Zusammen mit den klassischen Konstrukten zielen diese Anpassungen auf eine noch detailliertere Einsicht in die Motivation potenzieller Unternehmensgründer.

Das vorgeschlagene Modell wurde mit Primärdaten aus den Jahren 2008/2009 getestet. Diese wurden mit Hilfe eines strukturierten Fragebogens von 195 landwirtschaftlichen Haushalten im ländlichen Bulgarien erhoben. In vierzig Fällen wurden sie durch qualitative Tiefeninterviews ergänzt, so dass ein reicher Satz qualitativer und quantitativer Daten entstand. Der Fragebogen und die Interviews deckten alle Aspekte ab, die in der Literatur als relevant für das Entstehen einer Unternehmensgründungsabsicht hervorgehoben werden. Es konnten somit eine Reihe miteinander verbundener, potenziell wirkungsvoller Erklärungsvariablen identifiziert werden.

Allerdings stellt dies auch eine methodische Herausforderung dar, da die meisten ökonomischen Ansätze restriktiv in der Anzahl der erklärenden Variablen sind. Nach gründlicher Überlegung im Hinblick auf die in Frage kommenden Methoden, entschied sich die Autorin für ein Strukturgleichungsmodell, das auf *Partial Least Squares* (PLS) basiert. Es erwies sich als am besten für die Analyse geeignet. Es erlaubt einerseits, indirekte Effekte zu schätzen (z.B. wahrgenommene Handlungskonsequenzen → Einstellungen → Gründungsabsicht). Andererseits kann diese nicht-parametrische Methode, wie von der Theorie vorgesehen, abstrakte Konstrukte modellieren (z.B. Einstellungen) und zwar in formativer Weise. Das heißt, sie erlaubt, sonst nicht greifbare Phänomene durch quantifizierbare Indikatoren zu repräsentieren, wobei jeder Indikator eine unterschiedliche Facette des Phänomens aufgreift. In dieser Weise offenbart sie den individuellen Beitrag jedes messbaren Indikators für die Formierung der Gründungsintention. Solche Einblicke sind insbesondere dann von hohem Wert, wenn nicht gut erforschte Phänomene, wie die Korruptionswahrnehmung, betrachtet werden. Die Operationalisierung des Strukturgleichungsmodells wurde von qualitativen Inputs geleitet. Die Ergebnisse wurden anschließend mittels einer Stereotypen Logistischen Regression verifiziert.

Einige Analyseergebnisse waren überraschend, unter anderem diejenigen, die sich auf Korruptionswahrnehmung beziehen. Dieses Konstrukt wurde im Strukturgleichungsmodell anhand von vier Indikatoren gemessen: 1) die Überzeugung, Gerichte seien durch Schmiergelder beeinflussbar; 2) die Überzeugung, Schmiergelder beeinflussen den Zugang zu Genehmigungen; 3) die Wahrnehmung, dass die meisten lokalen Unternehmen das Gesetz umgehen müssen, um zu überleben; 4) die Überzeugung, dass ohne gute Kontakte ein Erfolg als Unternehmer im Dorf schwierig oder unmöglich ist. Entgegen der ursprünglichen Erwartung zeigte sich dieses Konstrukt mit positivem Vorzeichen als signifikant im Modell. Das widerspricht der konventionellen ökonomischen Auffassung, dass Korruption die Transaktionskosten erhöht und so die Formierung von Gründungsabsichten eher behindert. Eine mögliche Erklärung könnte die gelegentlich in der Literatur genannte "Schmierfunktion" des Bestechens sein, die das ökonomische Getriebe am Laufen hält.

Die übrigen Konstrukte verhielten sich wie erwartet: die Einstellungen und die wahrgenommene Verhaltenskontrolle scheinen eine signifikante und positive Wirkung zu haben, während sich die sozialen Normen (ähnlich zu früheren Studien, die Ajzen's Theorie anwenden) instabil zeigten. Das Kapitalausstattungs-konstrukt wies darauf hin, dass Internetnutzer und diejenigen, die sich ausreichend mit Finanz- und Sozialkapital ausgestattet sehen, eher dazu tendieren, eine Unternehmensgründung in Erwägung zu ziehen.

Im Bezug auf die *Push-Pull*-Motivation überwiegt der Eindruck, dass die untersuchten Haushalte in ihrer Suche nach einkommensschaffenden Tätigkeiten von der Not getrieben sind. Ihnen dienen schon existierende Betriebe als Vorbilder. Diese operieren in der Regel informell, weil das kosteneffizienter zu sein scheint. Diese Informalität sollte als kurzfristige Bewältigungsstrategie verstanden werden.

Langfristig gesehen resultiert sie in geringen Wachstumschancen und entsprechend geringeren Steuereinnahmen für den Staat. Außerdem riskieren die Beteiligten viel, weil sie auf jeglichen sozialen Schutz seitens des Staates verzichten. Trotzdem scheint es so, dass zukünftige Unternehmer bereitwillig diese Businesspraktiken akzeptieren. Typische Geschäftsideen zielen in der Regel auf den lokalen Markt und greifen kaum auf die berufliche Ausbildung der Gründer zurück. Die am häufigsten genannte Einschränkung war fehlendes Startkapital.

Bevor man nun aber den Schluss zieht, dass die Politik potenziellen Unternehmern finanziell unter die Arme greifen sollte, sollte man das Gesamtbild noch einmal Revue passieren lassen. Zunächst bleibt festzuhalten, dass die Erkenntnis, dass ausgeprägte Korruptionswahrnehmung und Unternehmensgründungsabsichten positiv verknüpft sind, neu ist. Sie ist beunruhigend, weil man davon ausgehen muss, dass nicht unbedingt diejenigen mit den besten Geschäftsideen in ihrem Bestreben, ein Unternehmen zu gründen, aktiviert werden, sondern diejenigen, die am besten mit dem als korrupt wahrgenommenen System umgehen können. Des Weiteren haben informell Beschäftigte und Selbstständige wie bereits erwähnt in der Regel keinen Zugang zur Renten- und Krankenversicherung. Sollte eine Formalisierung des Systems durchgesetzt werden, könnte das allerdings dazu führen, dass die sowieso geringen Gewinnmargen gänzlich verschwinden (aufgrund der zusätzlichen Sozialabgaben) und den Menschen, die bereit sind, durch Eigeninitiative ihren Lebensunterhalt aufzubessern, diese Geldeinnahme nehmen.

Politiker sollten also zwischen diesen beiden Effekten abwägen. Politikmaßnahmen sollten es ermöglichen, nachhaltige Geschäftsmodelle in formell registrierte Firmen zu überführen. Damit das passiert, sollten korrupte Praktiken weniger attraktiv werden, z.B. indem die Kosten der Legalisierung gesenkt werden. Leistbare Steuer- und Sozialabgaben und vereinfachte administrative Prozeduren könnten hier helfen. Wenn Korruption weiter gängiger Bestandteil regulären Unternehmertums bleibt, könnten die wenigen versprechenden Gründungen im Keim erstickt werden oder (wieder) in die Schattenwirtschaft abgleiten. Gezielte Förderung wäre zwar wünschenswert, aber man sollte im Hinterkopf behalten, dass das Procedere der Förderselektion neuen Boden für Schmiergeldzahlungen schafft. Ein transparentes, internet-basiertes Bewerbungsverfahren könnte für eine faire Auswahl sorgen. Aber in der Regel sind die meisten Geschäftsideen eher nicht nachhaltig und würden dabei aussortiert. Als Folge würden einige wenige gefördert, dafür aber würden deren Firmen wirklich Beschäftigung generieren. Bis ein Beschäftigungseffekt messbar wird, sind jedoch sozialpolitische Maßnahmen für die Mehrheit der armen ländlichen Bevölkerung sicher eine notwendige und schnellere Hilfe.

SUMMARY

Motivated by the regional imbalances and the long-lasting trends of low incomes, unemployment and depopulation in many of Europe's rural areas, this research delves into rural non-farm entrepreneurship as a potential way out. Up to now scholars from the field of entrepreneurial research have mostly investigated urban dwellers from developed economies. This work focuses on Bulgaria – a country, which recently underwent the difficult path of transition from a centralized to market economy. Although already a member of the European Union, it still struggles to overcome the connections mentality, inherited from communist times. Corrupt practices continue to shape the everyday economic choices and behavioural economics research should account for this aspect when trying to understand business creation. Making a step in this direction, this study seeks to identify the relevant factors influencing the formation of intentions to start a rural non-farm business.

It departs from a well-established and tested theory: Ajzen's Theory of Planned Behaviour. Ajzen's constructs (attitudes, social norms and perceived control), were adopted as the heart of a tailor-made analytical framework. Drawing on theoretical and empirical results of non-farm economy scholars, Ajzen's model was adapted to facilitate the pull-push motivation. Beside this, capital endowment was also added to the determinants of entrepreneurial intention. Introducing a theoretical novelty in the field of start-up intention models, this work further integrated a corruption perception construct into its analytical framework. These amendments together with the classical constructs are expected to reveal a very detailed picture of the motivational make-up of potential business founders.

The postulated theoretical model was tested based on primary data collected by means of a structured questionnaire in 2008/2009 from 195 farm households in rural Bulgaria. In forty households qualitative in-depth interviews accompanied the structured questionnaire, providing a rich set of qualitative and quantitative data. The questionnaire and the qualitative interviews covered all aspects which the reviewed literature highlighted as relevant for the formation of entrepreneurial intentions. This resulted in a rich array of potentially potent interwoven predictors. The high number of interconnected intention determinants pose a methodological challenge, because most econometric methods are restrictive on their explanatory side. After thorough methodological research, structural equations modelling and the Partial Least Squares (PLS) approach in particular, arose as the best-suited tools for analysis. Beside its ability to estimate indirect effects (e.g. beliefs -> attitudes -> intent), another key advantage of this non-parametric approach is that it allows modelling the abstract constructs suggested by the theory (e.g. attitudes)

in a formative way. That means that it allows representation of the otherwise intangible phenomenon via some measurable indicators, each of which grasping a different facet of that phenomenon. In doing so, it reveals the individual contribution of each measurable indicator for the formation of entrepreneurial intent. Such insights are of high value especially for understudied phenomena such as corruption perception. The study was guided by qualitative inputs for the operationalisation of the structural equations model and verified the results econometrically with a stereotype logistic regression.

Some findings were surprising, among them results on the corruption perception. This construct was measured by four indicators within the structural equations model: 1) the belief that bribes effectively influence the courts; 2) the conviction that bribes are effective means to obtain permits; 3) the perception that most of the local businesses need to bend the law in order to survive; 4) the belief that without good contacts one cannot run a successful business in the village. Contrary to the expectations, the construct received a significant and positive sign in the model. This contradicts theoretical economic reasoning, where corruption is seen as increasing transaction costs and thus inhibiting the formation of start-up plans. It could be explained with the "greasing the wheels" argument, indicating the facilitating function of bribes.

The remaining constructs behaved as expected: attitudes and perceived control appear to have a positive and significant impact, while social norms, similar to other earlier studies applying Ajzen's theory, were not stable. The capital endowment construct indicated that those who use the internet and have a pronounced perception for sufficient endowment with financial and social capital are more likely to report business start-up intentions.

With regard to the pull or push motivation, the impression prevails that the majority of surveyed households are driven by necessity when searching for non-farm income generating activities. Thereby, already existing rural businesses serve as role models. The interviews revealed that these usually operate informally, as this appears to be more cost-efficient. This business informality should be understood as short-term coping mechanism. In the long term it comes at the price of low growth prospects and low tax revenues for the state respectively. It also poses high risk for the involved business people who remain without any social protection. Still, through vicarious learning, future entrepreneurs seem to readily accept this inferior business practice as well. Those who stated having a business idea usually try to serve the local market and rarely draw on formal training. They see the lack of starting capital as most common constraint.

Before drawing the conclusion that policy should assist constrained potential entrepreneurs, one needs to step back and see the big picture of recognised interdependencies. The finding that pronounced corruption perception goes with start-up plans is novel. This result is worrisome, because it implies that those who can cope best with the perceived corrupt system and not necessarily the individuals

with the best business ideas are activated to become entrepreneurs. Further, individuals involved in informal activities will be faced with a situation in which they cannot count on old-age pensions and health insurance. On the other side, if enforced, the tax and insurance expenditures may surpass the rather slim profit margin, and leave even those rural people without monetary income who actively seek to improve their livelihood situation. Policy makers should balance between these effects. Eventual policy measures should make it possible for sustainable business concepts to be pursued and become formal registered firms. For that the attractiveness of corrupt practices should be decreased, e.g. through reducing the liability of formality. Lower tax/insurance payments and less complicated administrative procedures could facilitate that. If no action is taken and corruption continues to be part of the perception for regular entrepreneurship, the few envisioned promising businesses may be suffocated or slip (again) into informality. Targeted funding would be desirable, but one should keep in mind that the selection process opens additional opportunities for bribing. Eventually streamlining the application process via the internet could prevent this. A fair and transparent selection procedure is crucial if financial support is to be provided. Because the majority of the business ideas are not sustainable, it is likely that they will not meet acceptance criteria. As a result very few would be funded, but their firms could really generate employment. Before the effect becomes measurable for the majority of average rural people though, social policy measures seem to be more appropriate.

TABLE OF CONTENTS

Acknowledgement	III
Zusammenfassung	V
Summary	IX
List of tables	XV
List of figures	XVII
List of maps	IXX
List of abbreviations.....	XXI
1 Introduction	1
1.1 Problem statement and research objectives.....	6
1.2 Originality value.....	6
1.3 Research hypotheses	7
1.4 Structure of this work.....	7
2 Drivers of entrepreneurship – Theoretical perspective.....	9
2.1 Theory of Planned Behaviour	11
2.2 Distress-push and demand-pull motivation	13
2.3 Capital endowment	13
2.4 Institutional perspective – The importance of corruption	14
2.5 Empirical evidence along suggested variables.....	16
2.6 Suggested hypotheses	30
3 Study design, data and method	33
3.1 Survey areas.....	33
3.1.1 Pazardjik.....	35
3.1.2 Veliko Tarnovo.....	36
3.1.3 Burgas.....	38
3.2 Survey instrument and data collection.....	39
3.3 Data processing.....	41
3.4 Choice of method.....	42
3.5 Limitations of the study	43

4 Analysis of non-farm business start-up intentions.....	45
4.1 Livelihood context and its role for the start-up decision	45
4.1.1 The case of Elena	47
4.1.2 The case of Ivo	52
4.1.3 Overall recognised patterns from qualitative in-depth interviews	57
4.2 Embracing multidimensionality: A PLS model.....	66
4.2.1 Validity of measurement models.....	69
4.2.1.1 Reflective measurement models.....	69
4.2.1.2 Formative measurement models.....	71
4.2.2 Validity and quality of structural models	74
4.2.3 Interpretation of (formative) measurement model results	74
4.2.4 Interpretation of the structural model	78
4.3 Statistical inference check through logistic regression	80
4.3.1 Selecting explanatory variables.....	80
4.3.2 Selecting a suitable logistic regression.....	81
4.3.3 Stereotype logistic regression – A stepwise model	84
4.4 Hypothesis test results.....	90
5 Conclusions and discussion	93
6 References	97
7 Appendix	109

LIST OF TABLES

Table 1:	Operationalisation of start-up intention predictors with identified empirical evidence review	18
Table 2:	Selected regional development indicators for surveyed districts	33
Table 3:	Distribution of sampled households per village and district in Bulgaria	41
Table 4:	Overview of identified business ideas within sample	64
Table 5:	Results for the reflective measurement models	70
Table 6:	Loadings and crossloadings for reflective indicators	70
Table 7:	The Theory of Planned Behaviour in studies on entrepreneurial intentions	78
Table 8:	Results of Brant test for parallel regression assumption	82
Table 9:	Stereotype logistic regression results for start-up intention within five years.....	85
Table 10:	Likelihood ratio test for choosing among alternative models	88
Table 11:	Comparison of results between PLS and Stereotype Logit	89
Table 12:	Hypotheses test results.....	91

LIST OF FIGURES

Figure 1:	Bulgarian rural/urban residence ratio trend 2001-2010.....	2
Figure 2:	Bulgarian population by age structure and place of residence	3
Figure 3:	Educational structure of the active population in Bulgaria in %	3
Figure 4:	The Theory of Planned Behaviour.....	12
Figure 5:	Theoretical framework for the analysis of entrepreneurial intentions	15
Figure 6:	Natural increase of population in surveyed districts	34
Figure 7:	Livelihood strategies map for Elena's household.....	51
Figure 8:	Livelihood strategy map for Ivo's household.....	56
Figure 9:	Perceived level of income within surveyed households.....	57
Figure 10:	Perceived average job chances of the households surveyed.....	58
Figure 11:	Reasons for not having thought about start-up, frequencies	60
Figure 12:	Perceived start-up barriers in sample, frequencies	61
Figure 13:	Corruption perception in sample	62
Figure 14:	Most used information channels for selected topics, frequencies	65
Figure 15:	Operationalised PLS model and hypothesised direction of impact.....	68
Figure 16:	Result of PLS estimation for non-farm start-up intentions among farmers	73
Figure 17:	Plot for predicted probabilities across the five categories of entrepreneurial intention within five years.....	83

LIST OF MAPS

Map 1:	Map of rural regions in Bulgaria	2
Map 2:	Map of study districts and villages in Bulgaria	35
Map 3:	Map of surveyed villages in Pazardjik district	36
Map 4:	Map of surveyed villages in Veliko Tarnovo district	37
Map 5:	Map of surveyed villages in Burgas district	39
Map 6:	Satellite image of the area around the village of Kostandovo	46

ABBREVIATIONS

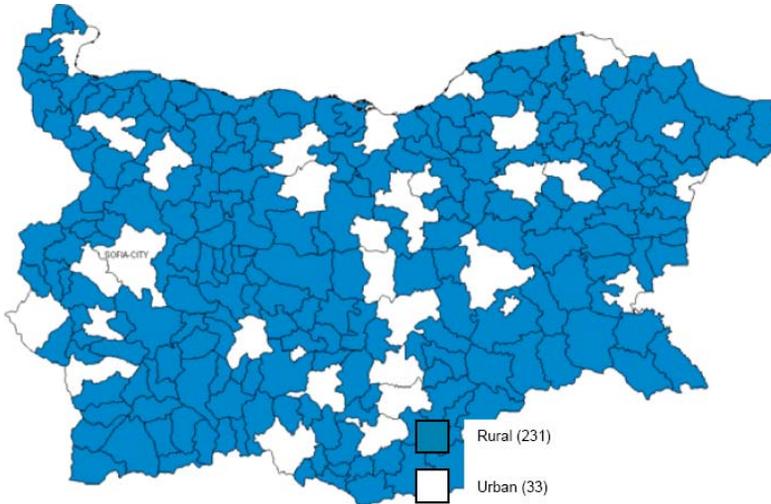
AVE	Average variance explained
BIC	Bayesian Information Criteria
GDP	Gross domestic product
Logit	Logistic regression
NGO	Non-governmental organisation
PHARE	Poland and Hungary: Assistance for Restructuring their Economies
PLS	Partial Least Squares
SEM	Structural Equations Modelling
TPB	Theory of Planned Behaviour
TV	Television

"Our goals can only be reached through a vehicle of a plan, in which we must fervently believe, and upon which we must vigorously act. There is no other route to success."

Steven A. Brennon

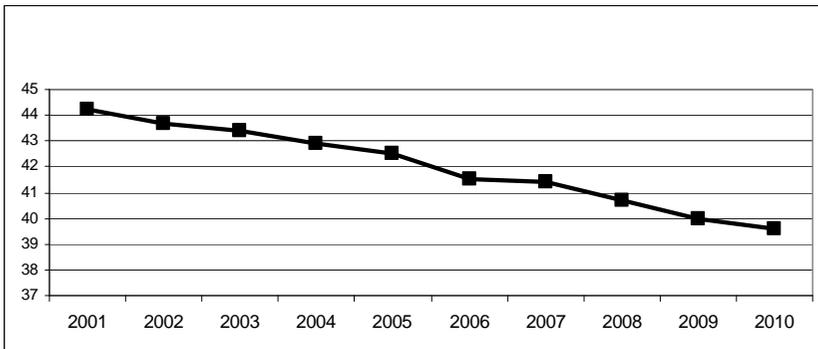
1 INTRODUCTION

Rural regions have long been an issue in Bulgaria. The former communist central government acknowledged that farming is not a sufficient base for the balanced inter-regional development – indeed migration streamed towards the booming cities, which offered better professional and educational opportunities. In an attempt to counteract this, quotas were introduced for urban citizenship. But the problem with the one-sided agriculturally based development of the rural parts of the country remained. So the government started an initiative to provide non-farm jobs for the rural people, often by industrializing rural regions. Sacrificing efficiency by ignoring the potential concentration advantages of urban industrial clusters, the government created a network of state-owned enterprises and deliberately located them in rural areas across the country. They became the backbone of the local economy there and acted as social safety net, providing sufficient jobs and other social services for the population from the surrounding area during communist times. In this way some relief to the migration pressure was achieved. These enterprises were big production units, targeting the markets of other communist countries. However, after the collapse of the communist regime in 1990, these structures also started to fall apart: the former markets were gone. Massive lay-offs and unemployment were the consequence (KOSTOV and LINGARD, 2002; DAVIS, 2006; BUCHENRIEDER, HANF, H. et al., 2009). In the turbulent times of transition the changing governments struggled with the shocks of losing secure markets, hyperinflation, and painfully transforming the old institutional structures into market-oriented ones. A balanced regional development was not on their agenda as there were more urgent problems to solve. So, for the first 10 years of transition, there was virtually no effective regional policy at place. When the European Union (EU) entry negotiations started and some pre-accession funds became available the policy makers directed their attention again to the rural areas. They saw a picture of even stronger imbalances than the beginning of the transition: despite the fact that most of the territory of the country is rural (Map 1), few urban areas held primacy in terms of growth and employment opportunities; there were weak economic links between the regional and local economies and the vacuum left after the dismantling of the big state-owned enterprises was still not filled by alternative jobs (ABADJEVA, 2008; MONASTIRIOTIS, 2011). These problems have not changed to date. According to the latest census data, 21 % of settlements had under 50 residents and 36 % had between 100 and 500 (NSI, 2011). They are most evident in the demographic data (Map 1, Figure 1, Figure 2 and Figure 3).

Map 1: Map of rural regions in Bulgaria

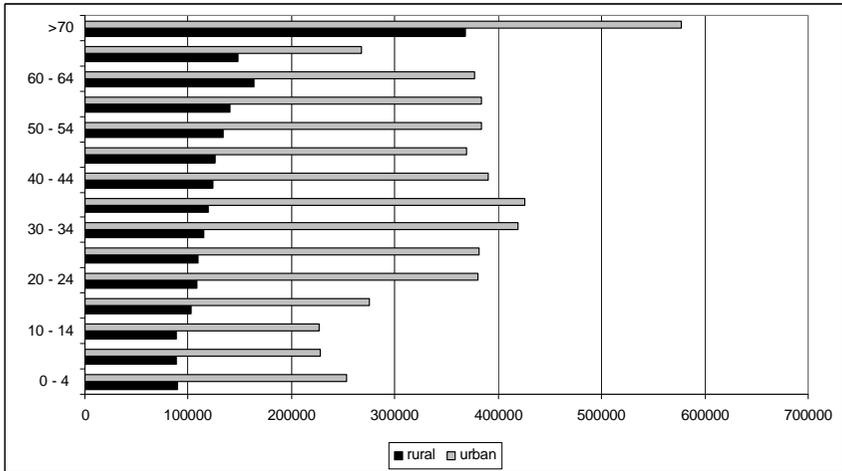
Source: National Strategy Plan for Rural Development (MAF, 2007).

Note: According to the national definition, rural areas are municipalities in which no settlement has a population over 30,000 people.

Figure 1: Bulgarian rural/urban residence ratio trend 2001-2010

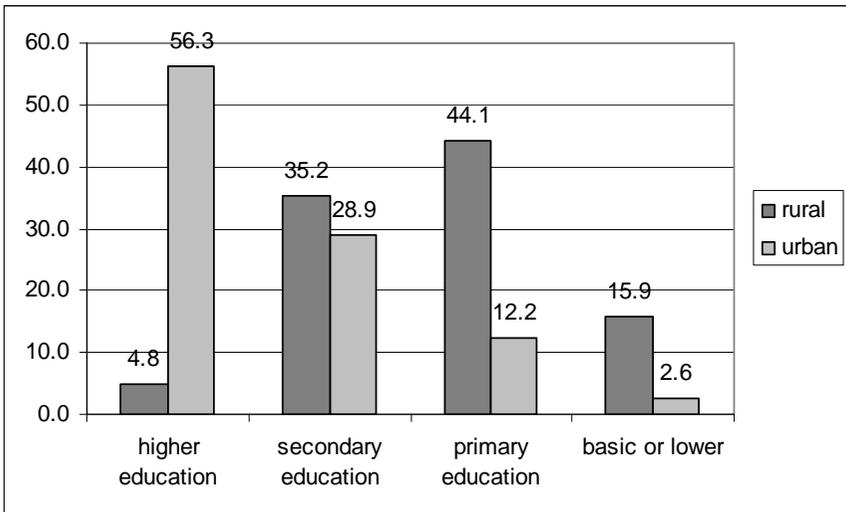
Source: NSI (2011).

Note: The ratio is calculated by dividing the number of rural residents by the number of urban residents and multiplied by 100.

Figure 2: Bulgarian population by age structure and place of residence

Source: NSI (2011).

Note: The horizontal axis represents the number of inhabitants; the vertical axis indicates the different age groups.

Figure 3: Educational structure of the active population in Bulgaria in %

Source: NSI (2007).

In the context of a constantly diminishing total number of inhabitants as a whole for the country, rural areas are the main losers. The young and mobile individuals migrate to the cities or even abroad (MÖLLERS, BUCHENRIEDER et al., 2011). As

a result the age structure in the rural areas is unfavourable, with a disproportionately high share of elderly people.

Through the EU's PHARE¹ Programme (before accession) and the Rural Development Programme (after accession in 2007), the country received substantial financial support for boosting rural areas². But how should this funding be directed to give optimal impulse to job creation and sustainable growth? Much hope was, and is, put in rural entrepreneurship. In order to effectively and efficiently use the rather scarce funds available, it is important to develop a better understanding with regard to what drives people in making a decision to take responsibility for their income and found a firm. The entrepreneurship literature is vast, complex and multifaceted, spanning economics, sociology, and psychology. It is characterized by – one could say – overabundance of theoretical work and a relative absence of empirical work (GREGOIRE, NOEL et al., 2006). Most of it is based on data from developed countries. But if this knowledge is readily applicable for the transitional case is not clear. As the reader could expect, the shock of transition has caused some confusion and destruction within institutional structures.

When turning to the existing literature, one finds that articles on transitional entrepreneurship are scarce. Only about 3 % of the studies published in leading journals from the field analyse transitional economies (BRUTON, AHLSTROM et al., 2008; MANEV and MANOLOVA, 2010). There is a strong skew towards bigger or more easily accessible economies such as Russia, China, Poland or Hungary. Empirically oriented articles are scarce, especially when the focus is not put on qualitative or descriptive analyses. Further, even when transitional data is available, it usually concentrates on urban regions.

