

## EXPECTATIONS AND ACHIVEMENTS IN NEW FIRMS

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### ABSTRACT

*The present study uses the Theory of Planned Behaviour to investigate the antecedents of business growth expectations and subsequent accumulated sales revenues and labour costs. The authors followed a sample of 207 incorporated business started in May/June 2002 over a ten-year period. The results indicate that the entrepreneurs' need for social cohesion, subjective norm with regard to business growth, and self-efficacy with regard to opportunity recognition determine business growth expectations. These expectations, in turn, accurately predict subsequent short-term as well as long-term sales revenues and labour costs, but this is not the case for entrepreneurs with novel business ideas. This research has several implications for future research, prospective entrepreneurs and policy makers.*

### INTRODUCTION

Firm growth is an important source of job creation (Acs and Mueller, 2008; Anderson and Tell, 2009; Henrekson and Johansson, 2010; Stenholm, 2011). Many models of firm growth assume that growth is a desired objective for the entrepreneur (Bird, 1989). Two decades ago, scholars began to question this assumption and argued that growth in small and new businesses is a vocational choice of the entrepreneur (Davidsson, 1991; Lewis and Churchill, 1983). Since then, however, only a handful studies have investigated antecedents of the entrepreneurs'

growth willingness and the relationship between growth willingness and subsequent business outcomes. The small number of studies is surprising as scholars now recognize that ‘entrepreneurial firms do not make decisions about growth – entrepreneurs do’ (Wright and Stigliani, 2013, p. 4).

This study builds on literature that tests conceptual frameworks for explaining and predicting small firm growth (e.g. Dobbs and Hamilton, 2007; Kirkwood, 2009; Littunen and Niitykangas, 2010). New firms grow faster than old firms do (Blackburn et al., 2013; Steffens et al., 2009). New firms are therefore more important job creators than established firms (Gilbert et al., 2006). However, the majority of the studies on growth willingness and ambitious entrepreneurship have studied firms that are well established. Among previous longitudinal studies on growth willingness and actual firm growth, the only study that focuses on brand new firms is Stam and Wennberg (2009). The average age of firms included in other studies varies from 3.1 years (Baum et al., 2011) to 48 years (Leitner and Guldenberg, 2010).

The dependent variables in this study are accumulated sales revenues and labour costs during the first two years and the first ten years of the firms’ life. These variables reflect the total impact the participating firms have on the economy. We chose accumulated figures for several reasons. First, in Norway as in many other countries, new firms have to register as a legal entity before they can start selling or hiring employees. Since brand new firms have no sales or employees, it is not possible to calculate a percentage of growth. Second, accumulated figures are more robust and less sensitive to temporal variations than annual figures (Robinson and McDougall, 2001). New firms go through periods of little or no activity. Some new firms engage in opportunity exploitation immediately after start-up, while other firms postpone opportunity exploitation since they need time for additional opportunity exploration (Choi et al., 2008). Further, as Dillen et al. (2014) have pointed out, growth or decline is often a temporary phenomenon, which may occur several times during the life of the firm. Finally, the use of accumulated figures allow us to include all firms in the analysis, not only surviving firms, but also dormant firms and dead firms. Since the dependent variables are different from traditional measures of relative or absolute growth, we refer to them as business outcomes or achievements rather than growth.

Hermans et al. (2015) encourage scholars to distinguish between three different concepts that concern growth willingness and ambitious entrepreneurs: (1) Growth aspiration, what the entrepreneurs ideally wants to achieve. (2) Growth intentions, what the entrepreneurs

intend to achieve, combined with the efforts they are prepared to make. (3) Growth expectation, what the entrepreneurs want to achieve, combined with the opportunities and constraints they perceive. While growth aspiration is relatively easy to distinguish from the other two concepts, it is difficult to distinguish between growth intention and growth expectation when market dynamics or other external determinants are present. In this study, we follow the advice of Hermans et al. (2015) and use the term growth expectations. However, when referring to earlier research, we use the terms used by the original authors, which might not always be in congruence with the definitions above.

