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## **SURVIVAL OF NEW FIRMS OWNED BY NATIVES AND IMMIGRANTS IN NORWAY**

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This paper investigates the survival rates of businesses founded by immigrants and natives in the context of Norway, which has not yet been explored. Based on the relevant literature review, the entrepreneur's human capital and venture's start-up characteristics were expected to explain the differences between the survival rates of businesses established by immigrants and natives. Longitudinal data on 389 firms established in 2002 were analyzed. It was revealed that the survival rate was lower for businesses established by immigrants compared to those established by natives. The analysis suggests that the relatively low survival rate of businesses established by immigrants is partly explained by the perceived novelty of the products and by the fact that immigrants are more likely to locate their businesses in urban areas. Human capital differences were not found to explain immigrant/native differences in business survival rates. Based on these results, several practical implications and suggestions for future research are offered.

*Keywords:* Immigrant-owned businesses; business survival; human capital; start-up; Norway.

### **1. Introduction**

Immigrant- and minority-owned small business has recently attracted a great deal of academic attention. It has been argued that both immigrants and host-countries benefit from the rise of immigrant entrepreneurship. Through self-employment immigrants achieve upward economic mobility; cope with their blocked mobility on the labor market (Light and Roach, 1996); and respond effectively to the current restructuring of Western industrial economies (Waldinger *et al.*, 1990). Moreover, ethnic entrepreneurship contributes to the host country's economic and social welfare through revitalization of declining regions, introduction of new products, fostering of the emergence of new spatial forms of social cohesion, opening of the trade links between countries etc. (Kloosterman *et al.*, 1999; Saxenian, 2001). While the policy makers start to focus on the challenges related to the development of immigrant owned businesses in Norway, the amount of relevant knowledge is diminutive. The few studies on ethnic and immigrant entrepreneurship conducted in Norway include, along with entrepreneurship-focused research projects (Orderud, 2001), some sociological (Krogstad,

2002), anthropological (Fossum, 1999) and historical (Wist, 2000) papers. Unfortunately, the lack of common focus and coordination has hindered the development of a coherent study of the subject in Norway. Improving public policy toward immigrant entrepreneurship clearly requires a deeper understanding of the phenomenon under scrutiny. Regardless of national context, the survival rates of immigrant-owned businesses remains the least studied area compared to, for example, the immigrants' rate of business participation. Indeed, not a single study has focused on the survival of businesses established by immigrants in Norway. This study seeks to contribute to closing this knowledge gap. The purpose of this research is to explore if there are differences in the survival rates between native- and immigrant-owned firms and to identify the specific problems hindering immigrant entrepreneurs on their way toward equal participation in the Norwegian economic life.

Such factors as owner's education (Bates, 1989, 1994b; Christopher, 1998), employment experience, access to financial capital, sectoral choice (Christopher, 1998), owner labor input, firm's start-up size (Bates, 1994b), and focus on minority market (Bates, 1989, 1994b) are confirmed through empirical evidences to be significantly related to the survival of minority-owned firms.

The factors that affect the survival chances of new enterprises extracted from previous research may be categorized in the following way: (1) individual characteristics of the founder, (2) attributes, structural characteristics and strategies of the new business itself, and (3) environmental characteristics (Bruderl *et al.*, 1992). In this paper, it is expected that venture characteristics as well as personal characteristics of the founders will account for a significant portion of intergroup differences in firms' survival. In absence of large-scale ethnic economies, environmental factors are, on the contrary, not expected to distinguish minority owned firms from the general population.

Among the initial factors affecting new business outcomes, owner's human capital and venture's start-up characteristics remain to be the far most studied. This paper will explore if these two domains explain possible differences in the survival rates between the firms established by immigrants and natives in Norway.

## 2. Survival Rate Differences

The scarce evidence from other parts of the world has revealed differences in survival rates between the ventures started and owned by immigrants and those established by natives. In Sweden, which is Norway's nearest neighbor-country, firms started by immigrants have higher odds of exiting in both the short and long run (Persson, 2004). Studying longitudinal data on entrepreneurs who have received support for starting a business in Sweden, Hammarstedt (2002) found that non-European immigrants had higher chances of transition into unemployment compared to natives. Bruderl and Preisdorfer (1998) have not found any significant differences in survival rates between German native- and immigrant-owned firms. On the contrary, Fertala (2006) reported that survival of companies registered by immigrants is lower compared to companies established by native Germans. These results were robust across all the industrial sectors, age-groups and administrative districts analyzed.