In neoclassical economic thinking, there is no reason to make a special theoretical case out of rural economies. Why should rural areas be so different, what is so special about them? Because empirical evidence suggests it. It is more difficult to do business there. This is due to different reasons. For example the distance to main urban centres affects transportation costs of inputs and outputs and has implications on the information dissemination as well as on the diffusion of policy instruments (STATHOPOULOU, PSALTOPOULOS et al., 2004). The remoteness of a rural location affects different aspects of business innovation and consequently of rural business growth and the creation of employment. The banking sector seems to shy away from rural entrepreneurs, leading to chronic constraints of financial capital, which hinder self-induced modernisation and innovation (PIASECKI and ROGUT, 2004). Typically such regions are bleeding-out in terms of human capital

¹ Poland and Hungary Assistance for Restructuring of their Economies (PHARE) is a programme for preparing candidate countries for their entry to the EU. It was later expanded to other countries, including Bulgaria and Romania. Within its frame Bulgaria could rely on 1.35 billion Euro support during the 1992-2002 period .

² The budget of the Rural Development Programme (2007-2013) exceeds 3.2 billion Euro, p. 21.

and are dominated by agricultural activities undertaken by rather elderly farmers (MARINOV, 2008). Unfortunately, agriculture often cannot secure the livelihood of many rural families and they are struggling to cope with poverty (LANJOUW, 2007; ABADJIEVA, 2008; DAVIDOVA, FREDRIKSSON et al., 2009; MÖLLERS, BUCHENRIEDER et al., 2011). The main issues are the overwhelming number of semi-subsistence farms with low-income capacity and, at the same time, a lack of rural regional employment opportunities that would offer alternative or additional income sources (MACOURS and SWINNEN, 2008). Despite all the obstacles listed above, it is a widely accepted stylised fact that entrepreneurship creates jobs. Because of this, rural entrepreneurship has attracted the attention of researchers and politicians. It is also usually assumed that entrepreneurship improves the income status of the entrepreneur, and in time, creates economic growth through labour demand. As for reducing rural poverty, this expectation can be confirmed (MÖLLERS, 2006).

But as a whole perhaps these expectations are too high? Previous research suggests that it takes long to notice any relief in terms of unemployment decrease or poverty reduction coming from the new business creation³. THURIK et al. (2008) report that it takes about eight years to see an effect of self-employment on unemployment.

And why should the new business activities create rural growth? The literature reports that less than half of the aspiring entrepreneurs end up registering their firm (ALDRICH, 1999; DAVIDSSON, 2006; GRILO and IRIGOYEN, 2006). In most countries less than 50 % of all self-employed hire other workers. The majority of the solo-entrepreneurs deliberately aim to stay self-employed without any further staff, confirming the trend from the last 15 years in Germany (CALIENDO and KRITIKOS, 2010). Also STEL (2004) reports no clear-cut results about the link between job start-up rates and job creation in the UK. Even if there is some effect, it takes about four to seven years to see its impact. Some researchers suggest that policies crudely equating entrepreneurial activity and job creation are clearly naive and unwarranted (EARLE and SAKOVA, 2000; ARUM and MÜLLER, 2004)

Especially in the case of inefficient institutions, typical for transitional settings, one could think about many entrepreneurial initiatives which are not contributing to the general welfare of the nation. For example, smuggling, bribing and staying informal are strategies to survive or take advantage in a transitional situation (COYNE and LEESON, 2004), but such practices can work out only because the institutions have failed at some point. How do these facts relate to the growth expectations traditionally associated with entrepreneurship? Meanwhile, policy makers are running out of time due to depopulation pressure. They need hope of a better future for the remaining population. Where should they look? Will the

³ In this work the terms start-up, enterprise, self-employment, venture, business and firm are used interchangeably. The same applies for entrepreneur, business founder, business starter.

businesses to evolve ignite the sparkle of rural development? Are there any hints that can be recognised?

There is already an established tradition in the literature to predict business creation through models relying on the intention to start a venture (LINAN, RODRÍGUEZ-COHARD et al., 2011). Still, a large gap exists when it comes to the determinants on entrepreneurial intentions in a rural setting (PUSHKARSKAYA, 2008). This is the major contribution of the current study. Based on unique empirical data from Bulgaria (a typical transitional economy), it combines a qualitative and quantitative perspective driven by a solid theory. The study tries to identify the most influential drivers and barriers for creating the intention to start a rural business. This is done at the phase before one can observe some formal visible efforts in the direction of a start-up. It is very likely that many business ideas are abandoned at this early phase. If the policy could take a look there, it could adjust its expectations and measures more adequately.

1.1 Problem statement and research objectives

This thesis looks at entrepreneurship from the very beginning of the process. It seeks to explore the determinants of aspiring entrepreneurship in a rural setting. This means that it concentrates on the stage preceding the actual birth of a new firm. More specific, the study is focused on the rural non-farm business intentions and is built around the following research objectives:

- Identifying the main factors influencing the start-up decision
- Clarifying what motivation prevails among potential business founders
- Identifying targeted sectors of potential business founders
- Exploring perceived barriers for starting a non-farm business
- Providing policy recommendations

1.2 Originality value

The novelty value of the study has several aspects. **First**, it focuses on a rarely explored population group from a transitional setting. It is expected to find a slightly different mindset of transitional decision-makers compared to developed countries. **Second**, in contrast to other surveys, this one targets rural residents, and in particular farmers. Their living conditions and choice options differ from those found in urban areas. Both the transitional and rural contexts are still understudied. **Third**, the author contributes to theory and method development. To her best knowledge, this is the first study operationalising the constructs of TPB in the context of entrepreneurial intentions in a formative way through a structural equations model. The approach relies on multidimensional constructs and reveals the concrete factors, which generate the motivation to start a new venture. **Fourth**, as an extension to theory, the perception of corruption is introduced as a new

construct. It is especially relevant in societies with inefficient formal institutions, thus opening up the doors for opportunistic behaviour, and it is expected to directly influence the start-up intention. The study also digs deeper into the role of capital endowment. In sum, this approach not only has a particular value because it looks at a setting in which the TPB was not widely used before, but adds significantly to theory and methodology.

1.3 Research hypotheses

The author suggests that non-farm business start-up intentions in rural areas in a transitional country are influenced negatively by a corrupted institutional setting. Further, it is expected that farm households with better capital endowment will be more prone to pursue a non-farm start-up idea. More detailed hypotheses will be presented in Section 2.6 after familiarizing the reader with the theoretical framework.

1.4 Structure of this work

The next chapter introduces the theoretical base leading this investigation. After that the data and methods will be presented in chapter three. Chapter four contains the actual analyses of non-farm start-up intentions. Conclusions and some policy implications are discussed in chapter five.

2 DRIVERS OF ENTREPRENEURSHIP – THEORETICAL PERSPECTIVE

As a relatively new field of research, entrepreneurship has not yet arrived at the base of solid theoretical ground. There are a plethora of attempts to tackle its main determinants and theory stays eclectic (VERHEUL, WENNEKERS et al., 2002). Some authors concentrate on the psychological characteristics of entrepreneurs in the hope to determine what makes them so different from the rest of the population. Most prominent variables studied are the willingness to bear uncertainty (KHILSTROM and LAFFONT, 1979), the need of achievement (MCCLELLAND, 1961) or the tolerance for ambiguity (SCHERE, 1982; FURNHAM and RIBCHESTER, 1995). Others focus on the importance of the situational factors, which lead to the creation of opportunities to be exploited. Examples here are competence-destroying technological change (TUSHMAN and ANDERSON, 1986), industry dynamics (HANNAN and FREEMAN, 1987) or market structures (ACS and AUDRETSCH, 1990). Empirical studies soon showed that it is rather the interplay of individual and environmental characteristics that leads to the creation of new enterprises (SHANE, 2003; SARASON, DEAN et al., 2006). Another problem is that many studies rely on data from established entrepreneurs. This ex-post evaluation practice inevitably goes along with memory decay of the respondents and survival bias. The pre-venture phase offers a chance to account not only for those who would not survive at some later point but also for those who would not even try based on the information they have at the point of the decision-making as reflected in this study. While it is admitted that this departure has its own shortcomings, it opens new explanatory avenues, so far neglected.

The Theory of Planned Behaviour (TPB), developed by AJZEN (1991), is a tool that allows exposure of the most important factors which form the predictors of intentions. This theory was mainly chosen for these two reasons as a suitable vehicle for this analysis.

First, the TPB is universally applicable as it refers to essential principles of human behaviour. It allows merging the vast number of factors that ought to be considered in the analysis of entrepreneurial decision elegantly into only three main predictors: attitude towards the behaviour, social norms and perceived control. These three form the intention to perform a certain behaviour (in this case to start a non-farm business). The theory concentrates on the mind of the individual decision maker, where all possible internal and external factors are processed. An individual decides to create a venture after (hopefully) careful consideration of all relevant factors. But what is considered relevant? It depends on the person, the setting (e.g. rural versus urban) and the planned activity. Further, each individual has her/his own perspective, which may be distorted in specific ways (perception

biases). Examples here are the assumption that things will turn out well and the illusion of control (BARON, 2004; KRIZAN and WINDSCHITL, 2009). Such distortions may be due to the personal cognitive ability, experience, and exposure to information or observation of what others do.

Second, besides its relative simplicity, the appeal of this theory comes from the fact that it has been successfully verified in a myriad of studies examining different types of behaviour (ARMITAGE and CONNER, 2001; FISHBEIN and AJZEN, 2010). In contrast to other potentially suitable theories, there is also evidence in support of the causality direction of the suggested predictors. WEBB and SHEERAN (2006) provide an overview of 47 experimental tests on the relation between intention and behaviour and conclude that medium to large change in intention leads to small to medium change in behaviour. To the author's knowledge, the first application of the TPB in the field of entrepreneurship goes back to KOLVEREID (1996). The literature review identified about twenty studies⁴, which continued his quest and tried to test this approach in the context of entrepreneurial intentions. The validity of TPB in the domain of entrepreneurship is confirmed by these studies.

After a thorough literature review and considering ideas developed in the eclectic theory of entrepreneurship, a decision was made to draw also on additional, supportive theories, which seem especially relevant for the case of rural entrepreneurial intentions in a transitional setting. Among others, this refers to a theoretical framework dealing with the analysis of rural non-farm employment by MÖLLERS and BUCHENRIEDER (2005). They stress for instance, that in a rural setting, the motivation of diversifying into the rural non-farm economy is often distress-pushed. They also point to the importance of capital assets conceptually united in the so-called "capital asset pentagon", dividing the different types of capital endowment into five categories (financial, human, physical, natural and social). Especially in a transitional environment, capital endowment might play a crucial role with regard to access to employment. With the TPB at the core, the author arrives at a tailor-made theoretical framework, combining the following components: (1) behavioural intentions at the centre; (2) the push or pull motivation, which helps to categorise types of potential entrepreneurs and identify incentives to which they may react; (3) the capital asset pentagon, which allows to look at five types of capital and their influence on entrepreneurial intentions; and (4) the institutional setting, in which employment decisions are embedded; it not only influences the incentive structure, but determines the transaction cost. Of particular interest is the perception of corruption within the institutional setting and its

⁴ AUTIO et al. (2001), DÍAZ-GARCÍA and JIMÉNEZ-MORENO (2010), GELDEREN et al. (2008), KRUEGER et al. (2000), LINAN (2008), LINAN and CHEN (2009), LINAN et al. (2011), SEGAL et al. (2005), SHOOK and BRATIANU (2010), TEGTMEIER (2008), TKACHEV and KOLVEREID (1999), YORDANOVA and TARAZON (2010), LINAN et al. (2011), DÍAZ-GARCÍA and JIMÉNEZ-MORENO (2010), DO PACO et al. (2011), ENGLE et al. (2010), SIU and LO (2011).

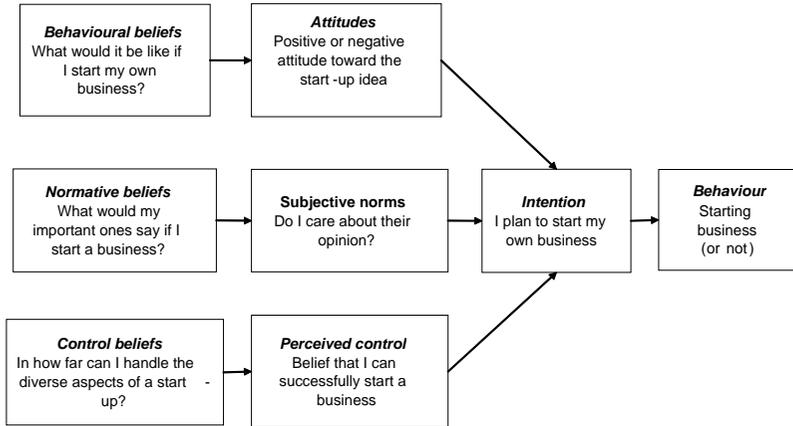
influence on entrepreneurial intentions. The following sections introduce the TPB and the complementing theoretical concepts.

2.1 Theory of Planned Behaviour

As briefly mentioned above, the Theory of Planned Behaviour (TPB) predicts intentions by three components: attitudes towards the behaviour, subjective norms and perceived behavioural control (Figure 4, second column).

When the model is adapted to the farmer's intention of starting a non-farm business, it can be interpreted as follows: First, individuals construct beliefs. AJZEN and FISHBEIN (2005) distinguish three types of them – behavioural, normative and control beliefs (left hand side of Figure 1).

The projection of what will happen if one becomes an entrepreneur represents the **behavioural belief**. It corresponds to the expectations of the farmer. This conceptualisation contains the subjective perception for utility held by the decision-maker and provides a bridge to the common economic approach to occupational choice (DOUGLAS and SHEPHERD, 2000; DOUGLAS and SHEPHERD, 2002; MÖLLERS and BUCHENRIEDER, 2005). If positive outcomes are expected, **positive attitudes towards starting a business** are developed. **Normative beliefs** reflect what one considers the norm in the society with regard to founding a business. Does it have a positive connotation from the point of view of the others to run a non-farm business or not? What will the family, friends and peers of the decision-maker say? This belief is adjusted on the basis of the personal propensity to follow the norms or to deviate from them (**subjective norm**): despite the fact that all relevant peers of a potential business starter are against the idea, this might not stop her/him if their opinion is not considered important.

Figure 4: The Theory of Planned Behaviour

Source: Adapted from AJZEN (1991).

Control beliefs deal with the perceived difficulty of starting and running a non-farm business. One important key to developing an entrepreneurial intention is the belief in his/her own abilities sufficient to face and overcome all of the possible hurdles on the way. For example, many people may shrink from competitors, yet the specific farmer may believe that he/she has discovered a market niche and expect that revenues will surpass expenses. Such deviation from the common opinion reflects the self-confidence that is needed to form a start-up intention. In the TPB, this individual perception is termed **perceived behavioural control**. All three constructs, namely attitudes, subjective norm, and perceived behavioural control, together form the **intention** to start a non-farm business.

At this point, it is important to keep in mind that there is a difference between the intention and actually transforming this intention into behaviour. Sometimes objective obstacles prohibit the realisation of start-up plans. Such obstacles might arise from changing circumstances, e.g. an unexpected change in law or from misjudgement. For example, one may believe they have the necessary skills and later discover that they are not sufficient. In the face of such wrong estimation, the start-up idea is eventually given up.

2.2 Distress-push and demand-pull motivation

Entrepreneurship research has adopted the classification of two types of motivations to create a new business: necessity and opportunity. The first operationalisation of these types was offered by REYNOLDS et al. (2001) in the Global Entrepreneurship Monitor. The concept is also known as "push-pull" and stems originally from migration theory (LEE, 1966).

Necessity (push) is observed when farmers decide to found a business because they need to tap new income sources; they feel pushed into alternative employment due to adverse economic conditions. Wage employment is often not available to them. Necessity based self-employment is a way to deal with economic distress and shocks. These entrepreneurs are usually forced to act on less attractive opportunities. Push motivated businesses mostly create only one or a very limited number of jobs in the form of small enterprises. Driven by necessity, these entrepreneurs are forced to act on less attractive, but more accessible opportunities, where entry barriers are not so high. Often many competitors share a relative slim profit margin – typical examples are small grocery or coffee shops. Necessity based entrepreneurship hardly contributes to boosting economic development (ACS, 2006; HESSELS, VAN GELDEREN et al., 2008; MANDELMAN and MONTES-ROJAS, 2009). These facts also partly explain why the empirical results with regard to the effects on unemployment rates are moderate, to say the most.

Opportunity (pull) based entrepreneurship comes into play when individuals are motivated by a unique lucrative market opportunity, of which they want to take advantage. Opportunity based entrepreneurship differs from necessity based entrepreneurship with respect to the enacted profit potential and growth aspirations (SHANE, LOCKE et al., 2003; MORRIS, MIYASAKI et al., 2006). Opportunity (pull) entrepreneurs expect their businesses to grow more and provide more new jobs compared to push entrepreneurs (ACS, DESAI et al., 2008).

It is important to distinguish between the two types of motivation because push and pull entrepreneurs will not only react to different stimuli, but also the impact on rural development is expected to be different (EARLE and SAKOVA, 2000; HESSELS, VAN GELDEREN et al., 2008). One can read the push-pull motives of farmers from their behavioural beliefs within the TPB framework.

2.3 Capital endowment

Previous research has indicated that the capital endowment⁵ of a rural household determines its ability to act on opportunities (MÖLLERS, 2006; WINTERS, DAVIS et al., 2009). Even if pushed by necessity, households need to think about the best way to use whatever resources they have. This will most likely have an impact on their intentions with regard to what kind of product or service could be offered.

⁵ Capital endowment is used as a term, uniting everything available to the household's resources.

Because this study is concentrating on the phase before the individuals actually have made any real steps towards starting a business, it deals mostly with perceptual variables. In this respect, it follows the call advocating stronger reliance of such variables in economic models (ARENIUS and MINNITI, 2005; GRILO and IRIGOYEN, 2006), arguing that the perceived, and not the actual reality, has a stronger impact on the willingness to become an entrepreneur. In the TPB, one of the key components is the perceived behavioural control. In the author's view it is influenced by the capital endowment of the household. It was chosen to refer to the "capital asset pentagon" representing the financial, physical, natural, human, and social capital assets of an individual or household (ELLIS, 2000).

If one is thinking about creating a venture, a judgement is made about whether the means necessary for the start-up are present or not. This judgement may be realistic or not, but reflects the perceived control of the decision maker. In order to make this more tangible for the purpose of this analysis, it is suggested to extend the TPB framework with a construct called "capital endowment" as shown in Figure 5. It is hypothesised that the effect of the endowment with different types of capital is mediated by the perceived control. The importance of each capital type is expected to vary according to the planned type of business (GRILO and IRIGOYEN, 2006), but it is straightforward to include land (representative for natural capital of the farm households), financial endowment, the social contacts that would be eventually useful and also the level of education, representing human capital⁶.

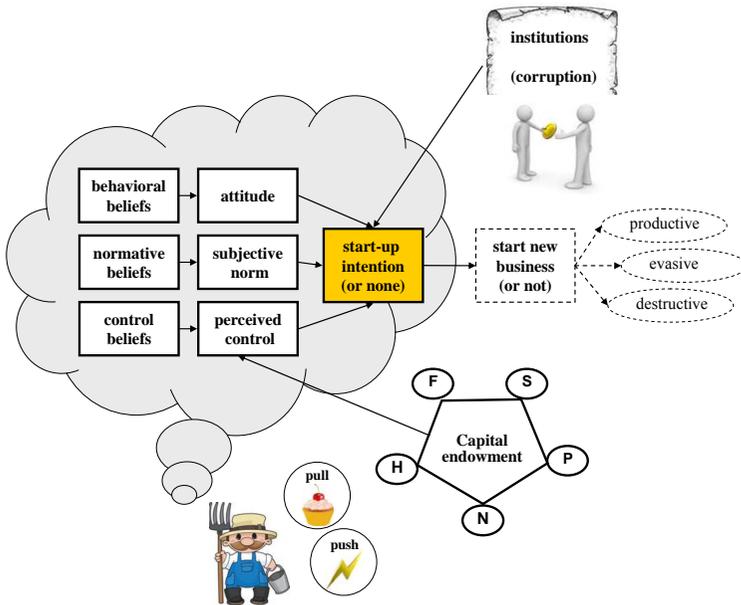
2.4 Institutional perspective – The importance of corruption

Institutions, understood as the rules of the game, provide the incentive structure in an economy by defining the choice set available to potential entrepreneurs. In particular, institutions decide about the transaction and production costs and hence about the profitability and feasibility of engaging in economic activity (NORTH, 1991). In the context of this study's empirical case, the rural setting of Bulgaria, it is deemed important to put a special focus on corruption. Representing an informal institution, corruption was highlighted by several authors as a major obstacle for doing business in the transitional context (MANOLOVA and YAN, 2002; SMALLBONE and WELTER, 2006; MANOLOVA, EUNNI et al., 2008; PASHEV, 2008; AMORÓS, 2009; AIDIS, ESTRIN et al., 2010). In the entrepreneurship literature the so-called "**evasive entrepreneurship**" highlights that corrupt environments trigger businesses that make use of this institutional setting. It was introduced by COYNE and ANDERSON (2004), who extended Baumol's well-known framework of productive

⁶ Because of the remoteness of rural areas, it appears plausible to assume that the internet can play also a major role when it comes to gathering information and forming the intention for a start-up. It can be considered as an indicator for a certain level of human capital, but also gives a hint about the level of physical infrastructure in the village and in the household.

and unproductive entrepreneurship (BAUMOL, 1990)⁷ They define "evasive entrepreneurship" as the directing of resources and efforts to evading the tax system or avoiding unproductive activities of other agents. Examples could be of paying tax inspectors to conceal non-compliance, or bribing officials, who would otherwise deliberately delay the processing of the firm's documentation, making the system prohibitively slow (PASHEV, 2008). It is assumed that such an institutional environment also impacts on the entrepreneurial intention (Figure 5). Yet, it does not necessarily lead to unproductive or evasive business ideas.

Figure 5: Theoretical framework for the analysis of entrepreneurial intentions



Source: Own presentation adapted from AJZEN (1991) and MÖLLERS and BUCHENRIEDER (2005).

Note: The big bubble symbolises the cognitive mechanism of making the decision, while the objects outside the bubble correspond to the farmer's objective reality. The letters in the capital endowment pentagon represent following types of capital: H – human, F – financial, S – social, P – physical, N – natural.

COYNE and ANDERSON (2004) back their evasive entrepreneurship construct with qualitative evidence from Romania – a country similar to Bulgaria when it

⁷

The distinction between productive and unproductive entrepreneurship is one of the major recent contributions to the entrepreneurship literature. **Productive entrepreneurship** includes activities, which benefit both the entrepreneur and the society as a whole. **Unproductive entrepreneurship** benefits the entrepreneur, but harms the society.

comes to the legacy of the communist past. Indeed, Bulgarian citizens remain among the most pessimistic in the world about their government's efforts to fight corruption. Roughly 75 % of them perceive the national courts as corrupt (TRANSPARENCY INTERNATIONAL, 2007). Tax evasion is common practice, and complicated and non-transparent procedures, combined with wide-spread bribing, round up a picture of an insecure business environment (MANOLOVA and YAN, 2002). Potential entrepreneurs may react differently: some might give up, while others might explicitly rely on bribes and use them to bring their business forward. One may argue that if corruption is seen as "greasing or sanding the wheels" mechanism (MÉON and SEKKAT, 2005), it belongs to the "perceived control" construct. So why suggest a special construct? The reason is that even if all other factors foreseen in TPB are positive, an individual might still shy away from joining the "dirty game" (COYNE and LEESON, 2004). The author wants to allow for this variation and suggests adding a construct called "corruption perception" to the model of TPB, representing the specific institutional context. The schematic representation of all components belonging to the proposed theoretical framework and their interdependency is shown in Figure 5 above.

2.5 Empirical evidence along suggested variables

Departing from the theoretical framework introduced above, as a next step the operationalisation of the described theoretical constructs is introduced. Although the selection of suggested variables is mainly theory-driven, it incorporates also insights from the author's earlier research experience in rural Bulgaria⁸.

As a start, let us concentrate on the dependent variable. In general the core interest of this study goes to the **intention to start a non-farm business**. The choice was made to rely on entrepreneurial intentions and not actual start-ups, because they allow the avoidance of survival bias, memory decay bias and false reporting of consequences as determinants of the decision to start business (DOHSE and WALTER, 2011). It must be kept in mind that it is important to distinguish between the short-term and the long-term plans of the households. One could expect that these have different determinants, but despite that they obviously belong to the same theoretical construct. For example, one could hardly start a plastic bottle production business in the coming year if there are no savings already accumulated in order to buy the necessary machines and materials to set up the production. On the other side, within a horizon of five years the decision maker may envision a possibility of reaching the required minimum financial capital necessary for that specific business idea. Nevertheless, both are focused on the idea to start a bottle

⁸ The author has worked repeatedly in the region, including the project "Sustainability of semi-subsistence farming systems in new Member States and acceding countries" (S-Farm) financed by the Joint Research Center (JRC)-Institute for Prospective Technological Studies (IPTS) and "EU Accession in the Balkans: Policy Options for Diversification in the Rural Economy", financed by the ACE-PHARE98-Programme of the European Commission.

production business. At the operationalisation phase, the author did not want to restrict the analysis and included both mid-term and short-term variables. They measure the reported **intention to start a non-farm business within the following year or within the next five years ("1_year_start" and "5_yrs_start")**. HENLEY (2007) states in his study that the time variation between aspiration and actual emergence of new business moves in a wide range – from several weeks to many years. A time span of five years appears reasonable for the current survey. Further, the distress-push hypothesis described above implies that many farmers would eventually seek to **start non-farm businesses because there are no other jobs**. The author expects this motivation to be of high importance in rural areas and a specific variable was also defined to measure this aspect ("**no_jobs_start**") of the start-up intention. All three variables described so far are measured on a Likert-style scale ranging from 1 to 5 indicating an increasing level of agreement with higher values.

Having introduced some measures of the dependent variable, let us proceed now to other possible explanatory variables. Inspired by Ajzen, the first group of these gravitates to what the decision makers expect to happen if they would start an own business. It is denoted "**Expectations**" (Table 1). In the terms of TPB these correspond to behavioural beliefs. This is the arena where push and pull motives are formed. During empirical work, the author often heard rural people complain about lack of suitable jobs for their qualification and, even if there were some, the prospects for growth and development were quite limited. Just because somebody lives in a rural area does not mean they have reduced or tamed dreams and ambitions. Desire for personal fulfilment, independence and better income are typical pull-motives to dare the step into self-employment. On the other side, necessity is the mother of invention. Sometimes, though suffering under low wages or unemployment, it is possible to find a better way to combine the resources available to the household and come up with a business idea. The motives described so far are also common for urban populations and it is expected that they may also be at the root, among farmers, of the formation of entrepreneurial visions.