The Theory of Planned Behaviour (TPB) (Ajzen, 1991) is well suited to study growth expectations and actual firm outcomes. While many of the previous surveys on this topic write about the TPB, none of them tests the full theory explicitly. The theory postulates that the antecedents or growth expectations are the entrepreneurs' attitude toward business growth, subjective norm with respect to growth, and perceived behavioural control over growth. Further, that growth expectations and perceived behavioural control determine actual business **outcomes**.

In their recent review of the literature, Hermans et al. (2015) found 28 studies published between 2001 and 2012 that made a distinction between high and low entrepreneurial ambitions and/or explicitly mentioned the term 'ambitious entrepreneur'. Based on their review, Hermans et al. (2015) mention three calls for future research on ambitious entrepreneurship. First, studies should include use multiple levels of analysis. They especially mention the organizational level which is relevant, but underdeveloped. Second, longitudinal studies on entrepreneurial growth expectations are essentially lacking. Third, measures of ambitious entrepreneurship often use simplistic measures with arbitrary cut-off points between ambitious and non-ambitious entrepreneurs.

The present study attempts to address all the calls for future research mentioned by Hermans et al. (2015). We include relevant variables at the individual as well the organizational level in the analysis. The study is longitudinal, and we follow the businesses ten years from birth. We apply an index to measure growth expectations, not a single item arbitrary or simplistic indicator of ambitious entrepreneurship.

The purpose of the present study is to test hypotheses derived from the TPB concerning the antecedents of growth expectations and actual outcomes in new businesses. The research

question is: Can the TPB accurately explain and predict growth expectations and actual accumulated sales and employment among new firms?

This study has two important contributions to theory and empirical research. First, we start with collecting data from a representative sample of very new incorporated businesses and follow their activity over ten years. The investigation concerns the effect of growth expectations on short-term outcomes (two years) as well long-term outcomes (ten years). Very few previous studies have followed brand new businesses over such a long period. The time-period studied is important as previous research has identified several different growth patterns and questioned the assumption of a linear growth pattern (Delmar et al., 2003). Second, we identify measures that enable us to test the full theory of planned behaviour. We test various measures of the antecedents of growth expectations and subsequent sales revenues and labour costs, and arrive at a model in which all the concepts in the theory are included. The explanatory measures are all indexes with high validity and enables us to test the full TBP. Further, we use accumulated measures of sales and employment as the dependent variables. The dependent variables are different from traditional measures of relative or absolute growth, but we argue that they are appropriate and relevant measures of new business outcomes or achievements.

## LITERATURE REVIEW

Research has identified several characteristics of the organization, which may influence the prevalence of ambitious entrepreneurs. Internationalization tends to be positively associated with growth aspiration and actual growth (Moen et al., 2015; Verheul and Van Mil, 2011). Several studies have found no association between innovation and growth ambitions (Hesselt et al., 2008b; Stam and Wennberg, 2009). Stenholm (2011) found that innovative behaviour, particularly the launching of new products and services, impeded the chances of realizing growth intentions.

On the individual level, studies have examined the effect of gender, ethnicity, education, family background and experience. Most studies have failed to find a direct effect of personal characteristics such as age, gender, ethnic background, managerial or industry experience on growth aspirations and growth (Levie and Autio, 2013). However, such personal characteristic may influence growth aspirations indirectly. The may be associated with the entrepreneurs' choice of industry, legal form, as well as other characteristics or the firm. They may also

influence the antecedents of growth expectations included in the TPB. In order to pass a test of sufficiency, demographic variables should only indirectly influence actual business growth through their effect on attitude, subjective norm and perceived behavioural control (Ajzen, 1991).

### **Empirical studies**

Levie and Autio (2013) carried out a meta-analysis of the existing evidence on growth and growth intentions. Through a thorough search in electronic databases in January 2013 they identified thirteen longitudinal studies on growth intentions and growth. Excluding one unpublished study and four that clearly concern other issues than growth intention and growth, leave only eight studies on the subject published by January 2013. Using electronic databases, we were only able to identify one study published after Levie and Autio (2013) carried out their thorough literature search. Table 1 shows a summary of these studies.