Many studies on minority business survival rates have been conducted in the US. In this country, minorities are most often defined as racial groups (usually Asian, White,

Black and Hispanic) as opposed to the focus on self-defined ethnicity and the country of origin, which are broadly used in European and Scandinavian studies. Racial terms are rarely discussed in Norwegian academic literature as well as in political debates. Taking into account that immigrants constitute a large share of racial minorities in the US, the relevant studies on survival rate are of a large interest. On the other hand, in the context of the current research, these evidences have been cited with concern about the definitional incongruence. The analysis of national level data on business survival between 1987 and 1991 conducted by Christopher (1998) reported a 70 percent survival rate for minorities among the single-owned firms and 81 percent for non-minorities. Another study revealed that the four-year survival rates of the four minority-owned business categories were all lower than the survival rate for non-minority-owned businesses, which was 72.6 percent. The minority categories were as follows: Asian- and Pacific Islander (survival rate 72.1 percent), Hispanic (68.6 percent) and Black (61.0 percent) (Lowrey, 2005). McEvoy and Aldrich (1986) reported somewhat more complex results: due to unidentified reasons Asian owned firms were more likely to survive in 1978–80, white owned firms in 1980–82, and Asian owned in 1982–84. Robb (2002) reported that four-year survival rate was highest for Asian-owned businesses (51.7 percent) followed by Whites (48.7 percent), Hispanics (43.7 percent) and Blacks (34.8 percent). It appears that Asians firms demonstrate survival rates beyond those of other racial groups. However, there are variations between Asian immigrant firm subgroups defined by the country of origin. Bates (1994b) reported that 85.1 percent of firms formed by the immigrants from India in the period from 1979 to 1987 were still in business in 1991. The respective percentage was 84.7 for the firms started by Chinese, 81.2 by Koreans, and 77.9 by Vietnamese. Interestingly, Bates (2005) found that firm closures among minority owners were disproportionately unsuccessful closures.

Since the survival rates of the firms initiated by immigrants and racial minorities (except Asians<sup>a</sup>) are observed to be lower compared to the native-established firms, we expect that the same difference will be observed in Norway. Thus, our first hypothesis was formulated in the following way:

H1: The four-year survival rate of new firms established by immigrants in Norway is lower compared to survival rate of the firms established by natives.

The determinants of the observed differences in survival rates between immigrant- and native-owned establishments have not yet been afforded much attention. Based on relevant theoretical perspectives, empirical studies focusing on the survival of native-owned firms, as well as on the scarce empirical evidences considering viability of immigrant-owned firms, hypotheses are formulated as described in the following sections.

### **3. Human Capital**

Becker (1993) distinguishes between general and specific human capital. General human capital, often measured as years of education and work experience, relates to the factors

<sup>a</sup>Asians account for about a third of all first-generation immigrants in Norway.

expected to increase the individual's productivity for a wide range of work-related activities. Contrastingly, specific human capital is applicable only to a specific domain. In entrepreneurship, literature specific human capital is usually measured as managerial, industry specific and self-employment related experience (Bosma *et al.*, 2004; Cooper *et al.*, 1994).

Bruderl *et al.* (1992) argue that human capital may influence the survival of ventures in several ways. First, greater human capital increases the founder's productivity, which results in higher profits, thereby enhancing business survival. Second, easily observable indicators of human capital, such as education, may be used as screening devices by customers, investors and other outside actors on whom the survival of enterprise depends. Third, even prior to the establishment of businesses, people with higher human capital are in position to start larger and financially better-equipped businesses because of their higher earnings as employees. Moreover, through their broader employment experience, such people are more likely to identify the most lucrative entrepreneurial opportunities. Finally, people endowed with high human capital are rarely forced into self-employment by acute need for an income and, therefore, have more time to develop detailed business plans. Contrary to these assumptions, Gimeno *et al.* (1997) found that firms owned by entrepreneurs with more general human capital do not necessarily survive more frequently, probably because of an increased threshold of performance associated with such entrepreneurs. Among the measures applied (education, supervisory experience and managerial experience), only the last one had a positive relationship with the threshold. However, the binominal model revealed a weak negative relationship between an owner's former education, supervisory experience and exit from business.

### **3.1. Employment experience**

One of the measures of general human capital that is commonly used in empirical studies on entrepreneurship is employment experience. Bruderl (1998), Bruderl *et al.* (1992), and Boden and Nucci (2000) found that an owner's longer employment experience was positively associated both with the venture's initial size and with its survival. On the other hand, Bosma *et al.* (2004) found no significant association between these variables. Christopher (1998) reported the significant positive effect of a minority business owner's employment experience on business survival. Based on the evidence cited, it may be suggested that employment experience should be positively associated with the survival of both native- and immigrant-owned firms in Norway. Therefore, the dissimilarity in the accumulated work experience may explain the differences in the survival rates between the firms established by immigrants and natives.