Table 1: Operationalisation of start-up intention predictors with identified empirical evidence review

Theoretical construct	Variable name	Description	Support's start-up intention Studies	Rationale	Hinders start-up intention Studies	Rationale	Not significant Studies
Expectations	fast_dev	With my own business I expect to achieve faster professional development		pull motivation, ambition, desire for self-fulfilment			
	esc_unempl	With my own business, I expect to escape unemployment	Santarelli et al. (2009); Caliendo et al. (2009); Thurik et al. (2008); Piasecki & Rogut (2004); Earle & Sakova (2000)	push-motivation, need to cope with economic shock			Ciannetti & Simonov (2004)
	independ	With my own business, I expect to be more independent	Gelderen et al. (2008); Piasecki & Rogut (2004); Gelderen & Jansen (2006); Hessels et al. (2008); Douglas & Shepherd (2002)	higher utility perception, personality trait, pull motivation			
	impr_inc	I believe with my own business, I could improve my income situation	Piasecki & Rogut (2004); Hessels et al. (2008); Cassar (2007); Gelderen et al. (2008)	higher utility; feeling underpaid or need to increase income to make ends meet, ambivalent pull-push motivation			Douglas & Shepherd (2002)
	utilise_resour	I believe I could better utilise the resources with my own business	Piasecki & Rogut (2004)	pull motivation, innovation / growth			
	secure_empl	My own business could provide secure employment for me	Santarelli et al. (2009); Jack & Anderson (2002)	coping with uncertainty, ambivalent pull-push motivation			
Attitudes	like_se	I like the idea to be self-employed	Grilo and Irigoyen (2006); Grilo & Thurik (2005); van der	preferences as result of subjective			

Theoretical construct	Variable name	Description	Supports start-up intention Studies	Rationale	Hinders start-up intention Studies	Not significant Studies
	most_se_succ	I consider most non-farm self-employed persons to be successful	- Zwan et al. (2010); Diaz-García and Jiménez-Moreno (2010)	utility perception		
	prefse2wage	I prefer non-farm self-employment to a wage job	- Lafuente et al. (2007); Driga et al. (2009); Giannetti & Simonov (2004); Ajzen (1991); - Levie & Autio (2008); - Delmar & Davidsson (2000); - Douglas & Shepherd (2002); - Fayolle et al. (2006); - Gelderen et al. (2008); - Grilo & Irigoyen (2006); - Linan et al.(2011)	vicarious learning, role models preferences as result of subjective utility perception; opportunity cost; wage complementing vs. competitive long-term strategy of start-up		
	prefse2farm	I prefer non-farm self-employment to agricultural work		preferences as result of subjective utility perception; farm complementing vs. competitive long-term strategy of start-up		
	own_boss	I believe it is better to be my own boss than to work – even for higher salary – for someone else	- Manolova et al. (2007); - Gelderen & Jansen (2006); - Jack & Anderson (2002); - Callendo & Kritikos (2009); - Cassar (2007); Benz & Frey (2008); Dohse & Walter (2011)	independence drive vs. security may explain why some suitable jobs are not taken even if present		- Gelderen et al. (2008)

Theoretical construct	Variable name	Description	Supports start-up intention Studies	Rationale	Hinders start-up intention Studies	Not significant Studies
	risk	Risk propensity (1 avoid risk – 3 take substantial risk)	- Kan & Tsai (2006); - Gelderen et al. (2006); Stewart & Roth (2001); Djankov et al. (2005); Djankov et al. (2006); - Cramer (2002); Douglas & Shepherd (2002); Mueller (2006); van der Zwan et al. (2010); Grilo & Thurik (2005); - van Praag & Cramer (2001); - Callendo et al. (2009); Segal et al. (2005); Zhao (2010); - Dohse & Walter (2011)	because it is not known what will come out of the envisioned business, one needs to cope with uncertainty and risk		- Djankov et al. (2008)
Normative beliefs	supp_friends	My friends will support me if I start my own business.	- Davidsson (2006); - Dohse & Walter (2011); - Diaz-García and Jiménez-Moreno (2010); - Linan & Chen (2009)	to the extent that friends are important peers, they might influence the formation of intention		
	supp_family	My family will support me if I start my own business.	- Davidsson (2006); Smith (2008); - Dohse & Walter (2011); - Diaz-García and Jiménez-Moreno (2010); # - Linan & Chen (2009)	to the extent that family members are important peers, they might influence the formation of intention		
	supp_colleagues	My (ex)colleagues will support me if I start my own business.	- Davidsson (2006)	if start-up planned in a familiar field, colleagues are seen as experts and their opinion might change the intention		

Theoretical construct	Variable name	Description	Supports start-up intention		Hinders start-up intention		Not significant Studies
			Studies	Rationale	Studies	Rationale	
Subjective norms	care_friends	I care what my friends would say if I start my own business	Jack & Anderson (2002)	norm conformity reduces doubts, fears and resistance			
	care_family	I care what my family would say if I start my own business	Jack & Anderson (2002); Smith (2008)	norm conformity reduces doubts, fears and resistance			
	care_colleagues	I care what my (ex)colleagues would say if I start my start own business	Jack & Anderson (2002); Kor et al. (2007)	norm conformity reduces doubts, fears and resistance			
Norms	friends	supp. friends multiplied by care_friends		support needs to be weighted by conformity			Linan & Chen (2009)
	family	supp. family multiplied by care_fam		support needs to be weighted by conformity			Linan & Chen (2009)
	colleagues	supp. colleagues multiplied by care_colleagues	Labriamidis(2006); Kor et al. (2007)	support needs to be weighted by conformity			Linan & Chen (2009)
Control beliefs	fam_backup	My family supports me, I could do start my own business	Linan & Santos (2007)	relying on family's resources makes the task appear more achievable			
	fast_learn	I learn fast and would adapt quickly to the new situation	Linan (2008)	because a start-up is something new, one needs to learn on the way			
Perceived control	i_can	I know it would be hard, but I could manage my own business	Linan (2008); Arenius & Minniti (2005); Koellinger et al. (2007); Leibenstein (1987); Levie & Autio (2008); Wilson et al. (2007);	self-confidence facilitates start-ups			

Theoretical construct	Variable name	Description	Supports start-up intention Studies	Rationale	Hinders start-up intention Studies	Rationale	Not significant Studies
			Sakova (2000); Levie & Autio (2008); Aidis et al. (AIDIS, ESTRIN et al. 2008); Mohapatra et al. (2007)				
	social_cap	I have good contacts and can therefore handle most start-up problems	Manolova & Yan (2002); Manev et al. (2005); Liman & Santos (2007); Markman & Baron (2003); Ronning (2011); Sequeira et al. (2007); Dohse & Waller (2011)	in transition societies social capital compensates for inefficient institutions			
	inet_use	Dummy for household using internet (yes/no)		facilitates diffusion of information, new ideas, compensates for remoteness and proxies skills and physical capital			
Corruption perception	contacts_need	In this village you cannot run a successful own business without having good contacts		when formal institutions fail, one usually uses contacts to minimise risk and get things done	Manolova & Yan (2002)	higher transaction costs may scare potential business founders, especially if newcomers and/or outsiders	
	bend_law	Most of the businesses here have to bend the law in order to survive	Pashev (2008)	heavy regulation stimulates informality and rule avoidance, which turns into the normal way of doing business	Manolova & Yan (2002); Djankov et al. (2005); Coyne & Lesson (2004); Aidis & van Praag (2007)	insecurity is generally not good for doing business and may scare away potential start-up candidates	

Theoretical construct	Variable name	Description	Supports start-up intention		Hinders start-up intention		Not significant Studies
			Studies	Rationale	Studies	Rationale	
	permit_bribe	Bribes are effective for getting a permit of any kind	<ul style="list-style-type: none"> - Pashev (2008) 	<ul style="list-style-type: none"> - in transition economies there is a culture of bribing in order to get things done because the official way is too long and complicated. 	<ul style="list-style-type: none"> - Luthans et al. (2000); - Manolova & Yan (2002); - Estrin & Prevezer (2011); - Coyne & Lesson (2004); - Klapper et al. (2006); - Bowen & De Clercq (2008) 	<ul style="list-style-type: none"> - unofficial payments should increase transaction costs, and make the system less accessible to future entrepreneurs 	
	court_bribe	Bribes are effective for influencing the legal system	<ul style="list-style-type: none"> - Pashev (2008) 	<ul style="list-style-type: none"> - when it is possible to influence courts with money and people are aware of that, the fear of those potential entrepreneurs planning to play "dirty" may diminish 	<ul style="list-style-type: none"> - Luthans et al. (2000); - Manolova et al. (2007); - Manolova et al. (2008); - Estrin & Prevezer (2011); - Coyne & Lesson (2004); - Djankov et al. (2005); - Bowen & De Clercq 	<ul style="list-style-type: none"> - inefficient courts suffocate business initiatives because of increased level of insecurity and increased transaction costs; people may shy away from using the legal system and potential businesses may drift into informality 	

Theoretical construct	Variable name	Description	Supports start-up intention		Hinders start-up intention		Not significant Studies
			Studies	Rationale	Studies	Rationale	

Source: Own presentation.

Note: Where no scale is mentioned, a five-item fully disagree (1)-fully agree (5) Likert style scale was used. Empty cells mean that no empirical studies related to the start-up intention were identified.

On the other side, seasonality is typical of rural employment. In contrast to urban areas, agriculture accounts for the majority of wage jobs accessible to rural people. As the reader can imagine, because of this weather determines the pulse of the rural economy. To the extent that most of the rural non-farm firms serve local demand (consisting mainly of farmers), this effect spills over also to the rural non-farm economy. For example, even during harvest time one cannot hope to get a grape-picking job at the weekend if there was rain, because the grapes could start to become mouldy if picked wet. Thus the desire to find a secure, all-year-employment is of special relevance in rural areas. The interested reader can find detailed empirical evidence in the sources presented in Table 1. It summarises the results of a thorough literature review focusing on entrepreneurial literature. The set of variables suggested captures different expectations aspects. The impression prevails that the more one perceives desired outcomes to be related to the idea of starting own business, the more likely is the decision maker to mobilise and try to make this happen.

Following Ajzen, the second set of variables is named "**Attitudes**". According to the TPB these are based on the judgement regarding what the hypothetical business would result in, with all the consequences realised. As with all other perceptual measures, this construct depends heavily on the experience, information access and cognitive capacity of each decision-maker. There may be unforeseen consequences, but they do not play a role for the decision as long the individual does not consider them while forming the start-up intention. Sometimes people are aware that eventually something could go wrong, but they are ready to take their chances and so proceed with their start-up plans. That may explain the abundance of empirical studies including higher risk preference as potent explanatory variable (Table 1). The evidence suggests that risk-friendlier individuals are more likely to start a business.

The next groups of variables deal with the norms suggested in the TPB. The operationalisation of these targets the most important peers which are likely to influence the start-up decision. Qualitative interviews revealed friends, family and colleagues as such in the case of rural Bulgaria. Following Ajzen, "**Norms**" are presented as a product between the perceived support ("**Normative beliefs**") for a particular peer group, multiplied by the propensity to conform with this norm ("**Subjective norm**"). Such operationalisation has become a standard in studies, utilising the TPB (e.g. KOLVEREID, 1996; KRUEGER, REILLY et al., 2000; GELDEREN, BRAND et al., 2008). As a whole, norms are the most unstable component of the theory. Some authors even omit them when applying TPB (e.g. SEGAL, BORGIA et al., 2005). Because this study is theory-driven and because norms are considered more important in rural than urban settings, the author did not want to trim Ajzen's model by excluding them in advance.

The part of TPB, which deals with the feasibility of the intended start-up is covered by the variables suggested under the groups "**Control beliefs**" and "**Perceived**

control". In general these are measures of the perceived self-confidence of the decision-maker with regard to the start-up intention. The identified studies confirm the anticipated impact and show a positive influence on the formation of founding intentions.

The variables introduced so far are more or less well-known to the scholars of entrepreneurial intentions. Next, let us concentrate in more detail on the operationalisation of the newly suggested theoretical extensions. "**Capital endowment**" draws on the capital pentagon concept (ELLIS, 2000). It includes the dimensions for natural, financial, social, physical and human capital.

For approximating natural capital, the study relies on the variable "**own_land**" depicting the size of **land owned by the household in hectares**. Agriculture is tied to land, therefore land should be included in the model explaining farmers' start-up intentions. On the one hand, large farmers may prefer to specialise in farming. On the other, those who do not want to stay in agriculture may consider selling or using land as collateral in order to secure the initial funding for their start-up. No similar studies could be identified where the effect of this variable on founding intentions was examined. Indirect evidence was found in MÖLLERS (2006) showing that smaller farms with limited access to land tend to be more diversified.

Because the survey examines both intenders and non-intenders, it is to be assumed that not all sampled households have a business idea in mind. With regard to financial capital, ideally one should collect information on the perception of financial means in the context of a concrete business start-up. However, this would alienate those, who have no start-up plans. Instead, the author chose to rely on a measure, which captures the general perception for sufficiency of the current income of the household: **income perception ("inc_percept")**. It was decided to depart from the practice of measuring the absolute disposable income for two main reasons. First, income data is a sensitive issue and respondents feel uneasy reporting the real figures (BARBIERI and MSHENGA, 2008). Therefore, data may be seriously biased. Second, in the face of diversity of business ideas and lifestyle preferences, the very same amount of money may be a lot for some, and at the same time too little for other individuals: for instance, a start-up capital of 1,000 Euro is enough to get a newspaper booth up and running, while it will not cover even a small fraction of the cost of, for instance, a bottling factory. Thus the subjective perception of the respondent gives better insights of whether the household experiences financial difficulties or not.

The literature suggests financial endowment as being positively related to entrepreneurship (EVANS and JOVANOVIC, 1989; BLANCHFLOWER and OSWALD, 1998; DUNN and HOLTZ-Eakin, 2000; MOHAPATRA, ROZELLE et al., 2007). Different from these studies, van der ZWAN et al. (2010) found wealth not to be significant in their model. HURST and LUSARDI (2004) found that there is a non-linear relationship between wealth and entrepreneurial intentions: only after the 95th percentile (that is the group of the very rich) there is a significant positive relationship. Also

KIM et al. (2009) could not confirm the positive link between wealth and start-up aspirations. Macedonian farmers reported feeling restricted in their entrepreneurial intentions by a lack of capital and credit (MÖLLERS, 2006). In that sense, the author believes sufficient income to play a facilitating role and expects it to appear with positive sign in the results.

The chosen main proxy for human capital is the **highest level of education achieved within the household ("edu_max")**. This variable is widely used in the literature. As shown in Table 1, most studies report it to have a positive impact on entrepreneurial plans. There are also, however, other voices arguing in the opposite direction (DAVIDSSON, 2006; CALIENDO, FOSSEN et al., 2009). They claim that a higher level of education increases the opportunity costs of self-employment and makes it less lucrative. Also, for many start-ups no high-tech skills are needed. But the reader should recall that in rural settings it is difficult to find qualified jobs and that the supply for such positions is scarce. Many of the topics covered by the communist educational system have become irrelevant for current employability. So the opportunity cost argument may lose on importance in the face of distress-push situation.

To measure social capital is challenging as there is no widely accepted definition. Still, it is common knowledge that it can be transformed into other forms of capital – e.g. by asking a friend for money or know-how, borrowing physical assets or land. To solve the issue of accounting for all these aspects, the operationalisation once more took advantage of the flexibility offered by perceptual variables. Farmers estimated the presence of contacts relevant for their start-up intention; this estimation flows into the variable **social capital (social_cap)**. Some might need money, some might need help to get a permit, and some might believe themselves to be fine even without relying on their social network too much. Some might, in fact, be totally unaware of what they will need, and consequently over- or underestimate the need for contacts. But exactly this subjective judgement plays a decisive role. Reporting the complete, complex, idiosyncratic social network information would not provide much added value in this case. It is expected that a perception for better endowment with contacts is supportive for entrepreneurial intentions. All empirical evidence identified so far in Table 1 supports this.

The variable **internet use ("inet_use")** can be seen as a proxy of both human and physical capital of the household. The digital revolution has even reached some remote rural areas and many households have internet access in their homes. According to the national statistics 45 % of the households in Bulgaria have internet access (NSI, 2011). Although no statistical data stratified by rural and urban regions could be found, based on personal observations the author expects that rural regions are less connected to the web. Still, wherever there is a possibility to go online, internet offers a way to virtually shorten the distance to urban regions. It allows the gathering of business ideas and other appropriate start-up information (e.g. technical advice, laws, regulations, opening hours and address of relevant

administrations). More importantly – this happens without imposing prohibitive transaction cost in terms of transport and time. Of course, not all rural people have the relevant skills and means to benefit equally from the internet. Surprisingly, not a single study could be identified, which accounts for the role of the internet when it comes to entrepreneurial intentions formation. The author decided to pioneer this measure, because it could have a positive start-up intention impact for a wide range of businesses. It offers also a potential starting point for policy intervention.

The last theoretical construct is devoted to the perceived institutional environment. It is denoted with "**Corruption**" in Table 1 and includes four variables, which were identified in qualitative interviews to be of special importance for would-be-entrepreneurs. One of the few empirical works on entrepreneurship in transitional Bulgaria identified tax collectors, local authorities issuing permits and the legal system as crucial institutional players. In this study they are described as "*unpredictable, opportunistic and hostile to entrepreneurial companies*" (MANOLOVA and YAN, 2002, p. 174). Small companies responded with coping strategies, including bribing, concealing and relying on informal networks. These entrepreneurs had no long-term plans; they had to cope with unreliable partners and lack of law enforcement. It is to be expected that before one considers whether to start a business or not, he/she will have an idea what kind of game this is going to be from observation of how others behave in similar situations. These considerations were leading the author to the choice of relevant corruption-related variables. For example, **bending the law as norm ("bend law")** is a variable aiming to capture the perception of what the local business practice is. Even if this perception is wrong, it still has a guiding role for the behaviour of the future business founders. Through the mechanism of vicarious learning, potential entrepreneurs observe what other already active entrepreneurs do and so can avoid the risk of learning by trial and error. When they observe that bending the law is the most efficient way for running the business, it is natural to expect them also to engage in similar practices. Thus, unlike developed modern market economies, in transitional settings, the cultural norms may contradict the formal laws and regulations. For example, evidence was found from Bulgaria that most of the time, individuals are prepared to pay bribes and offer them to officials without waiting to be asked (PASHEV, 2008). This is a hint that there may be a self-enforcing vicious circle moderated by the perception of what the common practice is. Also if we take a practical look at the start-up process, one needs to confront the cumbersome administration required to obtain the necessary permits, allowing the official launch of a firm. These are usually local authorities, known to suffer notoriously from a lack of sufficient funding. The permit fees are one way to augment communal budgets, but the heavy licensing regime may dim the initial start-up enthusiasm. A typical example here is the launch of a small restaurant. The complete set of documents required for issuing the final permit requires between 14 and 28 papers (depending on whether drinks only or also food is sold, if workers are hired, etc.) issued from different

authorities (KOEV, 2009). It is not surprising that many people would try to "speed up the things" by greasing the wheels with a bribe. To the extent that the perception that **bribes are an effective means to obtain a permit** is spread in the population of potential business founders, it is relevant for the start-up decision and should be included in the analysis. It is captured by the variable "**bribe_permit**".

Similar logic holds also for corrupt courts. Law enforcement is crucial for a properly functioning business environment. When contract breaking is not prosecuted and sanctioned the role of formal contracts diminish and the incentive to stay informal increases. The belief that **bribes are an effective tool for influencing the court system ("bribe court")** mirrors the situation where it is possible to evade the legal system. The literature reports, that if established, such practice seems to remain persistent (HERZFELD and WEISS, 2003), thus posing a serious challenge to that society. Related to venture creation, it may direct the entrepreneurial efforts to perverse ends (COYNE and LEESON, 2004) and restrict the possibility to exploit discovered business opportunities in the most efficient way. The additional cost stemming from unreliable rule of law may inhibit the birth of new firms at their conception phase.

Departing from the practices mentioned above, one should also expect that it would be difficult for non-insiders to enter a rural market, without **knowing somebody who could facilitate smooth business operation in the local context** without being betrayed (COYNE and LEESON, 2004). In qualitative interviews, Bulgarian rural people reported that the powerful control the most lucrative business opportunities and "lock out" external competition. This is also a well-known phenomenon in other transitional countries, e.g. in Kazakhstan (LUTHANS, STAJKOVIC et al., 2000) or Russia (DJANKOV, ZHURAVSKAYA et al., 2005). This aspect is captured by the variable "**contacts_need**".

As a whole, the corruption related variables impose additional transaction cost and most of the researchers consider such perception to be harming entrepreneurship (Table 1). To the author's best knowledge this aspect has not been examined yet in the context of TPB.

2.6 Suggested hypotheses

Adhering tightly to the theoretical framework, tailor-made for the study of start-up intentions (Figure 5) and relying on the operationalisation presented above, the author formulates the following seven hypotheses:

H1 Expectations of positive outcomes from the start-up leads to the formation of a positive attitude towards eventual non-farm business start-up.

H2 A positive attitude towards entrepreneurship goes together with a more pronounced non-farm start-up intention.

H3 **Perceived support** from important peers goes with more pronounced non-farm start-up intentions.

H4 Stronger **control beliefs** go with more pronounced perceived control.

H5 Firmer belief of being **endowed with appropriate set of capital assets** strengthens the perception for control over an eventual non-farm start-up.

H6 Stronger **perceived control** positively influences the intention to start a non-farm business.

H7 Stronger perception of a **corrupted business environment** discourages the formation of entrepreneurial intentions.

A detailed model was constructed to test these hypotheses in the framework of structural equations. It will be presented later in Section 4.2 below.

3 STUDY DESIGN, DATA AND METHOD

The data collection took place within the SCARLED (Structural Change in Agriculture and Rural Livelihoods) project. It was co-financed by the European Commission and lasted from January 2007 until September 2010⁹. Apart from Bulgaria, the SCARLED survey also covered four other countries – Romania, Slovenia, Poland and Hungary. The main aim of this research project was to examine structural adjustment. For that it specifically targeted farm households, which had some agricultural activity in 2003 and/or 2006. Representativity was not the aim of SCARLED, but rather gaining a deeper understanding of the driving forces behind the decision of which gainful activity a farm household pursues and how this affects the planned future farm size or eventual farm exit.

3.1 Survey areas

Three regions were selected according to their degree of economic development in each SCARLED country. Development was measured, among other things, in terms of gross domestic product (GDP) per capita (Table 2). All Bulgarian districts were compared according to these indicators. Three were selected with the help of Bulgarian experts. The selection process is described below.

Table 2: Selected regional development indicators for surveyed districts

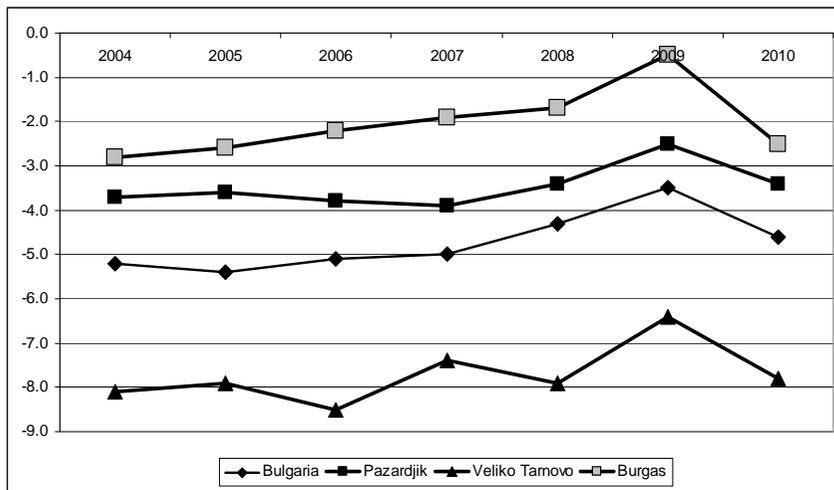
	Pazardjik	Veliko Tarnovo	Burgas
GDP per capita in € in 2005*	2000.0	2200.0	3200.0
GDP per capita in € in 2008*	3100.0	2900.0	4400.0
Average wage level in € 2010	282.0	285.0	329.0
Unemployment rate % in 2010	15.5	13.1	9.6
Rural population in % for 2011	37.8	31.8	26.4
Population density person/km ²	66.8	60.8	54.0
Natural increase ‰	-3.4	-7.8	-2.5
Foreign investments in 1000 € for 2010	335733.0	67212.0	1622748.0

Source: NSI (2007, 2009, 2011); * EUROSTAT (2012).

⁹ The author gratefully acknowledges financial support from the European Community under the Sixth Framework Programme for Research, Technological Development and Demonstration Activities, for the Specific Targeted Research Project "SCARLED" SSPE-CT-2006-044201. The views expressed in this publication are the sole responsibility of the authors and do not necessarily reflect the views of the European Commission (<http://www.scarled.eu>).

As the reader already knows, the most pronounced problem of Bulgarian rural areas is de-population. One can grasp the severity of the situation by taking a quick look at Figure 6, comparing the surveyed areas. This trend has profound implications for all eventual business activities to be undertaken in rural areas.

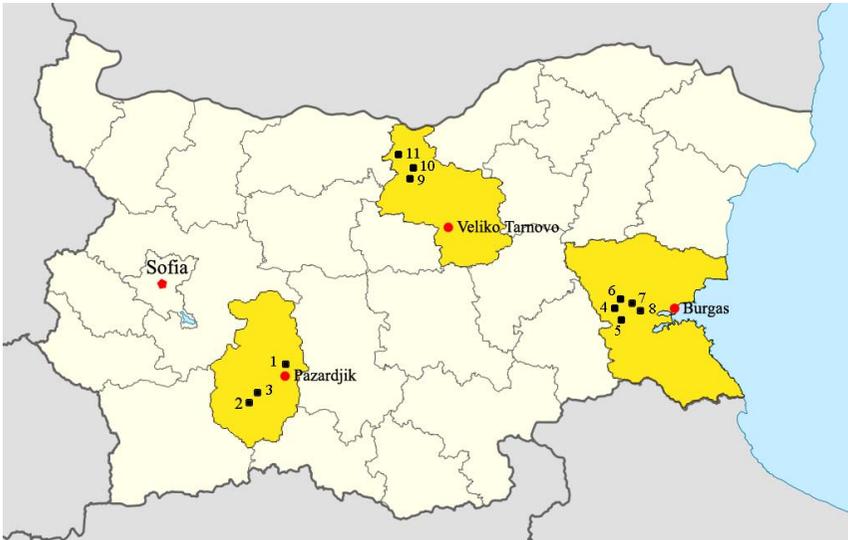
Figure 6: Natural increase of population in surveyed districts



Source: NSI (2012).

Further, in each district at least three representative villages were picked with the goal of covering a wide range of farming practices, geographic characteristics and income levels. For Bulgaria, villages in the districts of Pazardjik (lagging behind in terms of development), in Veliko Tarnovo (average) and in Burgas (prosperous) as highlighted in Map 2, were surveyed.

A short introduction of these districts will be given.

Map 2: Map of study districts and villages in Bulgaria

Source: Own presentation adapted from WIKIPEDIA (2012).

Note: The names of surveyed villages are respectively 1 – Gelemenovo; 2 – Kostandovo; 3 – Dorkovo; 4 – Krumovo Gradishte; 5 – Ekzarh Antimovo; 6 – Nevestino; 7 – Klikach; 8 – Dragovo; 9 – Nedan; 10 – Karaisen; 11 – Morava.

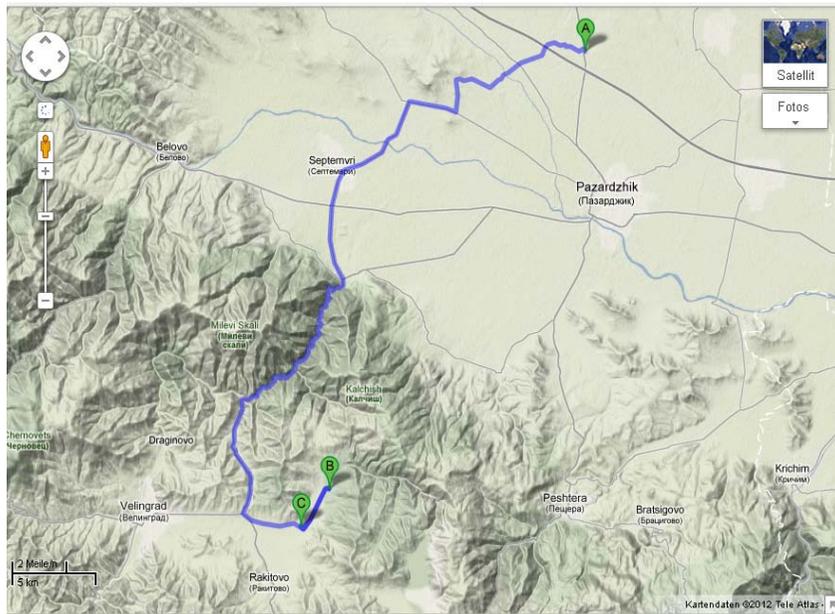
3.1.1 Pazardjik

This district of Payardjik encompasses parts of the Rhodopa Mountains but also the fertile fields around Pazardjik. It is the region with the highest percentage of forest on its territory – about 50 (DONCHEV and KARAKASHEV, 2012). The high parts are virtually inaccessible in the winter when snow and fog block the roads. Here some of the biggest villages in the country are located in the plain parts. Farming is small-scale and labour intensive. The area is known as the vegetable garden of Bulgaria and has a long horticultural tradition. Not surprisingly, many big food-processing factories are located there – close to the production fields. Farm specialisation is directed towards tomatoes, cucumbers and peppers in the plain, while the mountainous parts concentrate mostly on potatoes and pasture livestock. Another distinct characteristic of Pazardjik is the abundance of thermal springs. This resource is used for heating greenhouses, but also attracts many tourists. The region is leading in forestry in Bulgaria. Beyond that, production of furniture, machines, paper, leather and metals round up its economic profile.

The population here is mixed with 83.8 % Bulgarians, 8.3 % Roma, 5.7 % Turks and 2.2 % others and in the last years has been constantly decreasing by a rate at about 3 % per year (NSI, 2011).

For the purposes of the survey the villages of Gelemenovo, Dorkovo and Kostandovo were selected (Map 3). Therefore it is possible to capture the peculiarities of mountainous area and also the intensive farming in the plain.

Map 3: Map of surveyed villages in Pazardjik district



Source: Google maps (GOOGLE, 2012).

Note: A – Gelemenovo; B – Dorkovo; C – Kostandovo.

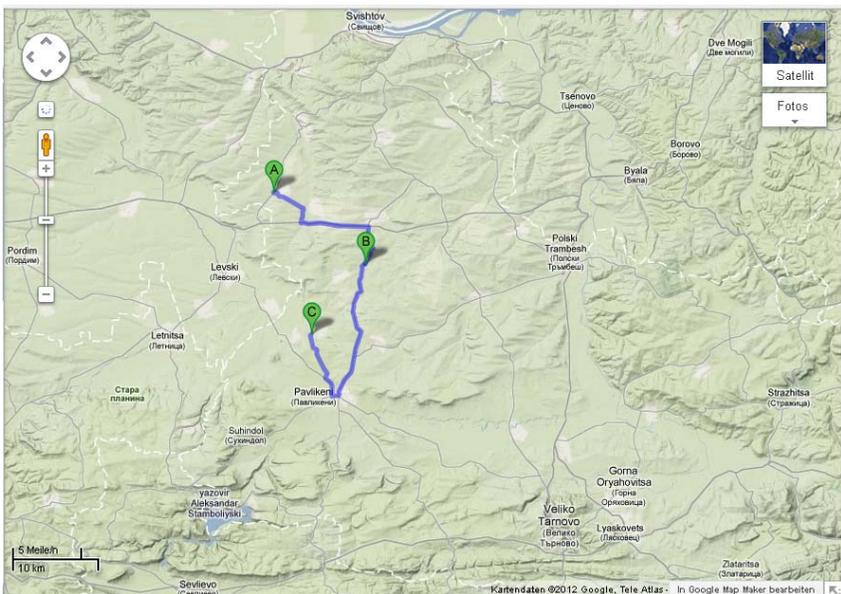
3.1.2 Veliko Tarnovo

The region of Veliko Tarnovo is located in the northern central part of the country. Its southern boundaries are the Balkan mountains, which have a strong impact on climate conditions and the transport network. The terrain becomes flatter the farther north one goes. Locals here have been blessed with the most fertile black soil. The region belongs to the important grain-producing areas of Bulgaria. Still, the climate poses challenges. Due to an absence of climatic barriers from the North, winds often bring cold continental air and cause wind erosion of significant areas. The summer is usually hot and dry. Water is a scarce resource in Veliko Tarnovo and the post-communist farmers have to rely mostly on rainfall because of the barely usable irrigation systems which have not been maintained since 1990. Also temperature inversions and early frost are inhibiting the agricultural activities in the region. Still, in the plain one can observe the concentration of livestock production (pigs and poultry close to the fodder base) and the mountainous areas offer optimal conditions for orchards. As in most grain producing regions here land plots are

bigger and agricultural cooperatives have long traditions. In contrast to other regions they were not dismantled after the privatisation but continued to cultivate the farm land. Besides wheat and corn, the region specialises in sugar beet production. In recent years the vineyards show a decreasing trend, mainly due to lack of labour force. It is difficult to find workers in the face of the unfavourable demographic structure. Here one can observe a fast-ageing development. The population decrease exceeds 8 ‰, compared to the national average of 3.5 ‰. The problem is more pronounced in the mountainous part. Some villages have been abandoned in the last decade. An average birth rate of only 8.4 ‰ cannot compensate for a mortality rate of 17.2 ‰ (DONCHEV and KARAKASHEV, 2012). The ethnic structure is quite homogenous with 90.3 % Bulgarians, 6.7 % Turks and 3 % others (NSI, 2011).

In terms of industry, Veliko Tarnovo specialises in food-processing, chemical and textile production. The region attracts tourists because of its caves, rivers, monasteries and preserved old towns which showcase the ethnic tradition and the Bulgarian lifestyle. For the purposes of the survey, the villages of Morava, Karaisen and Nedan were selected to represent the region (Map 4). These villages are not close to any big cities and can be seen as representative of the rural part of the district.

Map 4: Map of surveyed villages in Veliko Tarnovo district



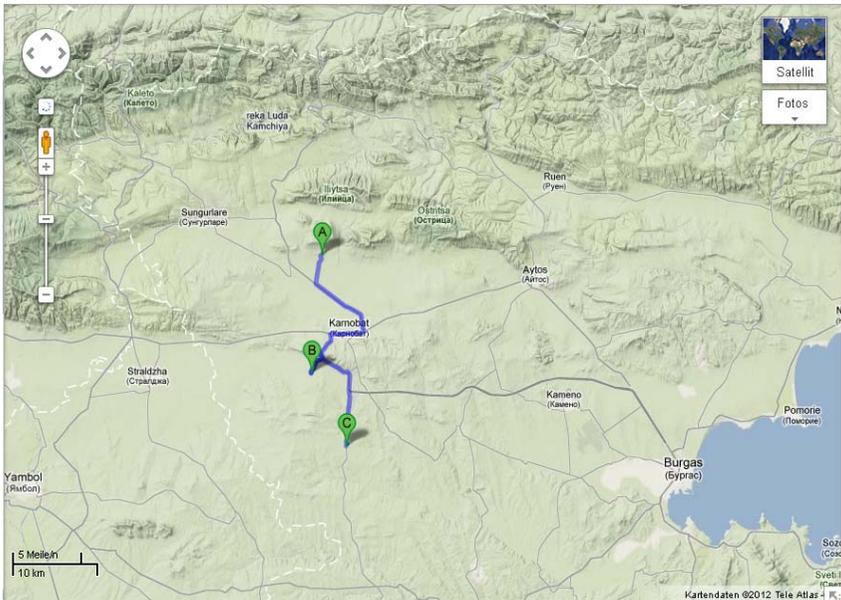
Source: Google maps (GOOGLE, 2012).

Note: A – Morava; B – Karaisen; C – Nedan.

3.1.3 Burgas

The district of Burgas lies on the Black Sea (Map 2) and has mainly plain and hilly relief. The port of Burgas is the main determining factor in the formation of its economic profile. The crossing point of water, land and air transport, Burgas is a vibrant industrial and trade centre. Oil-refining, chemistry, food-processing and wood-processing industries play a major role in the economic development of the area. Tourism is also one of the strong developmental drivers. But the intensity of these economic activities decreases with the distance from the district centre. About 20 km from the coast one may observe a mainly agricultural landscape. Farming there specialises in orchards, vineyards, sunflower and vegetable production. Farm size is higher than the national average. The region is also famous for its large pastures, offering an optimal habitat for sheep. The average costs of milk or wool are among the lowest in the country (DONCHEV and KARAKASHEV, 2012).

Despite the fertile soils and mild climate, the Burgas district is sparsely populated. This has historical reasons – at the beginning of the Turkish occupation in 1828-1829 much of the population escaped into exile in Ukraine, Besarabia or the northern parts of Bulgaria. Despite some refugee influx from Macedonia in the beginning of 20th century, Burgas has not achieved the population density of the other surveyed districts (Table 2). The population statistics are still decreasing but less severely than when compared to the other survey regions (Figure 6). The ethnic make-up consists of 84.5 % Bulgarians, 9.8 % Turks, 0.9% Roma and 4.8 % others. Focusing on rural population as the subjects of investigation, the villages of Morava, Karaisen and Nedan were picked as survey settings (Map 5). These are plains villages, far from the tourist centre of Burgas and can be seen as representative of the rural economy in that region.

Map 5: Map of surveyed villages in Burgas district

Source: Google maps (GOOGLE, 2012).

Note: A – Nevestino; B – Krumovo Gradishte; C – Ekzarh Antimovo.

3.2 Survey instrument and data collection

The study of entrepreneurial intentions utilised the data of the SCARLED project. SCARLED's survey instrument was an interviewer-administered structured questionnaire. It covered data on the demographic and factor endowment of the farm households. The main interest of the author are the eventual non-farm start-up plans of farm households, so a special module was added for Bulgaria – tailor-made for the study of entrepreneurial intentions, aligned to the theoretical framework discussed in Section 2.6 above. It puts special focus on preferences and corruption perceptions of potential non-farm entrepreneurs. Translation was made from English into Bulgarian and it was checked for accuracy by two bilingual doctoral students and the author. Open questions were included, allowing a more detailed qualitative perspective. For increasing the quality of the collected data, special training was organised for the interviewers. All were Bulgarian students, which enabled the approaching of the survey respondents in their native language.

The fieldwork started in the winter of 2008. This season was chosen because it was expected that at least for crop farmers the workload is not so heavy in the winter months and so they would be more willing to cooperate. Considering the rather long questionnaire (about 65 pages), this was of special importance. After pre-test

interviews with farmers (not to be included in the surveyed sample) minor adjustments were done. Then a team of four interviewers, including the author, visited the study areas and started data collection.

The village mayors were contacted for assistance. Generally, the households were identified on the door-to-door principle. Due to bad roads and severe winter conditions, the planned number of 271 completed interviews could be achieved only by April 2009¹⁰. The data revealed that only 24 (or 9 %) of the respondents had start-up aspirations within the next five years. This observation is in line with the fact, that only about 10 % of the total population in the active age group are self-employed in Bulgaria (NSI, 2007).

Obviously, the original sample of farm households with start-up intentions was too small to ensure enough variance of the dependent variable for most multivariate techniques. To correct that, an additional 40 observations with start-up intentions were collected by the author in the summer of 2009. The goal was to reach a stratum of about 20 announced start-up intenders per district¹¹. Such sampling procedure is justified by KING and ZENG (2001) who explain that in the face of misbalanced distribution any additional case from the smaller group contributes more information.

In 40 cases which were collected personally by the author, in-depth qualitative interviews also complemented the questionnaire data. This approach was necessary as a sensible way to reveal the complex context, which was considered of high relevance for the start-up decision. Especially useful was that this enabled collection of the considerations involved in pursuing some activities and abandoning others, and of the perceived barriers and detailed descriptions of the envisaged business ideas.

After data collection and cleaning, the sample had to be reduced. The literature suggests that start-ups are most likely if the founder is around the age of thirty (DELMAR and DAVIDSSON, 2000; LÉVESQUE and MINNITI, 2006; VAN DER ZWAN, THURIK et al., 2010), so after removing purely pensioner households and applying listwise deletion, the final sample comprised 195 observations, of which 56 (29 %) stated to their plan for a non-farm start-up (Table 3). This data is considered as a suitable base to further proceed with a quantitative analysis.

¹⁰ The author thankfully acknowledges the great help of all data collectors involved and their team leader Hristina Harizanova from the University for National and World Economy in Sofia, Bulgaria.

¹¹ That is, the household head gave a four or five on the five-item Likert-style scale measuring the perceived probability to start business in the next five years. Higher levels denote a stronger start-up intention.

Table 3: Distribution of sampled households per village and district in Bulgaria

District	Village name	Number households	Total
Pazardjik	Gelemenovo	17	63
	Kostandovo	25	
	Dorkovo	21	
Veliko Tarnovo	Nedan	21	67
	Karaisen	31	
	Morava	15	
Burgas	Krumovo Gradishte	19	65
	Ekzarh Antimovo	22	
	Nevestino	20	
	Klikach	3	
	Dragovo	1	
			195

Source: Own presentation.

Note: Klikach and Dragovo were originally not included in the SCARLED survey.

3.3 Data processing

The questionnaires were anonymised and scanned for easier handling. A special mask facilitating data entry in Microsoft Access was designed by the project partners¹² and extended by the author. The resulting database allowed the exporting of data in different formats for further quantitative econometric analyses. Where doubts about mistakes arose after creating the first descriptive analyses, a crosscheck was made with the data collectors and, in some cases, a phone call was made with the respondents to collect or correct the missing or questionable values.

With respondent's consent, the qualitative interviews were recorded with digital voice recorder and saved as files. After that they were transcribed with the help of the software Olympus DSS Player Pro. Translation was not necessary, as the author is Bulgarian. The resulting text files were coded using OpenCode version 3.1.6.2. This allowed clustering of relevant text information and easily recognizing the main message within the hundreds of transcript pages.

Further, based on both, qualitative and quantitative data, the author created 40 so called "livelihood maps" as visual representation of the livelihood of each household (examples to be found in Figure 7 and Figure 8). They allowed her to quickly grasp the importance and interdependence of each gainful activity reported by the households. The final statistical analyses were done with Microsoft Excel 2003, SPSS version 17, STATA version 11 and SmartPLS version 2.0.M3.

¹² Special thanks to Cornelia Suta for providing the data entry mask for the SCARLED questionnaire.

3.4 Choice of method

The analysis departs from the well-described theoretical framework of the TPB (Figure 4). A major empirical issue with this theory is that its constructs are abstract and not directly measurable (e.g. attitudes). They are referred to as "**latent variables**" or "**latent constructs**". For empirical applications, operationalisation by measurable variables (also called "**indicators**") is needed.

Usually, when for instance logistic regression (Logit) analysis is applied, only one indicator is taken as a proxy for the whole latent construct. This inevitably results in loss of information. Another challenge is that the theory suggests indirect effects – e.g. from behavioural beliefs through the attitude to the intention. The exact sequence can hardly be simultaneously modelled with traditional regression techniques. Yet, it can be easily done with the help of structural equation modelling (SEM).

The more widespread covariance-based family of these models relies on assumptions for multivariate normality. In the present sample with skewed data (out of 195 household, only 56 can be classified as start-up intenders) this is not given, however. Moreover, the sample size is quite small in relation to the number of the variables that should be included in the calculation. Another problem is that the data for most of the constructs followed the logic of multidimensionality and requires formative operationalisation of the latent variables (see Appendix 2 for the difference between reflective and formative measurement models). This is not possible with the covariance-based approach. Partial Least Squares (PLS) can deal with the mentioned issues and arose as the right tool for the operationalisation of postulated research questions (CHIN and NEWSTED, 1999; BARROSO, CARRION et al., 2010). Because of its partial nature, the PLS requirements in terms of sample size are much less demanding compared to its covariance counterpart. A common rule of thumb recommends taking the largest regression, which is to be calculated within the suggested model, and multiplying the number of its independent variables by ten (CHIN and NEWSTED, 1999). The most complicated regression in this case involves six explanatory variables – within the constructs "Expectations" and "Attitudes" (see Table 1 and Figure 15). Having 195 observations, the dataset exceeds this minimum sample size recommendation by far.

Although very flexible, the PLS approach does not go with statistical inference. To prove if its results will hold, also a robustness check with traditional logistic regression is thus foreseen. Additionally, the qualitative interviews are expected to shed more light and give concrete meaning of the coefficients. This is because qualitative research allows consideration of the perspective of those surveyed in their specific multitude and not, as in the classical quantitative research approach, reduction of the characteristics of the surveyed individual to predefined parameters, thus tremendously narrowing the analytical view (DENZIN and LINCOLN, 2000; MACK, WOODSONG et al., 2012).

3.5 Limitations of the study

Despite putting much effort into guaranteeing high quality data and avoiding bias, some restrictions of the study should be mentioned. As the reader has probably recognised, a sample size of 195 does **not allow representivity**. Further, applying regional strata during the sampling procedure comes at a cost – there is **no regional variation in the group of business intenders**. As a consequence no statements can be made about the type of eventual entrepreneurial activities based on respondent's geographical location.

Although very appealing, the formative operationalisation of constructs can only be valid if all relevant indicators are collected. As with any regression analysis the risk of **omitting some crucial variable** is given.

With regard to the dependent variable, although there is much evidence concerning intentions as reliable predictors of future behaviour, a **preferable approach would be a longitudinal study**, which follows up to see which households actually start an own business.

4 ANALYSIS OF NON-FARM BUSINESS START-UP INTENTIONS

In this section, three perspectives of analysis will be presented, corresponding to each of the applied methods. Starting with a qualitative view, the paper arrives at the core of the investigation: a structural equations model applying partial least squares. After that the results will be checked for robustness with stereotype logistic regression.

4.1 Livelihood context and its role for the start-up decision

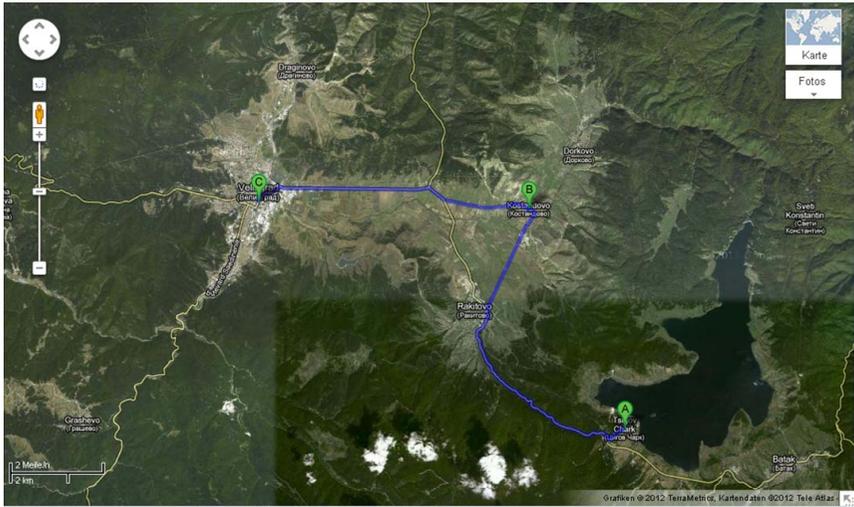
This section introduces the reader to the real situation in the surveyed villages in order to provide a feeling for the context and some interdependencies, which will not necessarily become evident from the numerical data and the quantitative analysis. In the following two case studies will be presented. They describe the story of two individuals and their families and were selected to represent promising and determined potential business starters in the sample. Both are located in Kostandovo, Pazardjik region.

Kostandovo is a rural village with 4,342 residents. The area is mountainous and scenic and the nearest city is Velingrad (Map 6). The latter is also known as the spa capital of Bulgaria. The main non-farm income in the city is generated through tourism. Not far from Kostandovo is the lake Tzizgov Chark, a well-known destination for weekend trips. Kostandovo lies between these two tourist magnets. However, for now, it cannot really compete with them as a tourist destination: there is no ready infrastructure – the streets are not in good condition, and there are virtually no hotels. Most of the residents either commute to the city or are employed in agriculture. Not far from Kostandovo is a private hop plantation, the biggest in Bulgaria. It offers seasonal farm waged jobs, also hiring people from the surrounding villages.

Before 1990 the main source of employment was a brick factory, but it was privatised, downsized and finally closed. The new owner could not find a market for the production, the technology was old and inefficient and the production costs were too high. After 1990, a large share of the local population directed its efforts to the timber business. Because there were hardly any other jobs, local men got especially involved in logging and wood-processing. Almost every second house in Kostandovo has somebody who has worked as a carpenter or timber collector. The village is surrounded by a state-owned forest, yet effective measures to protect it from overuse are not in place. During the construction boom between 2000 and 2010 there was a steady demand for wood products. Everyone who could raise the money bought machines and opened small workshops for processing the wood in their garages or adapted barns. Most production went to the national market, but some of the furniture produced was exported to Greece. However, this business

model turned out not to be sustainable: de-forestation became an issue. More than the half of the wood-cutting was illegal and the products were without the necessary papers for the origin of the wood.

Map 6: Satellite image of the area around the village of Kostandovo



Source: Google maps (GOOGLE, 2012).

Note: A – Tsigov Tchark; B – Kostandovo; C – Velingrad.

The final downturn and the complete cessation of the noise of the saw-mills came when the financial crisis hit and the construction business in the country came to a standstill. The investment in machines, many of which were financed by credit, was lost.

The crisis was a covariate shock and the whole village became locked into unemployment – livelihoods became harsh. People reported that they were afraid of the winter because of insufficient funds to pay the bills. They rely on home gardens as a traditional source of food. There is also a local cooperative and most of the farmers have rented out their land there, getting vouchers for bread and some in-kind production in exchange. It is mainly the costs for electricity, transport and especially medical care and medicine which pose a challenge.

Agriculture is an important income source. In the mountainous region of the case study, the plots are small and there is only a limited choice of crops, such as potatoes, suitable for the local conditions. Potato production is however, in the hands of only a few big producers. Small farmers eschew the risk of being forced to sell below production cost – they therefore do not target the market.

Education is seen as an important determinant to open up non-farm income sources. Women in the case study region typically hold secondary school qualifications

directed towards light industry – cooking, tailoring and confectionary. The men often specialised in forestry, engineering and construction. However, few were working in their field of expertise; due to widespread unemployment, the majority is willing to take any work available, regardless of an educational mismatch. So it is typical for women to go for waged seasonal farm employment. Men seem to be reluctant to take these jobs. They said it is not worth the time and that the pay is too low. The mayor reported a strong de-population trend driven by migration, mostly involving men. In this harsh situation, it is worth looking at the livelihood strategies of the local households.

4.1.1 The case of Elena

The story of Elena's family gives a good idea of the local situation. She is 44 and married to Emil, who is 46 years old. They have two daughters: Maya (24) and Rumyana (22). Both are married. Rumyana is a mother of two girls – four and two years old. Maya has just had her first baby – a girl. The sons-in-law also live in the household. Aleksy is 28 and Radi is 31 years old. In total this is a nine-head family with three generations living under the same roof. Elena is the head of the household.

Elena and her older daughter got qualifications as cooks. The father, Emil has secondary certificate as a mechanic. When asked about the others, Elena shares sadly that her younger daughter married too early and did not continue after her primary education. She had only 8 years of schooling. Also her sons-in-law received only primary education. She seems to be ashamed of these facts because education is traditionally seen as one of the most valuable assets in Bulgaria. Elena is afraid that the lack of education is dooming the young family to low-income activities: *"Nowadays without a qualification you are a complete zero! One cannot be admitted to work with machines... And the modern labour world relies more and more on computers! They are everywhere!"* The young men work as timber collectors. They use their machine-saws to fell trees and rely on horses to pull them out of the forest. It is a heavy work and requires a lot of physical strength. Elena does not believe that one can feed a family by doing that for life. But she is forced to accept it – the children are there and she has no other choice but to make the best of the situation. A problem arose when the employer of one of the men did not pay wages for more than six months, and the prospects of getting money are not rosy. The crisis will not be overcome within just a year or so in the region of Kostandovo. The stock of timber is full and, as long as it is not sold, there will be no money for wages. The other son-in-law is employed by a state-owned company. Despite the collapse of the wood market, his pay is still on time. Alexy and Radi have been timber collectors during all of their young lives, they do not have any other qualification. Elena believes their chances of finding an alternative job on the local market are close to zero.

Being a young mother with a baby, Rumyana has to stay home. Her sister Maya was lucky and could get a temporary job as a postwoman at the mayor's office.

She collects and delivers the mail. The pay is low, but every penny helps in hard times. Romyana helps her sister with childcare. It is, though, a temporary solution.

Emil, the husband of Elena, is a mechanic with secondary education. He worked for 15 years as a turner, but was laid-off after the privatisation of the state-owned machine producing enterprise. Then he changed to a private wood-processing firm. For 10 years it seemed to be a good employer, but at some point the main customer (IKEA) terminated the contract and without the big orders the firm went broke. Next, he found a job in a company which produces wooden furniture in the closest city, Velingrad. Up to the time of the survey he had spent about 10 years there. For most of this time he was satisfied, but in the last couple of years the market shrank. The owner could not pay for a full working day and Emil had to take non-paid leave due to lack of orders. Without these measures the firm would have to close. The prospects for his income are uncertain at best.

Elena, Emil's wife, has the most diverse job history. After her qualification as a cook she worked in a restaurant in the next town (Rakitovo). She was the chief cook and, among others, responsible for making pizzas. The dough needed to be prepared early in the morning and this was a big inconvenience for Elena – transport was an issue. But this was her first job, so she tried to keep it. After four years the owner died and the successor changed the agreement for the worse – more work for less money. At this point she decided to quit.

Her next job was in agriculture. One firm from Holland invested in potato production in the area. It specialised in producing high-quality seed for the Bulgarian market. The company tested many varieties to see which was best adapted for the local conditions. This allowed Elena invaluable insights in how to produce high-yield potatoes. She worked as a simple farm worker, but the know-how she got helped her later. The company was owned by two men – one was an agronomist, the other an accountant. After the unexpected death of the accountant, the agronomist tried to continue alone, but only few years later he went broke.