### **3.2. Education**

Empirical studies have found positive relationships between the owner's education and the survival of a firm (Bruderl and Preisdorfer, 1998; Bruderl *et al.*, 1992; Cooper *et al.*, 1994; Headd, 2003; Kauermann *et al.*, 2005). In addition, studies focusing on minority establishments have revealed that higher educational endowment increases the odds of venture survival (Bates, 1994b; Christopher, 1998). *Comparing survival of Asian- and white-owned*

firms in the US, Robb and Fairlie (2007) found that education played a major role in explaining the gap in outcomes between these two groups. Notably, Christopher (1998) found that formal education had less impact on business viability of minority-owned businesses compared to non-minority-owned firms. Bates (1989) argued that the effect of education depends on whether the entrepreneur operates within the minority community or outside it. The results of his research indicated that black-owned firms not located in the large urban "ghettos" are more likely to survive beyond five years if started by owners with four or more years of education. On the contrary, survival of businesses within the minority communities is directly associated with minimal owner education. Apparently, business success on general market depends on owners' high human capital endowment, while the low educated entrepreneurs operate their less profitable firms serving a minority clientele mainly because of the lack of alternative means of survival. Since the presence of significant urban "ghettos" has not so far been reported in Norway, we expect that, in line with the majority of studies, the owner's education will have a positive effect on survival of both immigrant-owned and native-owned firms.

### **3.3. Business-ownership experience**

Business ownership experience is recognized to be the most relevant type of specific human capital in the case of entrepreneurship (Bruderl *et al.*, 1992). Actually starting a venture is probably the most effective way of learning such specific entrepreneurial tasks as initial organizing, establishing of relationships with key stakeholders, allocation of human resources, adjusting to market changes and facilitation of communication within the organization. It is therefore argued that owners with previous start-up and business ownership experience should operate businesses with higher odds of survival (Shepherd *et al.*, 2000). Using data on self-employment among natives in Britain, Taylor (1999) found strong support for this hypothesis. The authors of this paper failed to find relevant empirical tests on an immigrant population. However, it may be suggested that, exactly as in the case of natives, business-ownership experience improves the survival chances of the immigrant-owned firms.

Summing up the theoretical suggestions about the role of human capital, the following hypothesis has been developed:

H2: When controlling for human capital, the survival rate of immigrant-owned businesses is not significantly different from the survival rate of businesses owned by natives.

## **4. Venture's Start-Up Characteristics**

As discussed in the previous subsection, the qualities of the business founder influence the survival chances of the venture. On the other hand, the characteristics of the venture itself may be critical for business survival. In this study, the following start-up characteristics have been suggested to influence the survival of businesses: the amount of start-up capital, presence of multiple partners, perceived novelty and location.

#### **4.1. Start-up capital**

The amount of start-up capital is expected to improve the chances for venture survival. It is argued that more initial capital buys time, while the entrepreneur learns or overcomes problems (Cooper *et al.*, 1994). By the same token, initial capital provides a liquidity buffer for the firm to survive under conditions of low performance (Bruderl and Schussler, 1990). More financial capital also allows exploitation of some lucrative opportunities that require the amount of investments unavailable to other actors on the market. Moreover, capitalization influences external shareholders' perspective of the stability, legitimacy and dependability of new ventures (Shane, 2004). The positive association between start-up capital and business survival was evidenced in numerous empirical studies (Audretsch and Mahmood, 1995; Bates, 1990, 1994a; Bruderl and Schussler, 1990; Cooper *et al.*, 1994; Kauermann *et al.*, 2005). Still, Audretsch *et al.* (1999), van Praag (2003) and Wagner (1994) have not found any significant effects of initial capitalization on survival. Notably, analysis reported by Boden and Nucci (2000) indicated that significant positive association between initial capitalization and business survival appeared for one cohort of establishments and not for another.

Studying minority-owned firms in the US, Christopher (1998) found that starting capital was one of the most significant contributors to business survival. Surviving Asian immigrant firms have been reported to be those started with larger investments of financial capital (Bates, 1994b; Robb, 2002; Robb and Fairlie, 2007). When minority- and non-minority owned firms were compared, larger financial capital inputs at the point of business start-up are consistently related positively to firm survival, irrespective of owner race (Bates, 1989).

Based on the evidence cited, it is suggested that start-up capital is an important predictor of business survival, though the effect can be milder at certain time periods. Thus, intergroup differences in initial capitalization may contribute to explaining the differences in survival rates of native- and immigrant-owned firms.