Equipped with 10 years of experience from this farm, Elena decided to enter the commercial potato-production business. She convinced the family to rent some land and to pay for machine services. They were the first in the village to do so. Elena also pioneered the application for subsidies. Initially most of the rural people distrusted the support programmes and decided to wait and see what would happen. After Elena received subsidy payments for the first time, a wave of applications followed. For three years she benefited from the support. Still, at the time of the interview she had decided to stop applying for subsidies. She not only finds the paperwork too complex, but more importantly, the transport costs related to it seem to be prohibitively high. All the papers must be submitted in the nearest city Pazardjik, and the one-way ticket costs 7 Leva (about 3.5 Euro). As it was not possible to handle the paperwork at once, Elena needed to go more than 10 times in order to collect and submit all the papers required. Keeping in mind that the average

monthly wage in Kostandovo is about 125 Euros, the paperwork arose as a really costly consideration.

So farming turned to be an important survival and income generating strategy for the household, but it goes with high risk – prices fluctuate, the market is uncertain (no contracts with buyers) and despite good technology the yield depends on the weather. It was important to find some complementary non-farm activities.

Elena took any occasional job she could get. Most of the rural jobs are one-shot and short-term, so she could not afford to be picky. She jokes that when she looks back, the only job she has not yet done is that of the priest. Among others, she has been a chambermaid in a hotel, located in the recreational area Tzigov Chark. But in her words, the owners exploited the misery and the unemployment situation in the region. They paid little and treated the workers badly – Elena was motivated to earn money, but could not endure more than eight months. She was also a seasonal worker at the greenhouses in the neighbouring village. The employer paid the minimum wage and required the maximum. After one woman died on the field due to the inhuman conditions, Elena quit and decided never to work for them again. More and more she got tired of job-hopping and insecurity and the desire to become her own boss grew inside her. She dreamed of having her own business, a non-farm one – a business that generates income throughout the whole year and provides a decent income for her and her family.

Two things stopped her from immediately starting a business. First, a lack of money. And second, the business idea was also not fixed yet. Nonetheless, Elena started to seek any business opportunity. For example, she connected with the local Roma community and offered her services as a cook. Roma weddings take two-three days of celebration. Elena found a niche here and offered a catering service for parties. Yet weddings take place only occasionally and the business is not enough to provide a stable living. But, together with the other occasional jobs and potato production, it helped to make ends meet.

Through her neighbour she heard about a non-governmental organisation (NGO) which promotes the region as a tourist destination. She received this information at an early stage and wants to be among the first to make use of it. Both Elena and her neighbour own big houses which are located quite centrally in Kostandovo, ideally suited to the hosting of tourists. This is how another business idea took shape – Elena wants to build her own hotel. The main constraint remaining was to find sufficient financial capital. Elena is willing to go quite far to make her idea come true. One evening she saw an advertisement by the labour office on TV: interviews for candidates wanting to take up farm work abroad were organised. Elena decided to give it a try and applied.

This step might seem quite desperate to the reader. In developed countries one usually goes for credit in order to finance the business idea when savings are not sufficient or there are no friends to help. But Elena and Emil already had bad

experience of credit. Several years ago Emil took a loan to finish the construction of his home. Every month the employer's accountant deducted money from his wages and was supposed to transfer it to the bank (there was a contractual agreement for the procedure). The installments were deducted from the loan for a year and the family struggled to repay month after month.

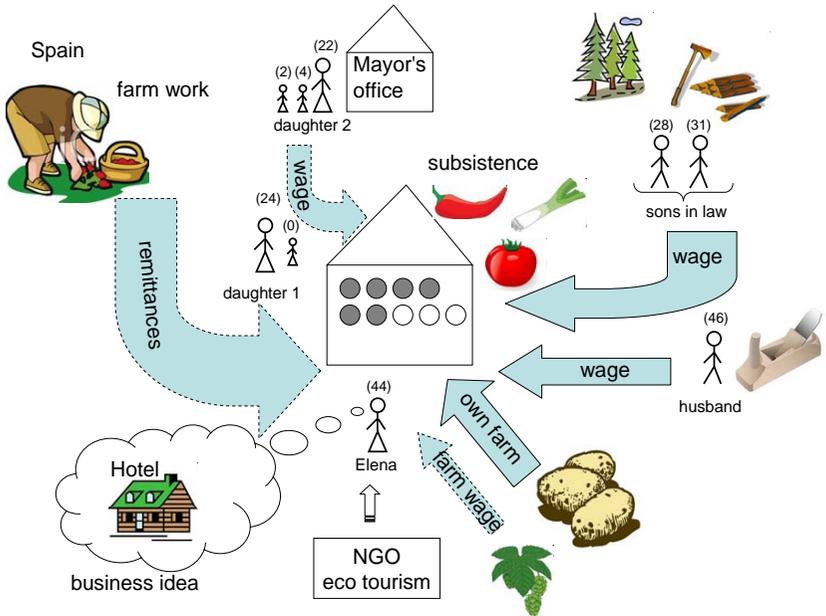
They were shocked when, at the end of the year, a letter came complaining that none of the installment payments had reached the bank. Due to the delay, there was also a penalty to be paid, the final amount being quite high – approximately 20 % of the initial sum. Emil went straight to the firm and asked what the problem was. The accountant said it was a technical mistake and the money would be immediately transferred. But the company said it was not liable for the extra cost caused by the delay and refused to bear the additional interest costs. In the end, Emil and Elena also had to repay the fine, despite the fact that they were good payers and had followed the rules. This additional 1,000 Euros were a heavy burden, and on top of that the amount had to be paid within three working days. They panicked, but with emergency loans from friends and extreme deprivation they managed to do so. When asked why they did not go to court and enforce their right, Elena explained "... *It would have been much more expensive and we would have lost. These people have good lawyers. The factory has used our money but will never admit it. It is better you do not let it go so far and avoid the corrupt court system whenever you can*". This negative attitude was based on personal experience. Earlier, they tried to fight for their land rights and after two years were almost broke and ultimately lost at trial. The moral of the story for the household was never to use credit again and not to rely on the legal system.

So Elena went to the interview for work in Spain and was approved. Soon after that she left as a harvest helper for five months. Emil remained at home and was taking care of the potatoes, whilst continuing with his waged job. She sent the first salary earned to Emil and he bought high-quality, high-yield potato seeds. After that they never returned to the low-yield cheap seed. The Spanish farm (a private one) liked Elena's work and invited her to return for the next campaign – strawberry planting. This involved two additional months of work. In total that year, she spent 7 months out of her home country and could send home a significant sum of money. The family decided that, despite the emotional hardship of being separated, it is worth working abroad to accumulate financial capital. As Elena puts it "*Leave us alone with your subsidies! The state turned us into monkeys! We don't want subsidies, let us work abroad, this is our salvation!*" At the time of the survey she was preparing to leave again for a fourth time. A visual representation of the livelihood strategies pursued by Elena's household is shown in Figure 7.

It was interesting to learn why they did not try to open a hotel earlier. The explanation was – "*The main reason is the lack of money. But we were also busy raising the children, building the house, after that Emil was sick... Further, it took me a while to accumulate the skills necessary to run a hotel. I had to see how it is*

done. Now I believe I know. I have been a cook, a cleaner; have seen the mistakes the others do. But I am afraid to use credit... This slows everything down. Still, my family stands behind me and we all want this to work out. If not... we will end up with a huge house, which will still be ours, it will not be a complete loss. But as already said, I believe that this man, who is a member of this NGO, is a trustworthy source of information. He is not stupid and he would not put in his effort if there was not a real chance that the eco-tourism vision becomes a reality."

Figure 7: Livelihood strategies map for Elena’s household



Source: Own presentation.

Note: This is a snapshot of activities at the time of the survey. The house in the middle represents the household. The dark circles symbolise the active family members (16-64 years), the white ones represent the children. The width of the dark arrows corresponds to the height of the generated income from the respective activity. Dashed line indicates temporary employment. The age is indicated by the numbers above each person.

A complex picture emerges and it demonstrates among others factors that starting an own business cannot be really understood without taking into account the other options available to the household, and without accounting for the individual restrictions and preferences.

4.1.2 The case of Ivo

Ivo was born and lives in Kostandovo. Twenty eight years old and a father of two, he is the head of a young family. His wife, Detelina, is 25 years old and they have twins – a boy and a girl, four years old. The spouses have professional training related to wood – he is a carpenter and she has a qualification as a forester.

Unlike Elena, Ivo has never worked for someone else. Since he was 18 years old, all the money he earned came thanks to his own initiative. His grandfather was a carpenter and this inspired Ivo also to choose this profession. He used to help him in the workshop and later continued to invest, extending the set of machines they had. They were doing what most of the people in the region do – processing wood.

Detelina, Ivo's wife, never found a stable job after her leaving school. She married and soon after that the twins came. Since then she has been a housewife. Her job prospects are not good. Local forestry was doing well a few years ago, but when the crisis came the demand for timber fell and the number of positions drastically decreased. Currently about 60 people work there and all are worried about their jobs. No new job openings are in sight. Detelina goes for occasional farm jobs. For example, at the time of the survey she found some employment as a raspberry picker on the fields of a Greek investor. It was just 30 days of employment, but its financial contribution is important to the family.

Ivo is the breadwinner. He caught the wave of the construction boom in the last years and accumulated some capital. Recognizing the trend, he employed some qualified men and organised them into a brigade. He travelled around the country and looked for potential customers. He mainly approached hotels because there were strong investors behind them. In the end he managed to make good contacts and got a contract for making the wooden parts of 10 villas in one of the most famous ski resorts in Bulgaria – Bansko. After completion, no orders followed.

Interestingly, it was not the crisis that blocked him. It was more the unfair competition. The investor told him that he had been confronted by a few powerful local mafia firms, whose owners pressed him to take their construction offers or there would be trouble. So the investor had no choice but to leave Ivo out of the game. The investor had long-term plans in Bansko and did not want any complications from powerful structures. Ivo had to accept that he is too small and weak to fight for his rights and had no chance. This was the first time that he realised how unreliable the judicial system in Bulgaria is. He was aware that there are other construction sites planned in the area, but definite information was not available to him and he could not prepare an offer and meet the investor's criteria.

The crisis came and it became more appealing to look for projects funded by the public sector – this niche is more crisis-resistant. Especially in the rural regions, there is great potential for construction firms aiming at infrastructure projects – repairing streets, taking care of the water supply and sewage, repairing the old

school and other public buildings, etc. But the procedure for announcement of these projects, (often co-funded with EU money) was not very transparent. As he puts it *"they did not let me drink water from the spring"*. He had no first-hand information, and in a competitive business this means lack of orders and no chances to meet the specifications of the few open tenders. One could tell that the requirements have been tailor-made for the few big mafia firms and to exclude any other potential bidders. Ivo reported that the firms related to the political parties, which ran the region for the last 15 years, are the main beneficiaries of this situation. Despite the fact that this party lost power during the last elections, its power structures in the region are still intact; the small entrepreneur can only watch as large contracts are awarded to "suitable" companies and can only hope for the small leftovers.

Nevertheless, during the construction boom Ivo accumulated some capital through his brigade. He continued investing money in machines for wood- processing in his workshop. He also built a new house and moved out of the home of his parents. It was important for him to invest, not only to consume. He bought some minibuses which facilitated the transport of his workers across the country and between the different villa sites. At the time of our interview, no more construction was taking place. He concentrated on small orders for wooden products – furniture, windows, doors and parapets, these stemming mostly from his home region. He settled, and in doing so, he could concentrate more on his hobby – bee-keeping. For five years he could proudly look back at the steadily growing number of bee families and increasing honey production. Usually it is costly to buy new hives, but Ivo had the advantage of having the tools, materials and skills to make them himself. In this way he could reduce costs. Because he was interested in the newest developments in this field, Ivo went to some seminars for bee-keepers. There he became a friend with another seminar participant who shared the same passion. Later, Ivo learned that this man was a banker. He was one of the big honey producers in the region and also owned a consulting company. They shared a sincere friendship and the more experienced man helped Ivo with useful advice. He taught him not only how take care of the bees, but also how to apply for subsidies, how to avoid the traps of the administrative system. He also gave him insider information about some support programmes. Ivo wanted to enrol in the "Young bee keeper" support programme but there was a requirement to have at least 70 bee hives. Additionally, one had to have been registered as farm producer (bee producers belong to this category too) for no longer than three years. In reality nobody could meet these criteria unless there was sufficient start-up capital to buy a large number of hives at the beginning. If one tries to grow his own queen bees, it would take much longer than three years to reach 70 hives. To avoid this, Ivo registered the bee garden in the name of his brother who was not known to the registry system. Ivo was not proud to have cheated, but was convinced that in its current form, this "support" programme actually inhibits small producers from entering the large market for honey. He wrote the business plan, completed all of the documents and started searching for the office where he could apply. It turned out that the place was hidden. He

described walking for about 30 minutes in a residential area in Pazardjik (the biggest city in the region) without any signs indicating the existence of any extension office. In the end he called a contact in the National Agriculture Fund and so found the office on the third floor of a residential block. The service was more than unfriendly, but Ivo was persistent and pushed until everything was sealed. The rules say that he should get an answer within three months, but instead 8 months passed without any notification. One day he got a letter informing him that he had been approved for subsidies. He would first get at an amount of about 12,500 Euros and three years later another 12,500 if he fulfils the conditions set out in his business plan. For Bulgaria, this is a large amount of money and one should keep in mind that the national average wage at that time was around 200 Euros per month. He received the first payment and started working to achieve the promised increase in the number of hives.

Ivo's family did not own big plots of land beside their home garden and there was not enough for anything more than subsistence farming. Further, the climate of Kostandovo is a rough one. The region is mountainous, the temperatures are quite low and it is windy. These conditions are not optimal for bees. That is why Ivo adjusted the design of the hives which allowed him to close and transport them. He moved some hives to the forest. The minibuses were just perfect for this. At that time he had about 50 bee families, of which 35 were moved. The trees provided enough bee pasture and wind protection. The forest was far away and he checked on the bees every second day. All seemed well and he was patiently working and preparing the sustainable growth of his apiary.

One day he arrived at the forest and was shocked to find that the hives were all gone! Not a single one was left! To the big commercial honey farms this number of hives might seem insignificant, but for Ivo this was a big shock. He had no spare capital to buy new colonies to cope with the loss, his strategy was organic growth based on home-grown bee queens.

Desperate, he went to the police and reported the theft. Six months later they sent him a letter saying that the case would be closed due lack of progress. There is no insurance for bee hive theft, only for fire, flood and some diseases, so Ivo had no choice but to swallow his bad luck. After that he never dared to leave his hives unattended and this limited the productivity of the apiary. He realised two things. Firstly, the local authorities will not help him to protect his property, even when the law allows him to position hives in the forest. Secondly – he needed additional sources of income; the honey business had developed too slowly and is too uncertain.

At that time, the revenues from the bee business were not sufficient to provide a stable livelihood for his young family. He knew he could always find a waged job – the locals knew him as a high-quality carpenter and would offer him one of the few available positions, but the remuneration was far below Ivo's preference.

One could not expect more than 200 Euro (with lots of luck), and the monthly cost of his household were beyond 700 Euro. He needed some other solution.

Ivo started looking for new opportunities. And it seems he has recognised one. During the crisis the region stagnated and those who did not have enough financial capital could not continue with their activities because most of their clients were unable to pay. The covariate shock was reaching all of the residents. Unlike most others, Ivo saw this crisis as an opportunity. The region is beautiful and the Tzegov Chark lake of is not far away (see Map 6). Many owners of plots of land located there were ready to sell, pushed by the economic hardship. The land price was at a record low.

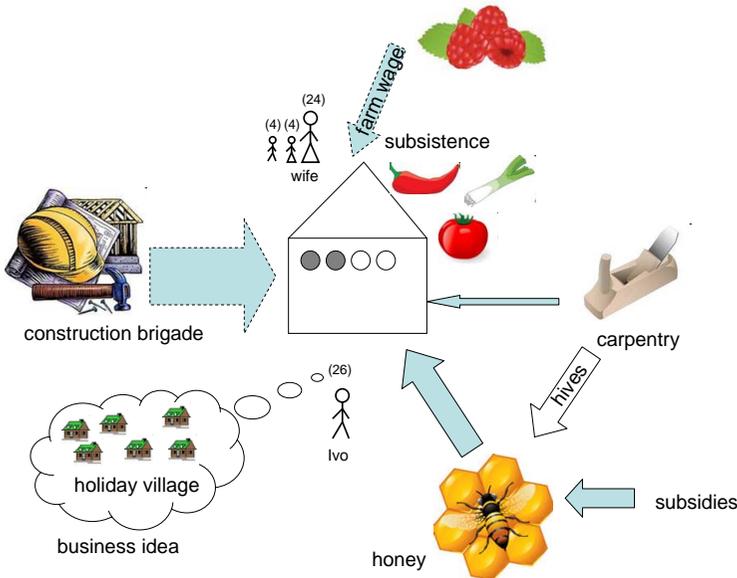
This was the perfect time to buy. And Ivo knew what he would do with this land – this would be the start of a small holiday resort, consisting of small wooden houses, which he will construct himself. There are many tourist sites around, and the famous city of Velingrad usually absorbs the mass of tourists. But Ivo has a vision of targeting a special group – those who want to avoid the crowd, to cook for themselves in a separate kitchen and fish at the lake. Small and cosy, low-budget single wooden houses are an easier product to sell and are well suited to local conditions and the resources and skills which Ivo could mobilise. In Kostandovo there are hot mineral springs. The water is very warm and could be used for smaller scale spa tourism. He would be careful to avoid the mistake of allowing the construction of huge hotels which do not preserve the local spirit and traditions.

At the time of the data collection the mineral water was not used efficiently. A "friend of the powerful" has the concession for the local swimming pool but has not been investing in it. Nevertheless, Ivo believed that the community will find some way to better utilise this resource. It seemed to him that there is no better alternative for the village than tourism. He was not involved with the NGO and was unaware of its existing plan to promote the region as an eco-tourism destination. But he believed in his idea because he had seen a friend of his successfully doing something similar on the Black Sea coast. This is a business model which works year-round and can be promoted through the internet. Most of the time the houses of this friend were fully booked and many of his customers are repeat visitors. He could ask him for advice as they are not in direct competition. The money would come from bank loans. Unlike most other people in rural Bulgaria, Ivo was eager to invest. And the fact that he has a friend who is a banker also helped to strengthen his intention. He wanted to research support programmes and advisory services which would help him. The construction work would be done by his brigade and the marketing and the hosting would be a responsibility of his wife. It all made sense at once – everything came together. Despite inefficient institutions, lack of information, difficulties and setbacks, Ivo saw a new way to create employment and generate income. At the time of the survey he was pretty sure that he would pursue his idea until it becomes a reality. As he puts it *"I am from the younger generation. I have never worked for the big communist enterprises. To me the sense*

of security is unknown. Beside of that I am not ready to work for peanuts for someone else. I have learned to live with the risk, to rely on myself and I know I can do it."

Looking at the livelihood map of Ivo's household (Figure 8), one sees the pluractivity household pattern from the previous case confirmed. Starting a business happens in the context of other complementing or competing activities. This complexity must be considered in any models which try to grasp the phenomenon of start-up decision-making.

Figure 8: Livelihood strategy map for Ivo's household



Source: Own presentation.

Note: This is a snapshot of activities at the time of the survey. The house in the middle represents the household. The dark circles symbolise the active family members (16-64 years), the white ones represent the children. The width of the dark arrows corresponds to the height of the generated income from a respective activity. Dashed line indicates temporary employment. The age is indicated by the numbers above each person.

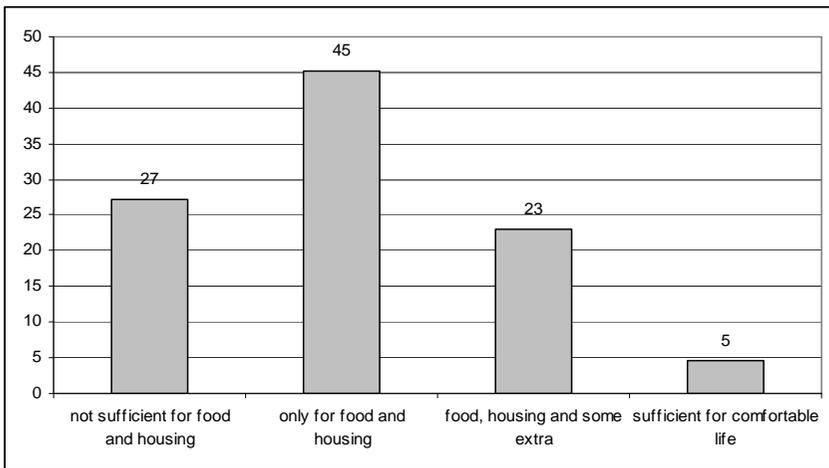
The description of Elena's and Ivo's activities show the individual complexity of this task. It also demonstrates that the qualitative perspective is a useful starting point, which gives direction to the subsequent statistical analyses. As common features of potential entrepreneurs, the cases highlighted readiness to take risk, relying on already acquired skills and looking for new ways to apply them, being pushed by the need and actively screening for eventual entrepreneurial opportunities. At the same time, the preference for being one's own boss emerged as a decisive

force which could separate those who go the uncertain way of entrepreneurship from the passive unemployed or low-wage-employed. These aspects are not new to the literature. At this point the impression prevails that inefficient law enforcement is a considerable obstacle for starting a business. The households shy away from relying on the legal system to enforce their rights and because of this had to suffer some unjust costs and missed opportunities.

4.1.3 Overall recognised patterns from qualitative in-depth interviews

The two case studies from the previous sections (4.1.1 and 4.1.2) demonstrate many of the problems. Most trends apply to all of the surveyed areas. Twenty years after the beginning of the transition process, no real substitutes for the missing large enterprises have emerged. As a result, the income of rural households has fallen. Figure 9 illustrates that about one fourth of the respondents reported to not be able to make ends meet.

Figure 9: Perceived level of income within surveyed households, in %, N=195



Source: Own presentation.

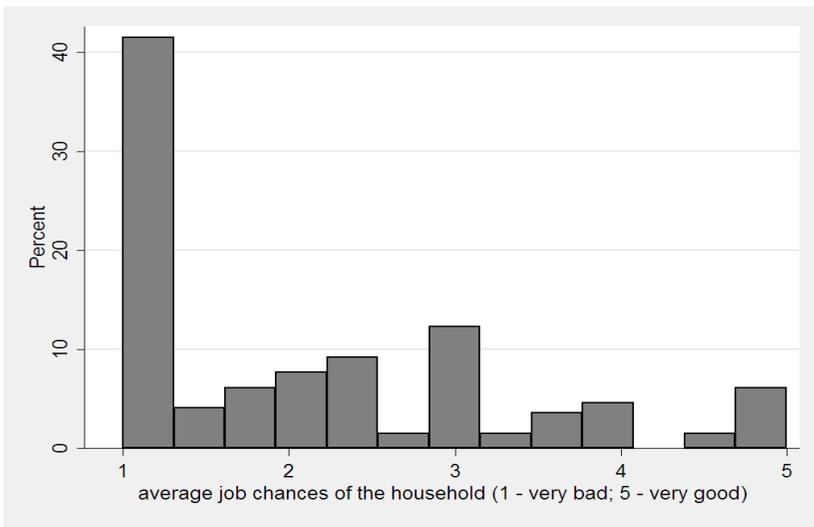
Almost half of those sampled feel that they live just at the limit, being able to afford only food and housing. Based on this, one gets the impression that about two thirds of the households live in poverty. This has implications for an eventual start-up motivation.

In the eyes of most respondents, the main reason for the trouble was the way the privatisation process at the beginning of the transition period took place. Only selected individuals benefited from it. Property changed hands but was not used to start profitable activities. Here is one example from Karaisen:

"... Here we used to have many buildings in the cooperative. I had a document for property worth 50,000 Leva (about 25,000 Euro), but could not get any of the buildings. This document was issued based on the years I had worked in the cooperative and also on the physical assets my grandfather had contributed to it when it was founded. But unfortunately, if you do not bribe, you cannot take anything. It turned out there was not enough property for all certificate-holders of these papers. So I went empty-handed, all the deals happened in a non-transparent way, under the table. The person responsible for the privatisation arranged everything for his friends. Then he sold everything and left for Germany. A few years later he came back and told everybody that he had earned this capital abroad. In this way he managed to launder the money. Those who played fair like me... We just sit here and watch the buildings falling apart."

Those unused to taking the initiative, especially the over 40s, seem to be stuck in an unfavourable situation. The scarce jobs are taken by younger people. It is no surprise to see that the majority of the households do not believe that they have good job prospects in the area where they live (Figure 10).

Figure 10: Perceived average job chances of the households surveyed, in %, N=195



Source: Own calculation.

Note: Respondents were asked: "How do you rate your chances to find a job on the local labour market?" Five-items very bad – very good Likert scale was applied. The average of the answers from all members in the active age within one household was calculated.

It seems plausible that, with the right education, rural people can have better chances to succeed. In most villages the impression prevails that it is very rare to

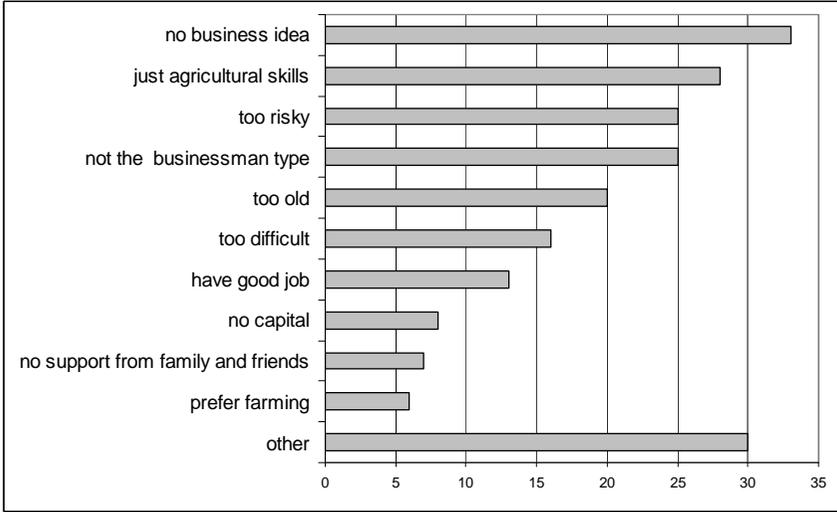
see somebody employed in that profession for which he/she had been trained. Traditionally, development policy argues that education will solve most of the problems with unemployment (STANEF, MANOLE et al., 2012). But what is the **right education**? For example, a degree in economics suggests the capability to make better use of business opportunities. During one interview a young woman student in economics complained however:

"I specialise in accounting. When I graduate, I would like to work here. But where? Who will hire me? There are not many firms here. And if there are any, they are small and informal. If I apply for a job there, they will just laugh at me. And besides that, they cannot really pay me. They don't issue invoices and in this way they manage to stay below the taxation limit. Tell me, would you stay here and throw away five years of study? I am not crazy. I will have to go to the city; there is just no other option for people like me here."

It is difficult to predict which skills will be necessary in a particular village in 20 years' time. Most families strive to send their children to universities in the cities. Once graduated from there, they usually do not want to return to the hard rural life. This just reinforces the de-population trend, which seems to be unstoppable (Figure 2).