#### **4.2. Founding team**

Based on the literature review, Cooper and Gascon (1992) and Shane (2004) argued that firms established by teams had higher chances of survival compared to the firms founded by solo entrepreneurs. Relatively high survival rates among team-founded ventures may be explained by the number of advantages a team-based venture has. First, a team can assemble more resources and rely on a broader variety of skills compared to solo entrepreneurs (Ucbasaran *et al.*, 2003). Second, the presence of partners may contribute to the credibility of business and, therefore, make businesses started by teams more attractive for lenders and other external stakeholders (Cooper *et al.*, 1994). Third, due to some cognitive limitations, solo entrepreneurs may find it difficult to gather and process all the information necessary to start a business (Hansen and Allen, 1992). Fourth, multiple owners may proxy for a deeper commitment to a successful enterprise therefore, increasing chances of survival (Astebro and Bernhardt, 2003). Finally, a team consisting of several entrepreneurs enables verification of the validity of their business idea (Cooper and Daily, 1998). Several empirical studies (for a review, see Shane, 2004) supported the suggestion that businesses founded by teams demonstrated superior survival rates compared to the firms established by individuals. In the

present literature review, the authors failed to find any empirical studies focusing specifically on the relationships between the presence of co-founders and survival of immigrant-owned businesses. However, it may be suggested that the native/immigrant differences in business survival may be partly explained by the extent to which founding teams are employed by each of these groups.

#### **4.3. Perceived novelty**

Referring to classical works by Schumpeter (1934) and Kirzner (1985), Samuelson (2001) suggested that exploitation of innovative venture opportunities differs from exploitation of equilibrium venture opportunities. Using innovative business opportunities, entrepreneurs enter a new product-market arena that others have not yet recognized, while entrepreneurs exploiting equilibrium opportunities make use of widely available knowledge concerning products and markets. Since exploitation of innovative opportunities is more time consuming and demands more resources, one may suggest that performance of the respective type of businesses should be lower compared to businesses based on equilibrium opportunities. Testing this proposition, Isaksen (2006) found that business founders perceiving their businesses' product/services to have higher degree of novelty were less likely to report superior early business performance. It is, therefore, possible to suggest that underperforming innovative businesses may demonstrate lower survival rates compared to more traditional ventures.

It is often suggested that immigrant entrepreneurs tend to provide exotic products and services (e.g., Ma Mung and Lacroix, 2003). Introduction of ethnic goods and services to the host country market involves exploitation of innovative business opportunities. Thus, the relevant immigrant businesses may demonstrate lower survival rates compared to traditional native owned firms. The latter may be more likely to exploit equilibrium opportunities. In this study, it is suggested that perceived novelty of products/services may partly explain the differences in survival rates between native and immigrant entrepreneurs.

#### **4.4. Location**

The location of the business is an important factor influencing both the availability of resources and access to customers (Isaksen, 2006). It is suggested that entrepreneurial opportunities in urban locations are more valuable compared to the opportunities found in rural areas (Shane, 2004). Thus, exploitation of these lucrative opportunities may lead to relatively high survival rates of businesses located in urban areas. Residing in the major metropolitan areas after migration seems to increase immigrants' chances of becoming self-employed (Hammarstedt, 2006; Razin and Scheinberg, 2001). This effect may be explained by higher concentration of co-ethnics in metropolitan areas. On the contrary, Lunn and Steen (2000) argued that urbanization was associated with more employment for wages and salaries. Their analysis of the US census data revealed that increasing urbanization tended to reduce self-employment rates among immigrants. An empirical study conducted by Robb and Fairlie (2007) demonstrated that Asian-owned firms located in urban areas of the US were more likely to close than firms located in non-urban areas. With respect to these

inconsistent results, it is difficult to hypothesize the direction of relationships between location in urban areas and survival of immigrant-owned businesses. However, it is expected that location may partly explain the survival differences between immigrant- and native-owned ventures.

Taking into account a venture's start-up characteristics such as the presence of multiple partners, amount of start-up financial capital, perceived novelty and location, the following hypothesis has been formulated:

H3: When controlling for a venture's start-up characteristics, the survival rate of immigrant-owned businesses is not significantly different from the survival rate of businesses owned by natives.

## 5. Demographic and Environmental Control Variables

In this study, the following two control variables were included: gender and industry. In entrepreneurship studies, gender is possibly one of the most frequently used control variables. Both male-owned (Boden and Nucci, 2000; Bosma *et al.*, 2004) and female-owned (Cooper *et al.*, 1994; Pearson *et al.*, 1994) firms were reported to have greater chances for survival. In Norway, only 15 percent of immigrants from Thailand are men while the share of men among immigrants from Greece is 77 percent. Since demographic skewness of immigrant population may result in relevantly higher/lower business survival, the gender variable will be controlled for.