Those who cannot move out of the village and need to come up with some ad-hoc business idea rely more on their acquired skills rather than formal education. This was illustrated in the case of Elena described above. In job after job she collected all the necessary skills like puzzle parts to finalise her business idea. Only after realizing what she wants to do has she focused her efforts in the direction of overcoming the biggest barrier – accumulation of start-up capital. Nevertheless, of the 195 households in the sample, 57 % (112 cases) never thought about starting a business. When asked why, they listed different reasons (Figure 11).

Figure 11: Reasons for not having thought about start-up, frequencies, N=112

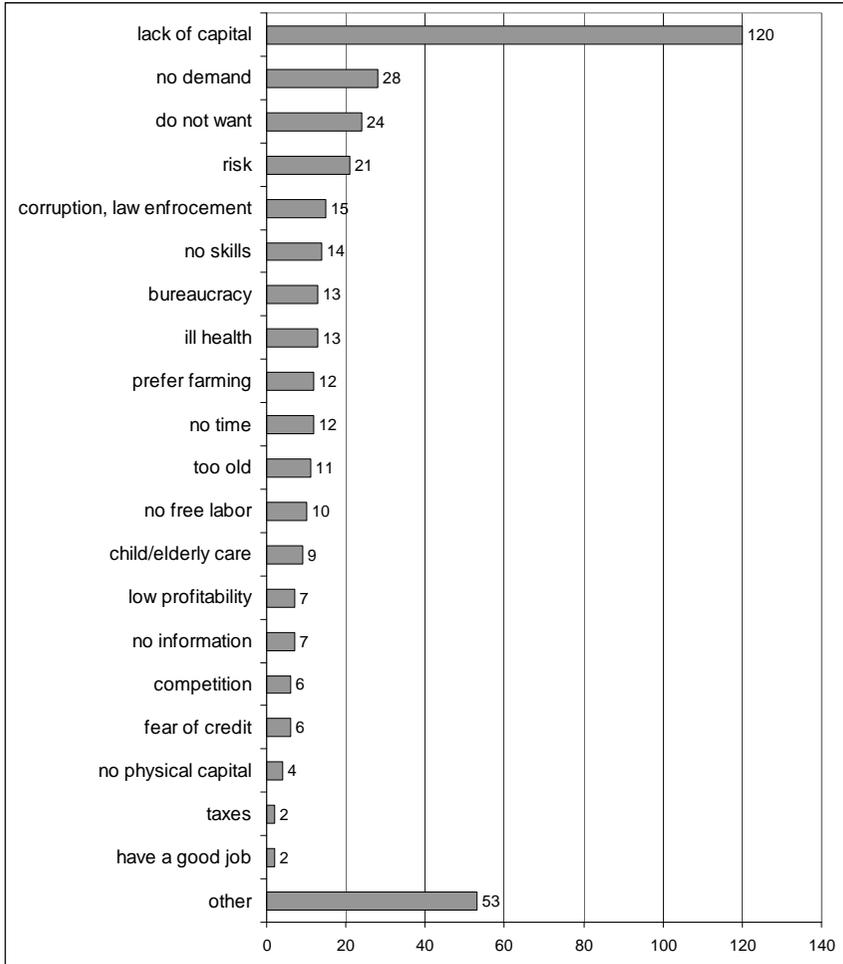


Source: Own presentation.

Note: Multiple answers possible.

The main factor was the lack of a business idea. Very few reported that they had not considered entrepreneurship because they have good jobs and even fewer because they prefer farming. This is a first hint that many households may be involved in farming only as a last-resort solution.

Further, the interviewers asked all households to list the barriers which hinder them most to start some non-farm, independent activity. The answers were left open, allowing capture of more facets of the respondent's perceptions. Then the data was coded and the frequencies were counted (Figure 12). The most prominent problem appears to be the lack of sufficient financial capital. And because the issue is relevant almost for everybody living in the surveyed villages, the lack of consumer demand is a logical consequence. But actually, lack of demand should be problematic only if the households are targeting the local population, which suffers from low purchasing power. Already at this point, one gets a sceptical picture of the growth potential of future ventures.

Figure 12: Perceived start-up barriers in sample, frequencies, N=195

Source: Own presentation.

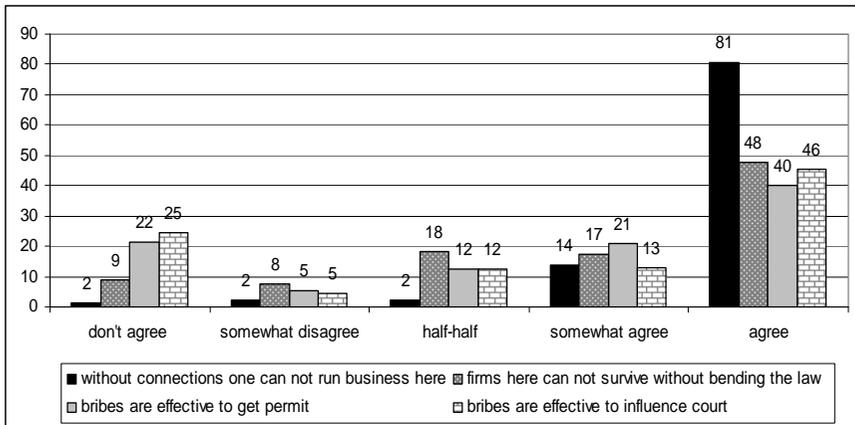
Note: Includes the answers of 195 respondents, but up to three choices were allowed, resulting in 336 values.

Another interesting observation is that the lack of skills is also among the leading barriers. With relatively few young people, the rural areas rely mostly on the generation over 40 years old. Most of these individuals got their education during communist times and their educational profile was aimed at the big state-owned enterprises. Twenty years later, it is not suited to the local labour market needs. Constrained financially and being afraid to take risks, it is rather unlikely that

these people will go back to some kind of education to acquire new qualifications. Without a long-term strategy for the rural areas, it will be very difficult to tackle this issue.

Paying taxes appears at the bottom of perceived obstacles ranking. This finding is surprising because, usually in developed economies, taxes are among the top barriers. Obviously the surveyed potential rural entrepreneurs do not consider them as such a serious problem – maybe because they never planned to register as legal subjects obliged to pay taxes. At least this impression prevailed in most qualitative interviews. This informal approach could work only in the context of weak law enforcement. And it seems to be given: only five out of 336 answers pointed the weak hand of the law as a hindering factor and in general corrupt practices seem to be widely believed as necessary and effective (Figure 13).

Figure 13: Corruption perception in sample, in %, N=195



Source: Own calculation.

The majority of respondents agreed that one cannot run a successful business in the village without connections, and that, in order to survive, firms need to bend the law. This appears to be the norm rather than the exception. In one interview a lady shared: *"Here they know when the inspectors come and how they collect their information. Every business owner here pays only the minimal wage. There are even many who do not pay any insurance. And when the time comes to receive a pension, it turns out that one will get just peanuts. That is one of the reasons why some employers are not willing to hire people older than 30."*

Also formal permits appear to play a crucial role – they are a barrier on the way to formality and strangely enough, if enforced, to the business activities as a whole. Sometimes viable business ideas are blocked because of the clerical abuse of gate-keeping power. The story of Marian from the village of Karaisen is a good example of permit regulations and corruption suffocating entrepreneurial initiative.

"I have bad experience. Me and my partner from the town of Pavlikeni, we tried to produce yoghurt. We rented a building here in the village, renovated it, and bought machines. All my savings went there. I also sold the land and the livestock. We were buying the milk from the local producers for 0.10 Euro/ litre. One cup of yoghurt costs us 0.08 Euro, but we could sell it for 0.35 Euro. That is a really nice profit margin! I was the only worker; the production line was a small one. And it started well. The clients liked our product. It took us about an year to win loyal customers. We also started donating to the local nursing home for the elderly... And then at once one inspector came and said – "You cannot fulfil the hygiene requirements. You need to close!" I explained to him that we just started installing the new equipment and that more is still on the way. Other inspectors were there before him and they forced us to improve diverse aspects so we invested and adjusted as they said. And all of a sudden this man came and said – "you have no chance, I am not giving you a permit! There are companies, which invest 2-3 million, and I am not giving my OK too and you here with your ridiculous small scale production do not have a chance at all!" He was working for the administration in Tarnovo. We explained that there is too much money put in this business and that we are willing to comply just to keep the production going. The answer was "Nobody forced you to enter the yoghurt business! It is not for small fish like you!" What can you answer to this?

And this is how we lost the will to work... Because when he gives you two fines... And usually clueless people like us get the fines because we are trying to play by the rules... And the big mafia players are untouchable. That is the main problem – always somebody must be paid to push your documentation and make sure you are not left out. And this is our tragedy! The whole story is just to protect the big guys, because they have bribed the inspectors to kill the small competing companies in order to maintain their monopoly status in the region. They want you to work for them, so they get a sweet margin. Only their brand should be sold in the supermarkets! At home I have two big cases with labels for our yoghurt... What should I do with them now? We even paid a professional designer to make them...

This reminds me of the nationalisation during communism. They hated the small producers! I am not into politics, but this parallel keeps coming to my mind. The losers are the local milk producers and fools like me, who put their money in the sand... To be honest, I think of myself as a smart, hard-working person. I am also well-educated and hold a university degree. And even so, I cannot jump the hurdles! Imagine for some simple peasants who have worked all their life in the cooperative! Nothing has improved in rural areas. It is all the same, or even worse... It is like a prison! Without money, where can you go?"

Figure 13 also implies that bribes are believed to be an effective means, not only for obtaining permits of any kind, but also to influence the courts. Elena and Ivo from the case studies above, do not seem to be alone in their perception with regard

to the legal system. In sum, the findings about corruption perceptions confirm the expected weak institutional context.

And still, despite these hostile conditions, the survey identified people, planning to start a business. Some of them do not have a concrete idea, just the desire to start something new. Others thought to combine the assets they have and came up with some business ideas. They are summarised in Table 4.

Table 4: Overview of identified business ideas within sample, N=195

Idea	Frequency	%	Examples
food shop	30	33	grocery shop
services	11	12	elderly care, haircut, car repair
restaurant	9	10	pub, cafe
food processing	9	10	confectionary, cheese production
non-food shop	9	10	apparel, book store
construction	8	9	building houses and reselling them
tailoring	4	4	knitting, tailoring, embroidery
tourism	4	4	own hotel
transport	4	4	taxi network in nearest town, lorry
solar power generation	2	2	installing solar panels
wood processing	2	2	carpentry
Total	92	100	

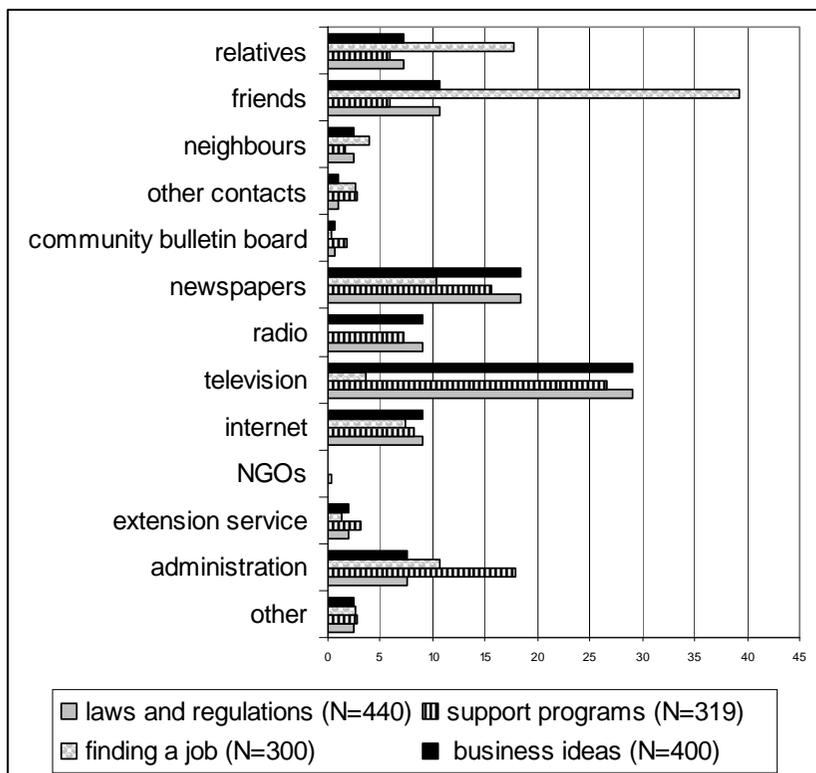
Source: Own presentation.

The overwhelming majority envisioned the well-known and easy to enter business model of food shops. In the sample they made up one third of the 92 business ideas reported. Similar to those who are aiming at services, cafés and restaurants, these potential entrepreneurs envision operating within the local market, which is known to be saturated and highly competitive. Low-income rural dwellers are very price sensitive and this leaves little profit margin for the business owners. Those planning some food processing activities were quite sceptical because of the heavy regulation burden, which is inevitable for food products.

When pushed by necessity, those who are really willing to try their luck with some kind of legal new non-farm venture are most likely to have to deal with the cumbersome state institutions. And before they pay the expensive trip to the cities, where the administration offices are located, it is likely that they will try to collect some preliminary information. It was interesting to see which channels they rely on to acquire it. The questionnaire collected data about this and some results are shown in Figure 14. The information about relevant laws and regulations is disseminated most effectively through TV adverts, followed by newspapers. This result holds also for looking for eventual business ideas and information about support programmes. It is evident that, in contrast to developed economies, the internet is barely used. The national statistics reports that 45 % of Bulgarian households have access to the internet (NSI, 2011). There are no numbers for the rural and urban regions, but it appears that rural households are disadvantaged in this sense. Within the sample

only 28 % of the households reported having internet access. When searching for jobs, rural people are most likely to turn to informal channels such as friends or relatives. Such practices further narrow their chances to find formal employment. This is so because low-profile employers avoid media visibility.

Figure 14: Most used information channels for selected topics, frequencies, N=195



Source: Own presentation.

Note: Up to three channels per topic were possible. NGO – Non-governmental organisation.

Another interesting aspect is the virtual absence of non-governmental organisations (NGOs) as source of information for the regular rural citizen. The same is true to a smaller extent for the extension service. There seems to be unused potential. Eventual supportive policy measures should consider providing easily accessible information through the internet. For those who are not internet savvy, personal contact with a friendly and competent partner would be of great value. Building personal trust and reputation, especially of the extension institutions, decides if

they will be approached or not. Nobody would like to share an intimate and high potential business idea with some arrogant and sceptical clerk and the extension workers are mostly perceived as such within the sample.

Together, the case studies and the descriptive statistics highlighted some aspects which seem to have a strong shaping role for the decision to start a new non-farm venture or not. A desire to be one's own boss, willingness to earn money, awareness of corrupt practices and access to information arise as crucial determinants, just to name a few. But they are mutually interwoven and each of them seems important. How to deal with this complexity?

4.2 Embracing multidimensionality: A PLS model

As already explained in the methodological part above, partial least squares (PLS) is the structural modelling approach most suitable for the research question of this thesis. In PLS, the estimation of the model is done sequentially in two steps. First, the measurement models, relying on measured indicators are estimated and a score is given to the latent variable. Then the system of structural equations (depicting the extended TPB as described in Figure 5) is calculated with these scores. The reader, if new to PLS, can understand the symbolic division between structural and measurement models by referring to Appendix 1. The author relied on SmartPLS (RINGLE, WENDE et al., 2005) for the calculation of the structural equations model.

The operationalisation of the variables along the theoretical framework was presented in Table 1. The postulated PLS model, in which the indicators are depicted by rectangles, is presented in Figure 15. Now, let us proceed with presenting the measurement and the structural models in detail.

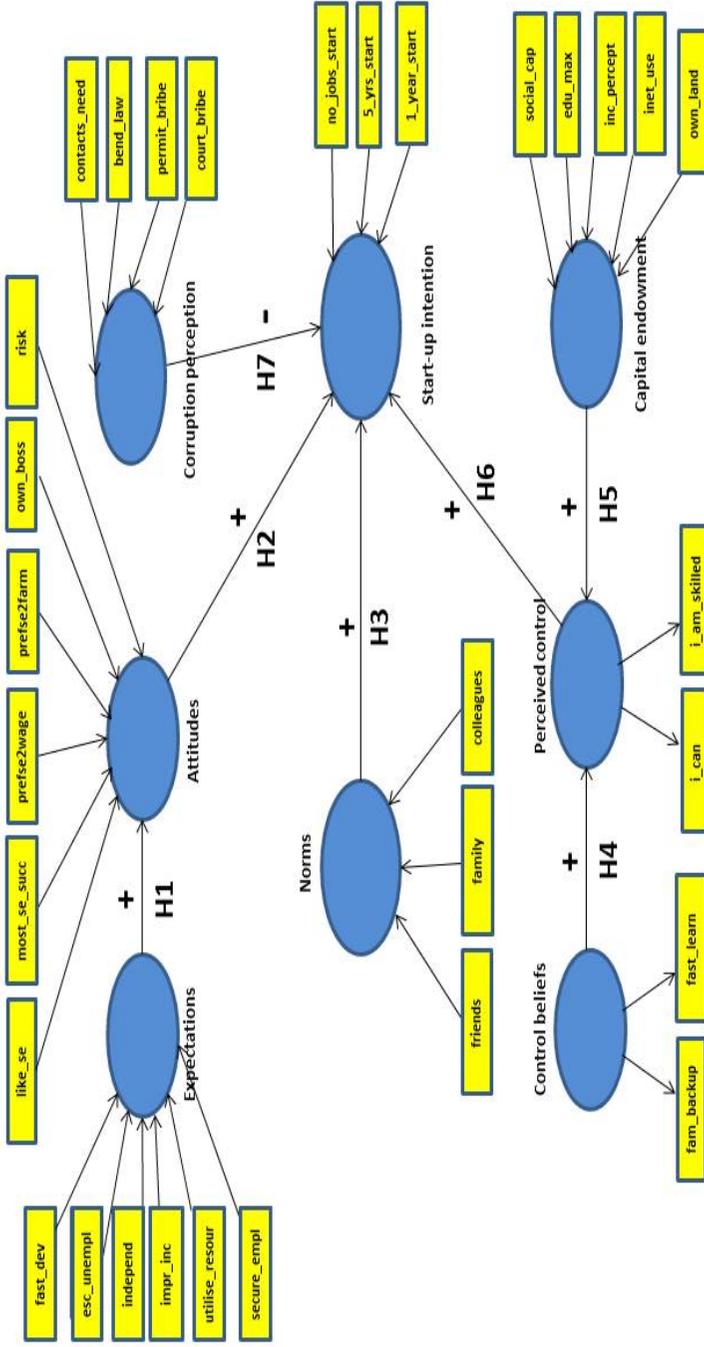
Measurement model: Within Figure 15, each oval symbol with all of the rectangles attached to it represents one measurement model. The PLS model has eight measurement models. Accounting for the multidimensional structure of the above postulated theoretical constructs, most of the latent variables were presented as a result of their indicators (i.e. formative operationalisation – arrows of rectangles go into the oval, they "form" it). The typical entrepreneurship scholar is probably not familiar with this way of operationalisation. As HENSELER et al. (2009) state, most PLS models published in peer reviewed journals are of reflective nature. Yet, a formative operationalisation offers invaluable insights into the make-up of a theoretical construct because it represents it as a result of impacting indicators (Appendix 2 shows graphical representation of both types of measurement models). In the field of marketing and information systems this was recognised some time ago and more and more formative models have found their way to the top tier journals¹³ (HENSELER, RINGLE et al., 2009; HENSELER, FASSOTT et al., 2012). The

¹³ Examples for such top tier journals are European Journal of Information Systems, Information Systems Research, Management Information Systems Quarterly, Marketing Theory & Practice.

author of this thesis is also convinced that this is a fruitful avenue and applies mainly formative indicators in this analysis. Typical of formative measurement models are that they represent a census of measurable indicators¹⁴, which form the latent construct. They can, but must not be correlated with each other. Such type of operationalisation corresponds to a linear regression, where the indicators explain the latent construct (for example attitudes or norms), which is the dependent variable. The advantage of this formative approach is that the direction (the sign) and the magnitude of impact of each indicator can be interpreted. This is different for the reflective measurement models of the constructs "**control beliefs**" and "**perceived behavioural control**". Here the latent construct explains the indicators (arrows go outwards the oval – indicators "reflect" the construct). Reflective indicators are interchangeable and highly correlated. The corresponding statistical tool is factor analysis, where the factor is the latent variable. Because the main focus of the capital endowment construct is on explaining the perceived behavioural control, the author opted for the reflective operationalisation of the control constructs. For a more detailed discussion about the two modes of operationalisation see (MACKENZIE, PODSAKOFF et al., 2005).

¹⁴ Please note the difference between indicator and latent variable (latent construct). Indicators are measurable and are used to represent the non-measurable latent variable. Indicators are represented as rectangles and the latent variables as ovals (Figure 15).

Figure 15: Operationalised PLS model and hypothesised direction of impact



Source: Own presentation.

Note: Ovals stand for latent constructs, rectangles represent measurable indicators. H1, H2 etc. are the postulated hypotheses.

Structural model: As described in the theoretical part above, the TPB represents the backbone of the suggested model of non-farm start-up intentions. While the TPB only considers "attitudes", "subjective norms" and "perceived behavioural control" as universal determinants, here the specification is extended by the constructs "corruption perception" and "capital endowment" to account for the specificity of the post-socialist and rural sample environment. The structural model is depicted by just the ovals (latent constructs) and the arrows connecting them (Figure 15).

In PLS there are only partial regressions being calculated, and because of that, there is no single measure that gives information about the good fit of the overall model (CHIN, 2010). For this reason, the model quality and results will be analysed separately for the measurement and structural models. Following the best practice PLS reporting custom, as a next step the measurement models are explained below.

4.2.1 Validity of measurement models

There is a difference in the way that reflective and formative measurement models are evaluated with regard to their quality. An easy to follow overview with guidelines is provided by HENSELER et al. (2009). In the two subsections following, a closer look at these two types of measurement models within the suggested PLS model will be provided.

4.2.1.1 Reflective measurement models

In the proposed model, two constructs are operationalised in a reflective way: "**control beliefs**" and "**perceived control**". Both are measured based on two indicators (see table Table 1 and Figure 15). In the reflective mode, the constructs are one-dimensional and each of the indicators is reflecting this single dimension. This means that removing one of the indicators does not change the content of the latent construct. Thus, it is possible to rely on only two indicators if they are of good quality. Nevertheless, this depends on the discriminant and convergent validity of the reflective measurement model.

Controlling for **discriminant validity** means that one needs to prove that a construct is more strongly related to its own measures than to any other construct. This is done by testing the overlap in the variance. The average variance extracted (AVE) represents the shared variance between the construct and its indicators. It stands for the amount of variance that a latent variable component captures from its indicators relative to the amount due to measurement error. The value of AVE should be 0.5 or more, implying that more than half of the variance has been accounted for (CHIN, 2010). This criterion is satisfied for the case of our two reflective constructs (Table 5).

Table 5: Results for the reflective measurement models

Construct/ Criterion	Discriminant validity			Convergent validity	
	Factor loadings	AVE	Fornell/Larcker	Composite reliability	Cronbachs Alpha
Required	(≥ 0.700) ¹⁾	(≥ 0.500) ¹⁾	(AVE > Correlation ²⁾) ¹⁾	(≥ 0.700) ²⁾	(≥ 0.700) ^{3), 4)}
<i>Control beliefs</i>		0.812	0.812 > 0.663	0.896	0.769
fam_backup	0.885				
fast_learn	0.916				
<i>Perceived control</i>		0.799	0.799 > 0.663	0.889	0.749
i_can	0.891				
i_am_skilled	0.897				

Source: Own calculation with SmartPLS version 2.0 M3 (Beta).

Note: N=195; 1) FORNELL and LARCKER (1981); 2) NUNNALLY and BERNSTEIN (1994); 3) CHIN (2010); 4) CHRONBACH (1951).

Another test for discriminant validity is the Fornell/Larcker criterion. It states that the AVE of a given construct should be higher than the squared correlation of this construct with any other one in the model (FORNELL and LARCKER, 1981, p. 46). In the Fornell/Larcker column of Table 5, the results are given for the highest value of the squared correlations across all the constructs. The figures indicate that the operationalisation of the latent variables is valid so far.

An additional way to prove discriminant validity is to compare the cross loadings with the indicator loadings. This criterion is also fulfilled for our reflective constructs (Table 6).

Table 6: Loadings and crossloadings for reflective indicators

Construct	Control beliefs		Perceived control	
	fam_backup	fast_learn	i_can	i_am_skilled
1. Attitudes	0.536	0.525	0.573	0.581
2. Capital endowment	0.583	0.784	0.603	0.730
3. Control beliefs	0.885	0.916	0.751	0.706
4. Corruption perception	0.085	0.157	0.094	0.138
5. Expectations	0.573	0.614	0.572	0.604
6. Norms	0.337	0.340	0.282	0.285
7. Perceived control	0.676	0.785	0.890	0.896
8. Start-up intention	0.356	0.455	0.423	0.423

Source: Own calculation with SmartPLS version 2.0 M3 (Beta).

Note: N=195. Each of the indicators should show a higher loading to its construct (shaded cells) than to any of the other constructs.

Given discriminant validity, it is time to control for **convergent validity**. This checks for the extent to which the indicators of a respective construct are consistent in their representation. Composite reliability (WERTS, LINN et al., 1974) reflects this aspect and is shown in Table 5. Another, less conservative measure is Cronbach's Alpha (CRONBACH, 1951). It assumes that all indicators are equally weighted (CHIN, 1998; CHIN, 2010). A value above 0.7 is considered acceptable for both measures; the suggested constructs satisfy this condition.

A third way to check for convergent validity is to look at the indicator loadings. The higher and closer to each other they are, the stronger the convergence. A look at the highlighted cells in Table 6 reveals quite a strong similarity for the items of "perceived control" (0.890 and 0.896) and a slightly lower one for "control beliefs" (0.885 and 0.916). According to CHIN (2010, p. 674) a range of variance of 0.2 or less is considered as evidence that all included items help to measure the same underlying construct. In our case, the range is below 0.1. This value can be interpreted as very good. There is no official threshold accepted for the set range or minimum, but with composite reliability values above 0.880 the author believes it proves strong convergent validity.