It is suggested that the survival rate will be lower for new establishments that enter on a sub-optimal level in industries where there are economics of scale (Javanovic, 1982). However, rejecting this hypothesis, Persson (2004) reports differences in survival rates for different industries. Analyzing industry specific effects, Strotmann (2007) found that the risk of new-firm failure was higher when an industry's minimum efficient scale was larger, the sectoral demand-conditions were worse, the market was narrower and the dynamics of foundation within an industry were higher. Based on the US Census data, Headd (2003) found that survival rates are lower in retail and services compared to manufacturing. Immigrant businesses tend to be overrepresented in retail and personal service sectors of economy in, for example, Denmark (Bager and Rezaei, 2001) and the US (Borjas, 1986). The same tendency was reported in Norway (Orderud, 2001). Since the survival rates are expected to differ between industries, the relevant control variable was included in the analysis.

## 6. Methodology

The hypotheses presented above are tested applying a longitudinal sample of Norwegian small businesses. The initial data collection took place during four weeks in May/June 2002, and information was collected concerning the independent and control variables included in this study. The sampling frame consisted of all sole traders, partnerships and unlisted limited companies that entered a Norwegian business register during four weeks in 2002. Approximately one week after we received information from the business register regarding business registration, questionnaires were mailed (in four rounds) to the businesses. Three



weeks after the initial mailings, a reminder with a copy of the questionnaire was posted in four rounds to the non-responding businesses. In total 3,121 businesses were approached and we received 1,048 completed questionnaires.

The two rounds of follow-up interviews took place during Weeks 5–8 in 2004 and during Week 13 in 2006. In both cases, a professional survey agency was engaged to telephone the respondents who participated in the postal survey. The questionnaires used in the follow-up interviews were brief and focused on outcomes of the business start-up process. This included information regarding the dependent variable in this study, business survival. During the 2004 telephone interviews, the survey agency attempted to reach 980 of the 1,048 respondents who completed postal questionnaire. As a result of being de-registered from the business register, 29 businesses were removed from the initial sample. Six businesses had more than 50 percent missing data and we were not able to reach 33 respondents because the contact people were not listed in any available telephone directory. Among the 980 respondents, 275 were inaccessible and 54 refused to participate. Therefore, we were able to collect follow-up data from 651 businesses, among these, 557 reported that they were still in operation in 2004.

Concerning the follow-up interviews in March 2006, the survey agency attempted to telephone 501 of the 557 businesses that reported to be in operation in 2004. The sample was reduced to 501 businesses because 18 of the respondents reported in 2004 that they were not owner of the businesses. Further, 38 businesses had been de-registered from the business register during the time between the first and the second follow-up interview. Among the 501 respondents, 173 were inaccessible, 15 refused to participate and 7 were not in the target group. With respect to the 306 businesses that participated, 251 reported that they still were in operation in 2006. In total, this equals 216 non-surviving businesses (29 de-registered 2004, 38 de-registered 2006, 94 reported to be not in operation in 2004 and 55 reported not to be in operation in 2006), and 251 surviving businesses. However, the sample was further reduced by removing respondents who in 2002 reported that: (1) they neither alone nor together with partners were responsible for the business founding, (2) the businesses were subsidiaries of another business, and (3) the businesses were neither started from scratch or acquisitive entries. In addition, businesses were removed from the sample if respondents in 2004 or in 2006 reported not to be owners of the businesses. Further, individuals that reported that they were not born in Norway and also reported that their father or mother was born in Norway were not included in the sample. Finally, responses with missing values on categorical variables used in this study were also removed. These requirements reduced the final sample to 389 businesses (184 non-surviving and 205 surviving businesses in 2006). Responses with missing values concerning metric variables were not removed since imputations techniques (EM-imputation) were utilized in order to maintain the sample size for the multivariate analyses. With regard to the final sample, 5.7 percent of the businesses were started by immigrants. The founder's average age in 2002 was 38.9 years and 25.2 percent of the businesses were started by women.

In order to check for possible response bias, *t*-tests and chi-square tests were performed comparing the final sample with non-responses. Independent and control variables as well as legal form and county were compared across the two groups, and no differences were

detected at the 0.05 level of statistical significance. Hence, the tests give no reason to suspect that the final sample is unrepresentative relating to the sampling frame.

### 6.1. Measures

The operationalization of the dependent variable and independent and control variables are summarized in Table 1. With regard to the classification of immigrant firms, only businesses reported to be started by individuals not born in Norway, with both parents born outside Norway, were regarded as immigrant businesses. As shown in Table 1, the majority

Table 1. Dependent, independent and control variables.