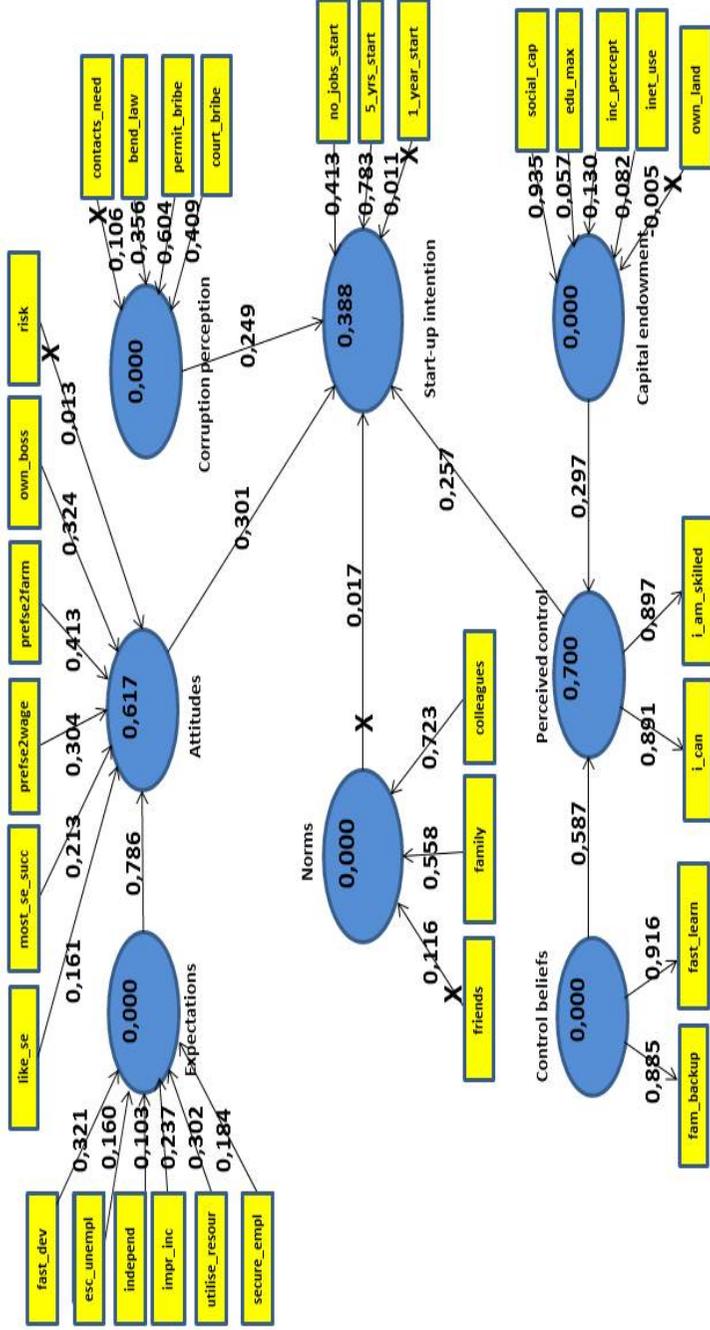
4.2.1.2 Formative measurement models

The process of determining the scores of the formatively operationalised latent variables is based on the ordinary least squares estimator. Therefore, it is of crucial importance to check for **multicollinearity**, which could bias the item loadings. This was done with several tests. The highest value of the variance inflation factor encountered did not exceed 2.5, being far from the critical threshold of 10 (DIAMANTOPOULOS and WINKLHOFFER; 2001). In addition, the correlation matrix was screened, and the condition index was controlled for (not shown). Furthermore, each of the items was regressed on the other measures in the respective formative construct as suggested by BACKHAUS et al. (2003). No multicollinearity problems were detected.

The traditional measures for determining the validity of reflective constructs are not applicable in the case of formative operationalisation. Formative indicators can be completely uncorrelated and therefore internal consistency across components is not an appropriate criterion to determine validity (BOLLEN and LENNOX, 1991). The correlation between them is not explained by the measurement model, but is exogenously determined (DIAMANTOPOULOS and WINKLHOFFER, 2001). Because the formative indicators explain the latent construct as in a multiple regression, values for the loadings closer to one are interpreted as having stronger impact than values closer to zero. This gives a first hint of how the selected indicators contribute to explaining the variance of the latent construct. The second step is to check if the loadings are significantly different from zero. This is done with the help of the bootstrapping procedure (195 cases and 5000 subsamples). Loadings with a bootstrap score below 1.96 are considered not to be significant at the 5 % level

(HAIR, RINGLE et al. 2011, p. 145). These values are shown with a crossed path in Figure 16 . There the paths marked with cross (x) are not significant at the 5 % level. The ovals represent the latent constructs and the rectangles symbolise the indicators used to measure them. The numbers in the ovals indicate the explained variance of the respective latent construct. The numbers next to the arrows going into the ovals are to be interpreted as regression coefficients. The numbers going out from the ovals to the rectangles are interpreted as factor loadings (e.g. *i_can* has a loading of 0.891).

Figure 16: Result of PLS estimation for non-farm start-up intentions among farmers



Source: Own calculation with SmartPLS version 2.0 M3 (Beta).

Note: Paths marked with "X" are not significant at the 5% level. Ovals represent latent constructs, rectangles symbolize measured indicators.

4.2.2 Validity and quality of structural models

The inner (structural) model (that is the model represented by the ovals,) was calculated with the so-called path weighting scheme. It weights differently neighbouring latent variables depending on whether they are antecedents or consequence of the focal latent construct. The algorithm produces a component that can be both best predicted and, at the same time, a good predictor for subsequent dependent variables. It is the only inside approximation weighting scheme, which accounts for the constructs' direction of impact (CHIN, 1998). The quality of the structural model is judged by the significance of the structural paths and the explained variance of the endogenous latent constructs (FORNELL and LARCKER, 1981). Standardised path coefficients should be at least 0.2 (CHIN, 1998). All TPB path coefficients show the expected sign (compare Figure 15 with Figure 16). This confirms the nomological validity of the constructs operationalisation (CHIN, 2010). More details on the individual interpretation of the indicators will follow in next section.

4.2.3 Interpretation of (formative) measurement model results

The dependent construct "**start-up intention**" is predominantly formed by the stated intention to start a non-farm business within the next five years and shows the highest loading with a score of 0.783 (Figure 16). The second indicator, covering start-up intentions motivated by lack of jobs (push indicator), is also significant in this construct, with a slightly weaker effect on the latent variable. The item accounting for the short-term plans to start a non-farm business within the next 12 months was not significant. This should be kept in mind because in the next step the software estimates the structural coefficients in a way which maximizes the variance explained of the dependent latent constructs. At this point, it is already evident that the model will give insights about the medium, but not the short-term motivation to start a non-farm business.

Following the TPB, let us start with the "**expectations**" construct.¹⁵ All of the suggested indicators for this latent variable are significant. Since they all have an identical Likert style scale from one to five, it is possible to directly compare the strength of influence of each item. According to the model the strongest impact is caused by the indicator "**fast_dev**" that stands for "*With my own business I expect to achieve a faster professional development*" (see Table 1 for variables definition). It has the highest loading compared to all other indicators (0.321). The second most important indicator with a loading of 0.302 is "**utilise_resour**". It stands for the statement: "*I believe I could better utilise the resources with my own business*". Apparently, for the surveyed sample the pool of potential non-farm

¹⁵ This section only presents results on the formative measurement models. The valid reflective measurement models do not offer space for deeper interpretation as they correspond to the single dimension of the latent constructs "control beliefs" and "perceived control" as suggested by the TPB.

entrepreneurs is characterized by the desire for self-fulfilment and pragmatic economic optimisation considerations. Interestingly, the indicator "**esc_unempl**" representing the belief "*My own business helps to escape unemployment*" turned out to be only second-last in impact strength. Still, the variable is significant. This could indicate that not only the unemployed, but also those with less attractive waged jobs think about starting a business. One driver for looking for alternative employment is the expectation to improve one's income situation ("**impr_inc**"). Some farmers hope for more security with regard to their employment situation ("**secure_empl**"). The latter plays a minor, but statistically significant role (coefficient 0.184). The same is true for the expectation to gain a higher degree of independence ("**independ**" – coefficient 0.103).

"**Attitudes**" are operationalised based on six indicators. One of them, accounting for the risk propensity ("**risk**"), is not significant. Risk reflects a preference (GRILO and IRIGOYEN, 2006) and for that reason, it was assumed to belong to this construct. Nevertheless, it does not explain much of its variance. This does not match the positive relation to low risk aversion and start-ups which is widely reported in the literature (GRILO and THURIK, 2005; DJANKOV, QIAN et al., 2006; VAN DER ZWAN, THURIK et al., 2010). In this case the results can be interpreted as those individuals with low, but also with high propensity for risk, can end up having a positive attitude towards starting their own business. The first case would correspond to push-driven expectedly rather than risk-averse household heads, who have no choice but to consider this desperate step for diversification hoping for a better outcome. The second case represents risk takers who are ready to grab their opportunity. Similar findings were reported in CALIENDO et al. (2009). They concluded that risk aversion does not matter much for transitions from inactivity or unemployment into self-employment. This seems to be also the case for non-farm entrepreneurial intentions in rural Bulgaria. It also hints at push-motivation of the surveyed households.

Among the significant "attitude" indicators, the strongest impact goes to "**prefse2farm**" standing for the statement: "*I prefer non-farm self-employment to agricultural work*". The view that most self-employed are successful ("**most_se_succ**") and the general preference for self-employment ("**like_se**") score pretty low in terms of impact with coefficients of 0.213 and 0.161, respectively. These two are typical pull-indicators. Together with the insignificance of the risk indicator, this could be seen as a piece of evidence that those who feel trapped in farm jobs are looking for alternatives and eventually consider choosing self-employment. This is interpreted as another hint for predominantly push-driven start-up intentions. The second-strongest indicator is the wish to be independent ("**own_boss**"). This confirms findings from previous research (GELDEREN and JANSEN, 2006; MANOLOVA, GYOSHEV et al., 2007). It matches also with the statement that self-employment is preferred to wage ("**prefse2wage**") mirroring the desire of households to take control over their employment situation.

With regard to the measurement model of the construct "**norms**", following the recommendation of FISHBEIN and AJZEN (2010), the indicators are constructed as a product of the perception of what the respective important persons are believed to think (normative beliefs) and the propensity to comply with that (subjective norms) resulting in norms (see Table 1). The results show that the opinions of the current and former **colleagues** play a major role (coefficient 0.723)¹⁶. Because planned businesses are often related to the field of professional expertise of the individual (MANOLOVA, GYOSHEV et al., 2007) colleagues might be considered to have more valid opinions than **family** or **friends**.

Let us now direct our attention to the first construct which was suggested to extend the TPB for our field of application: "**corruption perception**". Three out of four indicators are significant. They share the same scale so that one can see that the strongest impact goes to the conviction that bribes are effective to get a permit of any kind ("permit_bribe" with coefficient 0.604). This is probably due to the expectation that (typical of transition economies with ineffective institutions) extensive paperwork needs to be done and several administrative barriers need to be overcome before the launch of the firm (MANOLOVA and YAN, 2002; KLAPPER, LAEVEN et al., 2006; DEMIRGÜC-KUNT, KLAPPER et al., 2011). Whether this perception supports or hinders the foundation of enterprises will be discussed in the next section.

The results of the measurement model also suggest that believing bribes to be an effective tool for influence of the judicial system is the second most important (0.409 for "**court bribe**") within the corruption construct for the intention to create a venture. This contradicts previous studies indicating this perception as an obstacle for the start-up (COYNE and LEESON, 2004; DJANKOV, ZHURAVSKAYA et al., 2005; MANOLOVA, GYOSHEV et al., 2007; BOWEN and CLERCQ, 2008; MANOLOVA, EUNNI et al., 2008; ESTRIN and PREVEZER, 2010). Believing that graft can change the outcome will lead to reluctance in enforcing rights at trial unless proper contacts and funds are available. This reluctance could be seen as one more obstacle to registering a legal firm. The impression prevails that the corruption perception is not village specific because of the insignificance of the item: "*In this village one cannot successfully run a business without having good contacts*" ("**contacts need**"). It seems that it is not the local power structure that determines who will eventually become an entrepreneur or not. Moreover, there is a general perception that the public administration and the judicial system are not functioning as they should: the perception of the popular practice of tax evasion and informality of the businesses is significant ("**bend law**"). This is in line with transitional entrepreneurship literature (HELLMAN, JONES et al., 2000; PASHEV, 2008; TONOYAN, STROHMEYER et al., 2010).

¹⁶ Please remember that at this point only the isolated construct is analysed and not its relation with other latent constructs. This will be done in the next step – analysis of the structural model.

The construct "**capital endowment**" consists of five indicators. Note that they have different scales and it is not possible to compare their strength of impact directly. It turned out that the size of the land owned in hectares ("**own_land**") does not contribute to explaining the intention to start a non-farm business – the indicator is not significant. The sample consists mostly of small-holders and only a few bigger farmers, mirroring the dual farm structure in Bulgaria. The finding implies that land size cannot be taken as a reliable criterion to target potential non-farm business starters.

With regard to financial capital, this work relies on the subjective income perception instead of the absolute amount of money available to the household, as it is usually used in the literature (e.g. EVANS and JOVANOVIĆ, 1989; KIM, ALDRICH et al., 2006; DEMIRGÜC-KUNT, KLAPPER et al., 2011). One consideration behind this choice was, on the one hand, the well-known difficulty of collecting such sensitive information and the inevitable bias, which goes with that (FISHER, REIMER et al., 2010). On the other, for different business ideas, a different capital stock is needed. In addition, some households may be content with a smaller income, while others will look for possibilities to increase theirs. The subjective perception ("**inc_percept**") is decisive in terms of assessing financial endowment as an obstacle or opportunity. As expected, this indicator is significant and has a positive sign. This is in line with the financial constraint hypothesis of EVANS and JOVANOVIĆ (1989) and replicates findings from earlier studies (BLANCHFLOWER and OSWALD, 1998; DUNN and HOLTZ-EAKIN, 2000). The opponents of this view argue that for many business ideas relatively small start-up capital is required and thus financial capital endowment should not be restrictive for the start-up decision (HURST and LUSARDI, 2004; KIM, ALDRICH et al., 2006; PETROVA, 2011; VAN DER ZWAN, VERHEUL et al., 2011).

Also positive and significant is the influence of the human capital indicator ("**edu_max**"), reflecting the highest educational level achieved by a member of the household. This is in line with the theory and confirms findings of other scholars (ARENIUS and MINNITI, 2005; DJANKOV, ZHURAVSKAYA et al., 2005; MANEV, GYOSHEV et al., 2005; DAVIDSSON, 2006; MANDELMAN and MONTES-ROJAS, 2009; VAN DER ZWAN, THURIK et al., 2010). It seems that those who are better educated and can use the internet ("**inet_use**") are more likely to consider starting a non-farm business. Probably the internet enables them to make use of extra-local ideas and to gather information relevant for the start-up. It may also reduce transport costs to the administration located in the cities. No comparable studies examining the influence of this indicator on the start-up intention could be found.

A specificity of the social capital indicator ("**social_cap**") is that it can be transformed into other forms of capital – e.g. asking friends for money or know-how, borrowing physical assets or land. It is quite difficult to account for all of these aspects. Again, this work relied on the flexibility offered by perceptual variables. According to the model, having the contacts needed to overcome the usual business

start-up problems is crucial for the development of start-up intentions. The better the social capital, the higher the chance of observing an aspiring entrepreneur. Once again this confirms the theory and echoes previous research (MANEV, GYOSHEV et al., 2005; MUELLER, 2006; LINAN and SANTOS, 2007; SEQUEIRA, MUELLER et al., 2007; TORNIKOSKI and NEWBERT, 2007; RONNING, 2011).

In sum, the formative measurement models offer interesting perspective of the make-up of each latent construct. But the real power of structural equations models is in the simultaneous estimation of all equations. This complex interplay is manifested also in the structural coefficients. The reader can think of them as the regression coefficients of the latent constructs. Let us proceed to them.

4.2.4 Interpretation of the structural model

Overall, the model could explain 0.387 of the variance of the "intention" latent construct. According to the TPB, in different settings and different behaviours, the intentional predictors may vary in their impact (FISHBEIN and AJZEN, 2010). In our extended TPB model, all but one structural path were found to be significant (Figure 16). "Norms" seem not to influence the intention to start a non-farm business. Table 7 lists the identified studies applying TPB to examine entrepreneurial intentions.

Table 7: The Theory of Planned Behaviour in studies on entrepreneurial intentions

Study	Sample size	Attitudes	Norms	Perceived control	Method
Current study.	195	+	n.s.	+	SEM (PLS), regression
Autio et al. (2001)	3445	+	+/n.s.	+	regression
Díaz-García and Jiménez-Moreno (2010)	967	+	+	+	regression
do Paco et al. (2011)	74	+	n.s.	+	SEM (PLS)
Gelderen et al. (2008)	1235	+	+	+/n.s.	regression
Kolvreid (1996)	128	+	+	+	SEM (LISREL)
Krueger et al. (2000)	97	+	n.s.	+	regression
Linan (2008)	226	+	+	+	SEM (PLS)
Linan and Chen (2009)	310	+	n.s.	+	SEM (PLS)
Linan et al. (2011)	549	+	+	+	SEM (PLS)
Segal (2005)	115	+	omitted	+	regression
Shook and Bratianu (2010)	324	+	-	+	regression
Tegtmeier (2008)	185	+	+	n.s.	regression
Tkachev & Kolvreid (1999)	512	+	+	+	regression
Yordanova & Tarazon (2010)	366	+	+	+	regression
Engle et al. (2010)	1748	+/n.s.	+	+/n.s.	regression
Siu and Lo (2011)	205	n.s.	+	+	factor analysis, regression
Linan et al. (2011)	338	+	n.s.	+	factor analysis, SEM (PLS)

Source: Own presentation.

Note: n.s. = not significant; + indicates positive impact; - indicates negative impact.

It is difficult to say if this is a stable pattern or not. One should also take into account the different methodologies and operationalisation of the constructs.

Also studies from other fields (SHEPPARD, HARTWICK et al., 1988; AJZEN, 1991; ARMITAGE and CONNER, 2001; BUCHAN, 2005; YORDANOVA and TARAZZON, 2010) reported norms to be insignificant. The strongest factor identified in this work in terms of influence is "**attitudes**" (structural coefficient 0.301), followed by "**perceived control**" (0.267). This means that individual preferences seem to be most important when it comes to developing a non-farm start-up intention. The finding holds also when a restricted specification without the constructs "capital endowment" and corruption perception" is run (Appendix 3).

Recall that within the attitudinal construct, the voice of the item accounting for the preference for non-farm self-employment over agriculture is the loudest (as shown in Figure 16, with 0.413 it has the highest coefficient within this latent construct). It is therefore likely that potential business founders in the years to come will arise from the group of those who are still in the farming sector against their will, representing a typical push-motive.

Yet, surprisingly a positive and significant sign of the structural path pointing from "**corruption perception**" to the "intention" was found. This result contradicts previous findings (DJANKOV, ZHURAVSKAYA et al., 2005; AIDIS, ESTRIN et al., 2010) claiming that corruption increases transaction costs and thus inhibits foundation of firms. In this context, it is justified to interpret the finding such that decision-makers who consider starting a business see bribing practices more as a tool for getting things done and as "grease" in the administrative machine. A recent article from HARBI and ANDERSON (2010) reports that corruption encouraged necessity entrepreneurship and discouraged opportunity entrepreneurship. Corruption introduces uncertainty into the business environment and makes it more difficult for companies to grow and develop (BOWEN and CLERCQ, 2008). Further, DREHER and KOTSOGIANNIS (2009) found that the shadow economy and corruption are substitutes: the idea is that if a firm decides to operate in the shadow market, it can protect itself from the graft-prone administrative system, but in order to remain undiscovered, it needs to remain small. The possibility of expansion is further limited because shadow firms cannot turn to the formal court system to enforce their rights. This forces them to keep their customers and suppliers to a small and well-known network (COYNE and LEESON, 2004). Therefore the positive sign of the "corruption perception" variable is interpreted as a clear hint that the firms to be created within the sample have little potential for growth and job creation.

The latent variable "**capital endowment**", underlines that aspiring entrepreneurs are ready to overcome their anticipated start-up problems with a solid stock of contacts. Human and financial capital are significant, but considering the role of "corruption perception", it is no surprise that it is the social contacts component that fuels business start-up intentions.

One can speculate what kind of business people will govern the firms to be founded in rural Bulgaria. A glance over the list of typical business ideas (Table 4) reveals that they target mostly small trade, gastronomy or local services such as hair dressing, elderly care, car repair and tailoring. Compared to the common view in the literature, (e.g. SHANE (2003) for an overview) the surveyed rural entrepreneurs seem not to be the typical Schumpeterian innovative, growth igniting business creators. They are rather unhappy farmers who are probably ready to follow the common practice of bending the law in search for a better way to make ends meet. They will most likely choose to stay informal in order to avoid taxes, which are indeed prohibitive for the majority of rural businesses in the face of "thin" local demand. Overall, a picture of representatives typical of the distress-pushed, necessity-motivated business founders emerges.

4.3 Statistical inference check through logistic regression

So far a very detailed picture of the mechanism of the make-up of entrepreneurial intentions could be gained through the lens of PLS. Still, the major drawback of this methodology is the lack of statistical inference. To satisfy the scientific community which is more used to regression analyses, this work offers a cross-check with the traditional instrumentation. But one needs to admit that this cross-validation is possible only to some extent. The most restricting aspect is the limited number of variables, which can be included as covariates. After taking into account the results of PLS estimation and the qualitative input from the interviews, a short list of selected explanatory variables was created. Let us have a quick look at them.

4.3.1 Selecting explanatory variables

The PLS model indicated that the dependent latent construct "Start-up intention" was dominated by the indicator "**5_yrs_start**", **measuring non-farm start-up intentions within the next five years** (Figure 16). That is why this indicator became the natural **dependent variable** candidate for the cross-check analysis. The wording for the operationalisation of all variables can be found in Table 1.

The "**Attitude**" construct is presented with three variables – preference for self-employment over farm activities ("**prefse2farm**"), preference for self-employment over wage jobs ("**prefse2wage**") and the risk preference ("**risk**"). These were selected to be included in the Logit, because the author felt it is important to account for the different options available to the farmers and which are not typical for the urban population. The preference for self-employment "absorbs" also the desire for being independent and knowing other successful entrepreneurs as role models. That is why these were omitted in the Logit specification. Although not significant in the PLS model, risk was the factor with the most numerous literature sources, implying it should be positively related to start-up intentions. It was often mentioned as a distinctive feature of successful entrepreneurs in the conducted qualitative interviews. That is why it was also included.

Turning to "**Norms**" the same operationalisation as in the PLS model was utilised, representing the perceived support, weighted with the propensity to follow the expectations of the peers (Table 1). The only difference is that the term representing friends support was dropped, because it was not significant in PLS and the qualitative interviews did not give any special importance to this group of peers. In contrast, family members were most of the time mentioned as playing the most important role, followed by colleagues, usually associated with expert advice and business partner networks potentially useful for the new start-up.

Turning to "**Perceived control**" and its one-dimensional operationalisation in PLS, one variable was considered to be sufficient to represent this construct in the Logit framework. The choice fell on "**i_can**" staying for the general belief that one can handle all challenges related to the eventual start-up.

Because, according to the postulated extended theoretical framework, "**Capital endowment**" goes indirectly through perceived control to the start-up intention (as shown on Figure 5) it is to be expected that if it is fully mediated, its components will be insignificant in the Logit context. Here every capital aspect is of special interest for the policy makers and all five available indicators from the PLS operationalisation were included.

The construct of "**Corruption perception**" was also included with all four explanatory variables, already known from the PLS model (Table 1).

The qualitative interviews revealed a picture of prevailing **push-motivation** among farmers. This should also be checked in the cross-check regression model. For this purpose the variable "**esc_unempl**" seemed to be most suitable. But one additional variable was also created: "**look4job**". It is a dummy, which takes the value of one if someone within the household is looking for a job and zero if otherwise. Because each farmer answers in the name of the whole household, it was assumed that this additional variable will capture also the pressure coming from the unfavourable employment situation of others within the household, which in the end influences respondent's start-up decisions.

As a result, a Logit specification is suggested with 17 explanatory variables (compared to 31 variables in the PLS model). This reduction was necessary mainly because of the relatively small sample size (N=195).

4.3.2 Selecting a suitable logistic regression

Because the dependent variable is ordinal (indicates increasing intention levels on a scale from one to five), it was reasonable to pick ordered logistic regression as the method for analysis. Although appealing at first glance, it imposes the assumption of proportional odds (also known as parallel regression assumption). It states that each of the dependent variable categories should be equally likely to occur. But with 56 out of 195, the group of intenders is clearly underrepresented in the sample. This raises concern about the applicability of ordered logistic regression

in this case. To check for that, a Brant test was run (BRANT, 1990). The result is shown in Table 8.

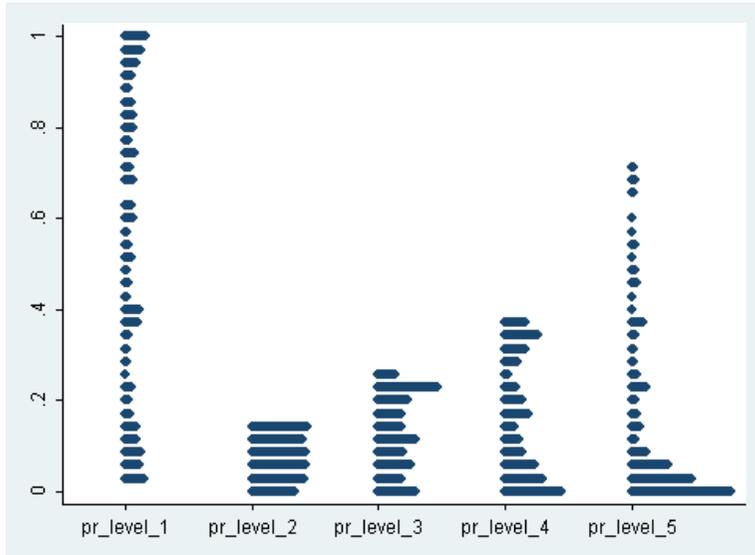
Table 8: Results of Brant test for parallel regression assumption

Variable	chi2	p>chi2
All	383.68	0.000
prefse2farm	0.410	0.938
prefse2wage	4.870	0.181
risk	18.720	0.000
norm_family	5.800	0.122
norm_colleagues	29.840	0.000
i_can	3.990	0.262
inc_percept	2.520	0.471
social_cap	4.160	0.245
own_land	4.760	0.191
edu_max	1.310	0.726
inet_use	3.290	0.349
contacts_need	2.160	0.539
bend_law	1.910	0.591
permit_bribe	1.000	0.802
court_bribe	24.000	0.000
look4job	5.290	0.152
esc_unempl	4.650	0.199

Source: Own calculation with STATA.

To visualise the issue, a plot of the estimated probabilities across the categories of the dependent variable was generated (Figure 17).

Figure 17: Plot for predicted probabilities across the five categories of entrepreneurial intention within five years, N=195



Source: Own calculation with STATA.

Note: pr_level_x = probability to find a household within a respective level of start-up intention (as measured on Likert-style scale: 1 very unlikely – 5 very likely to start business within five years).

It is evident that the middle categories cannot exceed the probability threshold of 0.5. A concentration of cases at the very bottom of the most pronounced intention levels (pr_level_5) is observed, implying that it is very unlikely to identify real intenders. In contrast, one can find determined non-intenders (pr_level_1) spread across the whole probability range from zero to one.

Both the Brant test and the plot clearly indicated that the parallel regression assumption is violated. Consequently, ordinal logistic regression is not an option for the data at hand. In search for a possible solution, the author had to reject both the rare events (KING and ZENG, 2001) and the multinomial logistic regression – the first one because of its binominal nature, and the latter because it ignores the ordinality of the dependent variable.