Variables	Variable description
<b>Dependent variable</b>	
Business survival	Businesses reported to have survived in 2006. (1 = yes, 0 = no)
<b>Independent variables</b>	
Immigrant	The respondents reported not to be born in Norway and neither their father or mother was born in Norway. (1 = yes, 0 = no)
<i>Human capital</i>	
Work experience	Number of years of work experience.
High education	Educational attainment, at least four years at university. (1 = yes, 0 = no)
Business ownership experience	The founders reported at the initial survey to either currently or previously own and manage another business(es). (1 = yes, 0 = no)
<i>Business characteristics</i>	
Founding team	Businesses started by two or more partners. (1 = yes, 0 = no)
Perceived novelty	A summated scale adapted from Reynolds (2002). The scale consists of three statements: (1) Customers will experience our products or services as <i>new and unknown</i> , (2) <i>Few or no competing businesses offer a similar product or service</i> , and (3) <i>The technology or the production processes of the product/service is not easily available</i> . Responses to the three statements were added together and then divided by three.
Initial financial capital	The total of loans and equity. The variable has seven categories: (1) 0 NOK, (2) 1 to 10,000 NOK, (3) 10,001 to 50,000 NOK, (4) 50,001 to 100,000 NOK, (5) 100,001 to 200,000 NOK, (6) 200,001 to 1,000,000 NOK, and (7) more than 1,000,000 NOK. <sup>a</sup>
Location	Rural = municipality of 10,000 people or less. Mid-size area = municipality of more than 10,000 people and less than 100,001 people. Urban = municipality of 100,001 or more people.
<b>Control variables</b>	
Gender	Male (= 1) and female (= 0).
Industry	Seven classifications of industry: (1) Agriculture, forestry, fishery and fish farms, (2) construction and manufacturing, (3) transportation, (4) retail, wholesale, hotels and restaurants, (5) computer services, (6) professional services, and (7) other services.

<sup>a</sup> 1 NOK = approx. 0.16 US\$ and 0.12 EUR.

of the variables are operationalized as dummy variables. Only one variable (perceived novelty) is measured using several indicators. The respondents were asked to rate disagreement/agreement with three statements using a 7-point Likert scale. The Cronbach's alpha value for this summated scale is 0.74 and indicates satisfactory internal consistency.

## 7. Results and Findings

Cross tabulation and chi-square analysis were used in order to test Hypothesis 1. Results shown in Table 2 support Hypothesis 1 which suggested that firms started by immigrants have a lower survival rate compared with new businesses started by native entrepreneurs. This relationship is significant at the 0.05 level. Results in Table 2 also indicate that immigrant entrepreneurs are more likely than native entrepreneurs to have obtained higher education ( $p < 0.01$ ). Moreover, results also indicate a statistically significant difference with regard to location ( $p < 0.01$ ). Immigrant firms are more likely to be located in urban areas compared to firms started by natives. No statistically significant differences between immigrant and native entrepreneurs are detected with regard to business ownership experience and the forming of a founding team.

We also investigated if there were differences between immigrant and native entrepreneurs and their firms with regard to the metric independent variables used in this study. The  $t$ -tests presented in Table 3 do not suggest that there is a statistical difference with regard to years of work experience. Concerning business characteristics, results suggest that

Table 2. Differences between immigrants and natives with regard to business survival, human capital and business characteristics, categorical variables.

	Immigrant		Chi-square statistic	Significance level (two-tailed)		
	Yes ( $n = 22$ )	No ( $n = 367$ )				
	Count	%	Count	%		
<b>Business survival 2006</b>					6.048	0.014
Yes	6	27.3	199	54.2		
No	16	72.7	168	45.8		
<b>Human Capital</b>						
<b>Higher education</b>					9.436	0.002
Yes (University 4 years +)	12	54.5	91	24.8		
No	10	45.5	276	75.2		
<b>Business ownership experience</b>					0.588	0.443
Yes	9	40.9	121	33.0		
No	13	59.1	246	67.0		
<b>Business Characteristics</b>						
<b>Founding team</b>					1.683	0.195
Yes	2	9.1	75	20.4		
No	20	90.9	292	79.6		
<b>Location</b>					10.983	0.004
Rural (<10,001 people)	3	13.6	105	28.6		
Mid-size area (10,001–100,000)	6	27.3	165	45.0		
Urban (>100,000)	13	59.1	97	26.4		

Table 3. Differences between immigrants and natives with regard to human capital and business characteristics, continuous variables.

	Immigrant				<i>t</i> -value	Significance level (two-tailed)
	Yes ( <i>n</i> = 22)		No ( <i>n</i> = 367)			
	Mean	Std.dev.	Mean	Std.dev.		
<b>Human capital</b>	16.42	11.93	17.83	11.81	0.521	0.603
Work experience (2 missing values)						
<b>Business Characteristics</b>	1.31	0.49	0.84	0.63	-3.358	0.001
Perceived novelty (log) (8 missing values)						
Initial financial capital (32 missing values)	2.89	1.94	3.48	2.01	1.213	0.226

businesses started by immigrants are perceived to be more novel than firms started by natives ( $p < 0.01$ ). Further, while firms started by immigrants have raised less initial financial capital compared to firms started by natives, this relationship is not statistically significant.

The hypotheses were formally tested using logistic regression. The multicollinearity issue was explored and performed tolerance tests do not indicate that multicollinearity is a problem when using logistic regression analysis to detect the combination of independent and control variables associated with business survival. Control variables and immigrant status were included in Model 1 in Table 4. The results show that Model 1 is statistically significant at the 0.1 level. It is interesting to note that there is a significant negative association between immigrant status of the founder and business survival. This indicates that immigrant firms compared with firms owned by natives are less likely to survive.

To test Hypothesis 2, the human capital variables were added to the regression model. Model 2 in Table 4 is statistically significant at the 0.1 level. The presented results show that neither higher education nor business ownership experience are significantly associated with business survival. Years of work experience is positively associated with business survival at the 0.1 level of statistical significance. However, since the squared value of the work experience is negatively related to survival, there seems to be a nonlinear inverted U-shaped relationship between years of work experience and businesses survival. Hypothesis 2 is not supported since immigrant status is still significantly negatively associated with business survival ( $p < 0.05$ ) when the human capital variables are included.

Hypothesis 3 suggested that immigrant status is not associated with business survival when controlling for business characteristics. In order to test the hypothesis, the business characteristic variables were added to control variables and the immigrant status variable. The results presented in Table 4 show that Model 3 is statistically significant at the 0.01 level and has a Nagelkerke  $R^2$  of 0.145. The hypothesis is supported since immigrant status is not associated with business survival at the 0.1 level of statistical significance. With regard to the business characteristic variables, initial financial capital is strongly positively associated with business survival ( $p < 0.01$ ). Moreover, firms located in rural areas are more likely to survive compared with firms located in urban areas ( $p < 0.05$ ). Perceived product/service

Table 4. Logistic regression results on business survival. Dependent variable: survival.

	Model 1		Model 2		Model 3	
	B	Wald	B	Wald	B	Wald
<b>Control variables</b>						
Gender (1 = male, 0 = female)	-0.018	0.005	0.112	0.188	-0.217	0.698
Agriculture etc. <sup>a</sup>	0.603	1.304	0.608	1.298	-0.117	0.042
Construction & manufacturing <sup>a</sup>	-0.028	0.007	0.006	0.000	-0.323	0.722
Transportation <sup>a</sup>	-0.312	0.421	-0.306	0.386	-1.150	4.490**
Retail, wholesale etc. <sup>a</sup>	-0.384	1.512	-0.404	1.560	-0.836	5.900**
Computer services <sup>a</sup>	-0.817	3.006*	-0.852	3.167*	-0.647	1.740
Professional services <sup>a</sup>	-0.132	0.194	-0.205	0.442	-0.014	0.002
<b>Immigrant (1 = yes, 0 = no)</b>	-1.076	4.714**	-1.125	4.960**	-0.844	2.645
<b>Human capital</b>						
Work experience			0.057	3.466*		
Work experience squared			-0.123	3.222*		
Higher education			0.288	1.190		
Business ownership experience			-0.355	2.317		
<b>Business characteristics</b>						
Founding team (1 = yes)					-0.026	0.008
Perceived novelty (log)					-0.324	3.022*
Initial financial capital					0.293	18.695***
Rural location <sup>b</sup>					0.599	3.880**
Mid-size area location <sup>b</sup>					0.265	0.996
<b>Constant</b>	0.328	1.715	-0.160	0.189	-0.342	0.742
-2 Log likelihood	524.714		518.206		493.544	
Model chi-square	13.420*		19.928*		44.590***	
Nagelkerke R <sup>2</sup>	0.045		0.067		0.145	
Overall hit ratio (percent)	57.3		59.1		64.0	

<sup>a</sup> the reference category is other services; <sup>b</sup> the reference category is urban location.

Note: Level of statistical significance: \*indicates  $p < 0.10$ ; \*\*indicates  $p < 0.05$ ; \*\*\*indicates  $p < 0.01$  (2-tailed);  $n = 389$ .

novelty is negatively related to business survival on the 0.1 level of statistical significance. The results presented in Tables 2 and 3 may help to explain the reduced association between immigrant status and business survival when business characteristic variables are included. Since there is a significant difference between immigrant firms and native firms with regard to the location and the perceived novelty variable, this may indicate that immigrant firms are less likely to survive partly because they are more likely to be located in urban areas and their products and services are more novel.