The final choice was a so-called **stereotype regression** (ANDERSON, 1984).¹⁷ It is a method applicable when all but the lowest outcome is rare (as in this case). Based on maximum likelihood estimation, it belongs to the family of the multinomial (unordered) logistic regressions, where the categories of the dependent variable are given ordered codes (GREENLAND, 1994, p. 1669-1670). For formulas, detailed explanation and code for STATA, the reader can peruse the respective literature (ANDERSON, 1984; LUNT, 2001; HILBE, 2009).

4.3.3 Stereotype logistic regression – A stepwise model

A stereotype regression model was run by extending it stepwise along suggested analytical framework (Figure 5). The data showed no hints of serious multicollinearity (Appendix 4). The variance inflation factor had a mean of 1.40 and the condition number was 19.40. The first specification of the regression tests the TPB in its pure form as shown in Figure 4 (model 1). In the next specifications the author adds the variables relating to capital endowment (model 2), to corruption perception (model 3), to the push motives (model 4) and in the end optimises the model by eliminating some ill-behaved variables (model 5). Regression results are reported in Table 9. The reader should interpret the coefficients in the same manner as an ordinal regression model. In addition, theta and phi coefficients are reported in the output. The thetas relate to the intercepts.

The phi coefficients are specific for the stereotype model. They have been introduced by ANDERSON (2010) to impose the order of the scores for the discrete levels of the dependent variable, representing the difference between the separate levels of our intention variable. As one can see, they are ordinal and decreasing from one to zero, corresponding to the ordinal nature of the intention variable (Likert-scale from one to five). So for model 1 we observe a difference between level one and level five equal to one. The difference between level two and level five is less: 0.846. It decreases until we see a difference of zero between level five and level five (the model uses level five as the base outcome).¹⁸

¹⁷ This method appears to be new to the entrepreneurial domain. The author found one application from the field of medicine .

¹⁸ That means that with the same set of variables one can distinguish between all the levels of the outcome variable. If however, one combination can distinguish between levels 1 and 2, but a different one is required to distinguish between levels 2 and 3, the relationship is two-dimensional. In that case, two sets of phi coefficients would have been reported: phi1_x and phi2_x.

Table 9: Stereotype logistic regression results for start-up intention within five years, N=195

Link to theory	Model 1 TPB		Model 2 TPB+CE		Model 3 TPB+CE+Corr		Model 4 TPB+CE+Corr+Push		Model 5 TPB+CE+Corr+Push	
	Coef.	se	Coef.	se	Coef.	se	Coef.	se	Coef.	se
Attitude										
prefse2fam	0.801 ***	0.195	0.816 ***	0.204	0.587 ***	0.197	0.515 **	0.217	0.515 **	0.217
prefse2wage	0.301 *	0.185	0.347 *	0.213	0.330 *	0.195	0.227	0.233	0.216	0.222
risk	0.553	0.375	0.295	0.372	0.003	0.387	0.154	-0.132	0.159	0.432
Norm										
norm_family	-0.058	0.043	-0.080 *	0.049	-0.073	0.048	-0.108 **	0.552	-0.108 **	0.055
norm_colleagues	0.047	0.031	0.056	0.035	0.057 *	0.034	0.692	1.009	0.059	0.037
Perceived control										
i_can	0.587 ***	0.238	0.199	0.273	0.338	0.254	0.315	0.351	0.244	0.279
Capital										
inc_percept			1.400 ***	0.376	1.185 ***	0.399	1.291 ***	0.441	1.295 ***	0.441
social_cap			0.649 **	0.279	0.511 *	0.270	0.707 **	0.291	0.709 **	0.291
own_land			-0.213 ***	0.087	-0.192 **	0.081	-0.231 **	0.096	-0.231 **	0.096
edu_max			-0.067	0.497	-0.277	0.463	1.109	1.683	-0.041	0.535
inet_use			1.807 ***	0.628	1.688 ***	0.668	2.296 ***	0.785	2.298 ***	0.784
Corruption										
contacts_need							0.439	0.652		
bend_law					0.190	0.206	0.586	0.899	-0.034	0.892
permit_bribe							0.212	0.185	0.266	0.239
court_bribe					0.474 ***	0.181	0.419 *	0.230	0.418 *	0.229
look4job							1.624 ***	0.653	1.629 ***	0.647
Push							1.105 ***	0.427	1.105 ***	0.424

Table 9: Stereotype logistic regression results for start-up intention within five years, N=195 (continued)

Variable	Model 1 TPB		Model 2 TPB+CE		Model 3 TPB+CE+Corr		Model 4 TPB+CE+Corr+Push		Model 5 TPB+CE+Corr+Push				
	Coef.	se	Coef.	se	Coef.	se	Coef.	se	Coef.	se			
/phi1_1	1.000		1.000		1.000		1.000		1.000				
/phi1_2	0.846	***	0.898	***	0.101	0.863	***	0.111	0.872	***			
/phi1_3	0.589	***	0.147	0.539	***	0.118	0.381	**	0.165	0.420	***		
/phi1_4	0.327	***	0.198	0.280	**	0.149	0.100	0.221	0.205	0.180	0.209		
/phi1_5	0.000		0.000		(base)	(base)	(base)	0.000	(base)	(base)	0.000		
/theta1	8.233	2.228	11.470	2.228	3.150	11.195	***	3.470	17.310	***	4.519	17.339	***
/theta2	5.451	2.205	8.768	2.205	2.480	8.217	***	3.271	13.751	***	4.341	13.780	***
/theta3	4.398	2.137	6.092	2.137	2.140	4.264		2.855	7.478	**	3.928	7.525	**
/theta4	2.742	2.159	3.516	2.159	1.390	1.331		2.894	3.956		4.030	4.025	
/theta5	0.000		0.000		(base)	(base)	(base)	0.000	(base)	(base)	(base)	0.000	(base)
Log likelihood	224.277		-202.666		-198.805		189.072		-189.073				
Wald	29.280		40.300		37.680		43.010		43.040				
Prob > chi2	0.000		0.000		0.000		0.001		0.003				
BIC	517.104		500.246		503.069		504.695		499.426				

Source: Own calculation.

Note: TPB - Theory of Planned Behavior; CE - Capital Endowment; Corr - Corruption; se - standard error

There are no standard errors for ϕ_{1_1} and ϕ_{1_5} as they are considered zero and one respectively.

All suggested models are significantly different from a null model. For ordinal and categorical models there are no equivalents of the measures of fit such as R^2 in a linear regression. Instead, some scalar measures have been developed in an attempt to summarise the overall exactness of fit and help to select the best of a range of competing models. The last row of Table 9 reports the **Bayesian information criterion (BIC)** developed by RAFTERY (1995) as a rough fit measure. Smaller values of BIC are to be preferred. According to Raftery's classification we observe strong evidence for fit improvement from model 1 to model 2 (517-500 equals in more than 10 units), relatively weak worsening from model 2 to model 3 (less than three units). The same holds for the change from model 3 to model 4. In model 4 all variables from the "Corruption perception" group were included in one step. But some of them were not significant. So should the insignificant variables be removed? Which model should be preferred?

It is no surprise that with increasing number of explanatory variables the fit improves. For that reason, minimising BIC is not considered to be a sufficient criterion for identifying the best model. Another useful tool supporting the choice decision is the **likelihood ratio test**. This approach compares nested models with full models. If a non-relevant variable is dropped out of the model (restricted to zero), then the maximum likelihood function should not decrease much (GREENE, 2003, p. 484). Recall that from model 1 to model 4 we observe stepwise extension of the theory and every model on the left of Table 9 is a special case of the model on the right, where the excluded variables are equal to zero. The likelihood ratio test calculates the probability that this can actually be the case. Therefore a series of tests was run (Table 10).

Obviously, there seems to be some problem with model 4 because its result is not significant in the test (shaded cell in Table 10). This is the model where all corruption-related variables were added. A possible solution is to drop some variable and retest. But which one should go? The most suitable candidate for that is "contacts_need". It was not significant in the PLS model and also showed the highest standard error of all four corruption variables in model 4. During the qualitative interviews no clear trend could be recognised with regard to needing contacts in order to be able to run a successful business in the surveyed village, intenders but also non-intenders shared this view. So this variable was dropped and a reduced form of model 4 – model 5 was specified. This time the likelihood test did not indicate any problems (last row Table 10).

Table 10: Likelihood ratio test for choosing among alternative models

Assumption	LR chi2(5)	Prob > chi2
model 1 nested in model 2	43.22	0.000
model 2 nested in model 3	7.72	0.021
model 3 nested in model 4	19.47	0.001
model 3 nested in model 4	1.29	0.526
model 3 nested in model 5	18.18	0.000

Source: Own calculation with STATA.

Note: Significant result means that the trimmed variables (as in nested model) cannot be simultaneously equal to zero.

Let us concentrate now on the stereotype Logit results in Table 9. The author was interested in the stability of TPB across the stepwise extension. The basic TPB model indicated that attitudes and perceived behavioural control are the main drivers of entrepreneurial intention. After adding the variables for capital endowment, the variable for perceived control ("i_can") became insignificant, but four of the five suggested capital endowment variables entered the model as significant (income perception="inc_percept", social capital="social_cap", land possessed by the household="own_land", the dummy for using internet="inet_use"). This pattern remained stable in every following step on the way to model 5. This is interpreted as evidence for an overlap of the variance explained by the separate capital assets and perceived behavioural control, which is in line with the theory.

With regard to social norms, somewhat unstable results are observed. Initially insignificant, in the following steps family-related norms rose as negatively correlated to start-up plans. With the exception of model 3, the norms related to colleagues remained not significant. In this context, FISHBEIN and AJZEN (2010) explain that, in every setting and population, the relative importance of the three intention predecessors can vary. In order to declare TPB as rejected, we should have observed that all variables related to its constructs become insignificant after we added new variables (FISHBEIN and AJZEN, 2010, p. 180). This was not the case, so in general, the Logit results also seem to support the validity of TPB. For the surveyed Bulgarian rural setting, attitudes emerge as the most important and stable motivational factor. This is also in line with previous research in other contexts as shown in Table 7.

In the full model (model 5), out of 17 explanatory variables, nine turned out to be able to discriminate between the different levels of start-up intention. How does this relate to the results from PLS? An overview is provided in Table 11.

Before we start, it is important to keep in mind that the two models are quite different and it is not easy to compare them directly. Although based on the same sample, the models utilise a different set of variables. For example, the PLS has more than one indicator in the dependent construct, while Logit has just one.

Further, they have different assumptions with regard to the underlying function: PLS is based on ordinary least squares, while a logistic function is assumed for Logit. The structural equations model is more flexible as it allows for indirect effects, while in Logit it is assumed that all predictors have direct impact on intentions. Still, despite all the methodological differences, the two models agree in surprisingly many points. They are highlighted in Table 11.

With regard to theory, the capital endowment group seems to be quite informative for the prediction of start-up-intentions. Here three out of five suggested predictors overlap between the methods. The author is confident that **income perception, social capital endowment and use of the internet** are reliable for distinguishing between the different levels of intentions.

Table 11: Comparison of results between PLS and Stereotype Logit

Link to theory	Variable	PLS	Stereotype Logit
Attitude	prefse2farm	+	+
	prefse2wage	+	n.s.
	risk	n.s.	n.s.
Norm	norm_family	+	-
	norm_colleagues	+	n.s.
Perceived control	i_can	+	n.s.
Capital endowment	inc_percept	+	+
	social_cap	+	+
	own_land	n.s.	-
	edu_max	+	n.s.
	inet_use	+	+
Corruption	bend_law	+	n.s.
	permit_bribe	+	n.s.
	court_bribe	+	+
Push	look4job	n.a.	+
	esc_unempl	+	+

Source: Own presentation.

Note: n.s. – not significant; n.a. – not applicable. Only variables included in Logit are presented.

As in many other TPB studies (Table 7), the **norms** turned to be the least stable predictors group. Not only the level of significance, but also the sign varied. That is why the author decided to refrain from further interpretation.

Looking at the attitude group, the **preference for self-employment over farm employment** was significant in both models. Maybe this has to do with the fact that farming is one of the few real choice options available to rural households. Almost every rural resident can choose between farming (at least in its subsistence form) and self-employment. This is not true for wage employment. The qualitative evidence suggests that waged jobs are scarce and usually one takes whatever job opportunity comes, just to make ends meet. So it may be that the preference does

not really matter as it is overridden by necessity. The models disagree in that point and one should be careful to rely on waged job preference when trying to identify potential business starters in the rural context.

Turning to the surprising finding in the corruption perception group, where stronger perception for corrupted environment goes together with stronger pronounced start-up intentions, it was only partially confirmed through the stereotype regression. Only one out of three variables is significant here: the **belief that bribes are an effective tool to influence the court system**. But still the sign of this variable was positive. This contradicts common wisdom from the literature and appears to be a stable pattern. Instead of increasing transaction costs, bribing the courts may be actually decreasing them. Of course, this act would compromise the whole legal system in the long term, but from the individual point of view it seems to have an incentive character for potential business starters. This may appear bizarre to the scholars of developed and well-organised economies, but appears to be reasonable in transitional or less developed settings. It may be explained by the push-situation of most rural decision-makers. Both models gave a hint that potential rural entrepreneurs look at **self-employment as a way out of unemployment**, indicating pressure to act in some way. As a whole, the major findings of the PLS model can be accepted as validated.

4.4 Hypothesis test results

The author chose PLS as the major method of analysis for her study. Driven by qualitative insights and cross-verified by the means of stereotype logistic regression, it allowed direct testing of the hypotheses postulated in Section 2.6 and Figure 15. The results are shown in Table 9.

Table 9: Hypotheses test results

Hypothesis	Statement	Confirmed
H1	Expecting positive outcomes has positive effects on attitudes	Yes
H2	Positive attitudes have a positive impact on start-up intentions	Yes
H3	Perceived support has a positive impact on start-up intentions	No
H4	Control belief has a positive impact on perceived control	Yes
H5	Capital endowment has a positive effect on perceived control	Yes
H6	Perceived control has a positive effect on start-up intentions	Yes
H7	Perceived corruption has a negative effect on start-up intentions	No

Source: Own presentation.

Five of the seven hypotheses were confirmed. Social norms turned to be not significant in the quantitative models and the expected positive effect on the start-up plans could not be confirmed. Contrary to the expectations, corruption perception did not show the hypothesised negative sign in its impact on the entrepreneurial intent.

5 CONCLUSIONS AND DISCUSSION

The main objective of this study was to analyse and delineate **patterns in the formation of non-farm entrepreneurial intentions**. The theoretical framework departed from a well-established and multifold proven theory – AJZEN'S (1991) Theory of Planned Behaviour, and extended it with other aspects, notably capital endowment and corruption perception. The extension was based on a review of topical scholarly literature. In the search for the most adequate operationalisation, the choice of measurable indicators was inspired by qualitative evidence but also by insights from the literature in the field of entrepreneurship. As a result, a complex model was postulated, mirroring tightly the tailor-made theoretical framework (Figure 5). It was tested with empirical farm household data from rural Bulgaria, collected in the years 2008/2009.

It turned out that the entrepreneurial intentions are unevenly distributed in the sample. Furthermore, the theory suggested a high number of variables as relevant for the model. Taking this into account, a structural equations model based on partial least squares (PLS) arose as the best method, accommodating most analysis needs and data constraints. One of its key strengths is the ability to deal with abstract and difficult to measure phenomena, e.g. attitudes. They are termed "**latent constructs**" in the PLS language and are tackled via application of multiple measurable aspects of that phenomena (called "**indicators**"), e.g. "*I prefer self-employment over wage employment*" measures one aspect of attitudes. Based on the indicators, the latent constructs are assigned scores, which after that are iteratively interacted in a simultaneous calculation of the structural dependencies as specified by the researcher. As this methodological approach is relatively new, the PLS results were cross-verified with stereotype logistic regression in a more conservative econometric manner. Relatively unknown and rarely applied, this member of the logistic models family is especially well-suited for skewed data, as in this study. Its use was provoked by the failure to meet the proportional odds assumption, underlying an ordinal logistic regression. Despite some differences between the PLS and the stereotype logistic models, the major findings could be confirmed.

As predicted by the theory, attitudes turned out to have a direct and positive impact on start-up intentions. Similarly to previous studies, the construct of norms appeared as the most unstable one across the models – its variables changed not only their significance level, but also their sign. They seem not to be reliable as distinguishing criteria between different levels of entrepreneurial intent. Turning to the last of the constructs of Ajzen's theory – perceived control, the PLS model behaved as expected. This construct, which reflects the self-confidence

of potential business starters, has a positive and significant impact on start-up intention. In the framework of stereotype Logit (which is not designed for testing indirect effects), the variable representing perceived control appeared as insignificant. This is no surprise, because theory suggests that the different components of capital endowment should share a significant amount of their variance with it. In particular, those who believe they have sufficient money, more connections and who use the internet are more likely to report start-up plans.

Another research objective was to recognise the **prevailing motivation to start a new business**. Based on the qualitative evidence and the implications from statistical models, the impression prevails that farmers are more pushed than pulled to become entrepreneurs. Although 43 % reported having thought about starting a business, just a few reported confidence that they would make this idea a reality. **The main perceived barriers** were analysed based on the input from an open question in the survey instrument. The perceived lack of financial capital was by far the most often reported obstacle. The next issue was the lack of demand for the possible provision of goods and services. Respondents shared their view that the rural population is decreasing and does not have much money to spend. It is no wonder that, after playing for a while with the idea to become a rural non-farm business owner, the majority of candidates give it up. The **most common business idea** is to open a grocery shop or a pub. But it is questionable for how long such ventures could survive in the face of depopulation and decreasing rural incomes. Still, although few in numbers, there were also sustainable business concepts. For each region they vary according to the local conditions, but they have one thing in common – they are targeting a non-local customer group. It could inject fresh money into the rural economy and eventually have a multiplier effect by fuelling local demand.

This is exactly what policy makers are hoping for. But it seems that, left unchanged, current developments will suffocate these few fragile initiatives. In the context of a perceived corrupt environment, some promising business ideas will never be tried, unless the holders do not shy away from delving into the uncertain informal mode of business operation. The feeling of being unprotected but rather, prosecuted by the law, has effects on a very specific group of business founders. Unfortunately they are not always the ones with the highest growth and employment creation potential.

So what policies are needed? Despite the very apparent lack of start-up capital, this analysis raises doubts about whether generally supporting rural self-employment in Bulgaria is a viable option at all. Picking out the sustainable business models is like searching for a needle in a haystack. If any attempt is started, it should use the potential of the internet as the information channel predominantly used by motivated candidate-entrepreneurs. Currently, rural banks rules are very stringent and reject most start-up credit requests due to lack of collateral. Surveyed households hold tightly to their land and are reluctant to risk it for credit. And

there are rarely other valuable assets which the banks would accept. Also, many respondents had bad personal experiences of the inability to pay loan installments and for this reason shy away from banks. Maybe some NGOs and extension services could assist in the filtering process and enable access to some low-cost credit. But still, the overwhelmingly dominating distress-push motivation lowers the potential of viable businesses to emerge. This means that positive welfare effects in terms of profit and employment from entrepreneurship will be very limited. Furthermore, there is a high probability that the corrupt business environment will keep the businesses small and illegal. Thus, evasive entrepreneurship is to be expected. Therefore, the key to any rural development policy targeting rural self-employment in Bulgaria is to first counteract corruption. It appears that such behaviour is hardly stigmatised within the (mostly low-income) rural society of Bulgaria – an alarming signal to policy-makers because bribing prevents the most effective use of social resources. Increasing transparency (e.g. for issuing of permits), enforcing tax laws, and restoring the reputation of the courts as effective and stable institutions are among the issues to be solved. Although this clearly goes beyond the domain of rural development policy, it seems a necessary condition for a successful local solution. Social policy might be the only sensible option to address the problems of poor and distress-pushed small-scale farmers who will probably not be able to help themselves by starting small businesses.

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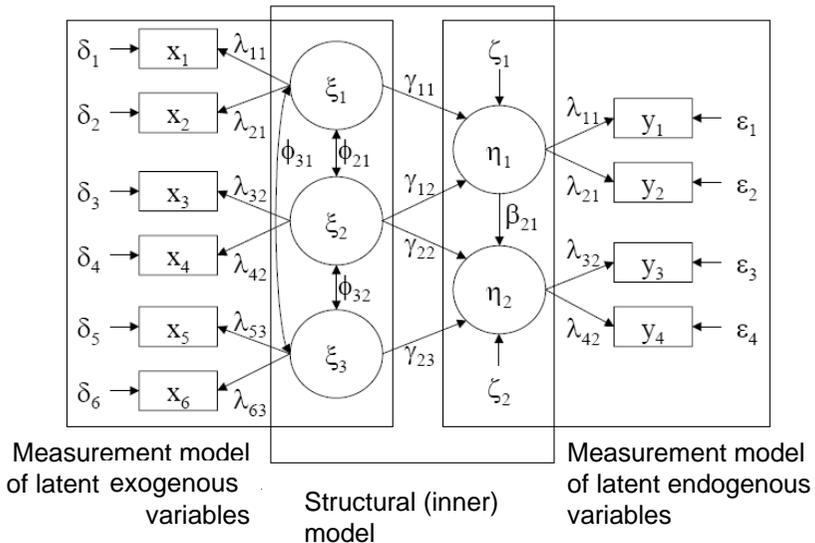
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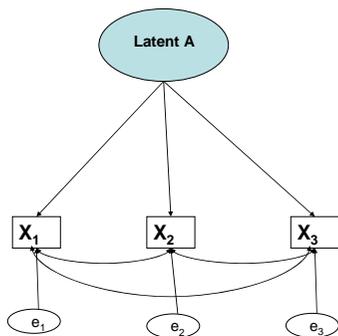
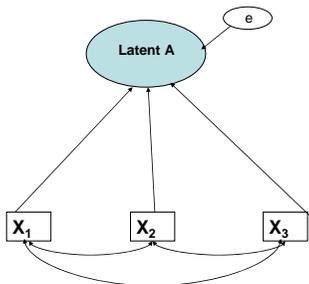
7 APPENDIX

Appendix 1: Measurement and structural models



Source: RINGLE (2004).

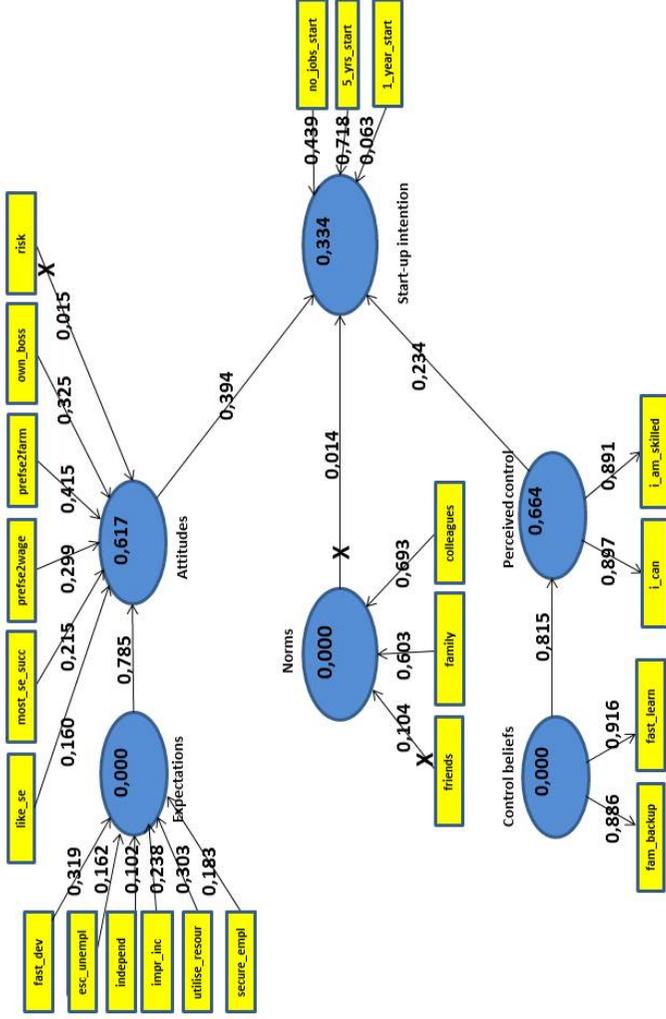
Note: Ovals stay for latent constructs, rectangles represent measurable indicators. The error terms are indicated by δ for the explanatory indicators and with ϵ for the indicators of the dependent constructs. This graph shows a reflective operationalisation of the constructs. The arrows connecting one oval with other oval(s) correspond to the structural paths. These paths make up the **structural model**. The paths connecting the measurement indicators (shown with rectangles) with their corresponding construct (shown with oval) make up the **measurement model**. The image serves only to illustrate in abstract way the difference between measurement and structural model and does not correspond to the theoretical framework as it was postulated in this thesis.

Appendix 2: Reflective versus formative measurement models**Reflective measurement model****Formative measurement model**

Source: Own presentation adapted from RINGLE (2004).

Note: Ovals depict latent variables (latent constructs), rectangles represent the measurable indicators. The error term is indicated with "e".

Appendix 3: PLS Model on entrepreneurial intentions in pure TPB form, N=195



Source: Own calculation with SmartPLS version 2.0 M3 (Beta).

Appendix 4: Correlation matrix of variables included in logistic regression model, N=195

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
5_yrs_start	1.000																	
prefise2farm	0.496	1.000																
prefise2wage	0.369	0.450	1.000															
risk	0.177	0.075	0.152	1.000														
norm_family	0.024	0.158	0.048	0.035	1.000													
norm_colle-s	0.155	0.124	0.126	0.020	0.069	1.000												
i_can	0.358	0.405	0.454	0.152	0.279	0.129	1.000											
inc_percept	0.318	0.108	0.197	0.138	0.033	0.036	0.207	1.000										
social_cap	0.356	0.313	0.382	0.089	0.254	0.242	0.579	0.128	1.000									
own_land	-0.124	0.023	0.093	0.054	-0.011	0.131	0.055	0.084	0.076	1.000								
edu_max	0.101	-0.001	0.163	0.002	0.022	0.070	0.292	0.274	0.288	0.177	1.000							
inet_use	0.374	0.269	0.114	0.166	0.017	-0.009	0.231	0.142	0.189	-0.059	0.221	1.000						
contacts_n~d	0.056	0.035	-0.072	-0.075	0.169	0.059	0.036	-0.106	-0.008	-0.231	-0.153	-0.118	1.000					
bend_law	0.163	0.199	0.007	0.031	0.098	-0.005	0.056	-0.121	0.122	-0.109	-0.089	-0.038	0.471	1.000				
permit_bribe	0.307	0.229	0.140	0.118	-0.080	0.022	0.094	0.161	0.108	0.055	0.176	0.253	0.076	0.161	1.000			
court_bribe	0.282	0.209	0.101	0.028	0.077	0.056	0.034	0.244	0.119	-0.050	0.098	0.110	0.014	0.127	0.356	1.000		
look4job	0.182	0.180	0.058	0.027	-0.022	-0.039	-0.021	-0.096	-0.162	-0.120	-0.169	0.012	0.237	0.221	0.121	0.005	1.000	
esc_unempl	0.363	0.347	0.339	0.065	0.154	0.137	0.363	0.108	0.376	-0.004	0.045	0.017	0.008	0.151	0.022	0.172	0.086	1.000

Source: Own calculation.

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ISSN 1436-221X
ISBN 978-3-938584-75-0