## 8. Conclusions and Implications

In line with other studies conducted in Europe and Scandinavia (Fertala, 2006; Persson, 2004), this research indicated that businesses founded by immigrants are less likely to survive compared to those started by natives. While 54.2 percent of the firms established by natives still existed four years after start-up, only 27.3 percent of firms founded by

immigrants did so. An attempt to explain this difference with business founders' human capital and ventures' start-up characteristics was made in this study.

Immigrants in our sample were significantly better educated compared to natives. However, the regression analysis indicated that educational attainment failed to explain the survival differences between businesses established by immigrants and natives. Intergroup differences in the other two measures of human capital applied in this study (business ownership experience and work experience) were insignificant. Moreover, adding all three human capital variables to the model did not explain the immigrant/native survival rate differences. These results seem to contradict the theoretical propositions on the positive relationship between business survival and human capital — particularly with respect to education. Focusing on mainstream business founders, Bruderl *et al.* (1992) argued that businesses established by better educated people should survive longer because they are able to choose relatively lucrative opportunities and exploit them in a relatively effective manner. In line with findings by Christopher (1998), this study suggests that formal education has less impact on business viability of minority-owned businesses compared to non-minority-owned firms. It is possible to suggest that higher education acquired abroad may mismatch the host country environment and, therefore, fail to provide additional advantages to well-educated immigrants in identifying superior business opportunities. Moreover, education as a screening device may be applied discriminatingly by customers, investors and other host country economic actors when comparing immigrants and native entrepreneurs. In the actors' eyes the better educated minority entrepreneur may look less credible compared to the native one.

With respect to ventures' start-up characteristics, this study suggests that higher perceived novelty and predominantly urban location may partly explain the lower survival rate of businesses established by immigrants. Immigrants, as often evidenced in the literature, tend to introduce untraditional products and services to the home country market. This is also the case in Norway. Pursuing innovative business opportunities related to exotic products, immigrants may be exposed to relatively high risks of failure. In this way, this study questions the efficiency of so called "ethnic strategies."

Two explanations may be suggested for the negative relationship between urban location and business survival. On the one hand, major cities provide more alternatives to self-employment compared to a rural milieu. Thus, immigrants in urban areas may easily abandon their business activities, preferring a salaried job. On the other hand, relatively more dynamic urban economic life and cannibalistic competition may explain rapid dissolution of businesses established by immigrants.

As a result of this study a number of practical implications may be suggested. The fact that immigrants found less durable ventures compared to natives provides further support for initiatives aimed at aiding minority-owned businesses. While the relevant governmental programs focus first of all on encouraging new business establishments among immigrants, this study suggests that more attention should be paid to the firms already in operation. Since human capital was not important in our models, improving survival of immigrant-owned firms is not likely to be achieved through investments in additional education of immigrants. Helping immigrants enter mainstream markets instead of exotic markets may help them

establish more viable ventures. Policy makers may also focus on encouraging immigrants to start businesses in rural areas. Advising urban immigrants to start more businesses may lead to the growth of cannibalistic competition and, as a result, to supplementary decrease in the survival rate of immigrant-owned businesses. Aiding immigrant entrepreneurs in rural areas may, on the contrary, provide both regional development and a source of long-run economic benefits for immigrants.

## 9. Limitations and Directions for Future Research

This study provides an insight into survival of businesses established by immigrants and natives in Norway. Research on ethnic/immigrant entrepreneurship can greatly benefit from consideration of a venture's survival as one of the performance measures. Inability to distinguish immigrants of different origins is one of the main limitations of the dataset used. Some authors highlight the dangers of treating all immigrants to a country or even particular ethnic groups as homogenous (Clark and Drinkwater, 1998; Collins, 2000; Fairlie and Meyer, 1996). Thus, comparative studies of survival rates of businesses established by immigrants of different origins are to be of great interest. Additional research could replicate this study to other countries. Generalization to other contexts is warranted.

This study focuses on human capital and venture's start-up characteristics. A significant share of immigrant-native differences in business survival remains still unexplained. Further research is required in order to illuminate the role of cultural, ethnic, environmental and other differences in the process of the selection. National culture can be viewed as shaping entrepreneurial behavior (Weber, 1958). Hence, the relationship between immigrant culture and business survival rate could be an interesting avenue for further examinations. In future research, it is also critical to distinguish between successful and unsuccessful closures and respective differences between immigrants and natives. Finally, consideration of such performance measures as income and employment creation may contribute to the understanding of survival differences between businesses founded by immigrants and natives.

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