INSERT TABLE 1 ABOUT HERE

Among the nine studies in Table 1, two are from USA and seven from North European countries. Two of the studies use data collected in Sweden, two use data from Norway one from Finland, one from the Netherlands, and one from Austria. This is striking, as most entrepreneurship researchers come from English speaking countries. This suggests that access to relevant data is easier in some countries than in others.

The sample sizes vary from 91 to 673, with an average of 312 respondents. The two studies by Baum and associates in the USA focus on one industry only. Baum and Locke (2004) use data from the woodwork industry and Baum et al. (2011) collected data from the painting and graphics industry. Leitner and Guldenberg (2010) use data from seven industries in the manufacturing sector in Austria. The rest of the surveys use data from multiple industries.

The age of the firms investigated varies from 0 years (Stam and Wennberg, 2009) to 48 years (Leitner and Guldenberg, 2010). Five of the studies have focused on established SMEs while four have focused on new firms less than 5 years old. Stam and Wennberg (2009) is the only study that has followed new firms from birth. The size of the business studied varies, from 1.6 employees (Stam and Wennberg, 2009) to 50.8 employees (Moen et al., 2015).

All studies have measured the motivation for growth, with labels such as growth motivation, growth aspiration, growth ambition, and growth willingness. Five studies have used

single items to measure growth motivation, while four have constructed a growth motivation index.

The dependent variable has been more consistent. All studies have used relative change in sales and/or employment as the dependent variable, and four have combined change in employment and sales into a relative growth index. Leitner and Guldenberg (2011) is the only study that computes growth rates relative to the average in the industry. Seven of the studies, but not Stenholm (2011) and Leitner and Guldenberg (2009), specify the time horizon in the growth motivation measure.

The time-lag between the first and second round of data collection has varied from two to ten years. There is not always congruence between the time horizon specified in the growth motivation measure and the actual time-lag between data collection. For example, Wiklund and Sheperd (2003) asked respondents about their growth motivation five years into the future, while the time-lag between the first and second round of data collection was only three years. Stam and Wennberg (2009) asked respondent about their aspirations two to three years into the future, but the actual time-lag between the first and second round of data collection in their study was six years. The correlations reported between growth motivation and growth have varied from  $r=.02$  (Wiklund and Sheperd, 2003) to  $r=.31$  (Baum et al., 2011).

This review reveals several issues. There are considerable differences between studies on the definition and measurement of the entrepreneurs' desire for business growth (Moen et al., 2015). Five studies have used a single item to measure growth aspiration, and two have failed to specify a time horizon. The nine studies reviewed have used nine different measures of growth aspirations. They have variously labeled the entrepreneurs' ambitions for business growth as growth motivation, growth willingness, growth aspiration, or growth intention. There is clearly a need to develop a better measure of growth expectations.

The most commonly used dependent variables are relative change in sales and employment. Stam and Wennberg (2009) use relative change in employment as their dependent variable, even though they initially surveyed nascent entrepreneurs with businesses without employees. The Wiklund and Sheperd (2002) study is the only one that reports interactions. The other studies do not report any interaction effects, either because they were not investigated or because they were insignificant and therefore not worthy to report.

## Theory and hypotheses

According to TPB (Ajzen, 1991), intentions of various kinds can be predicted from attitudes toward the behaviour, subjective norms and perceived behavioural control. These, intentions, in turn, together with perceived behavioural control determine actual behaviour. The antecedents of attitude, subjective norm and perceived behavioural control, are corresponding beliefs reflecting the underlying structure. The antecedents of attitude toward business growth are the entrepreneurs' salient or behavioural beliefs about the benefits and costs associated with business expansion. **The potential costs associated with growth can concern** their beliefs regarding the extent to which a larger size will compromise the wellbeing of employees, or come at the expense of the independence of the firm relative to stakeholders and satisfactory supervisory control (Wiklund et al., 2003). As entrepreneurs might start and want their business to grow for a variety of different reasons (Wijewardena et al., 2009; Wiklund et al., 2003), the identification of the most relevant belief based antecedent of business growth can be a challenging task.

Subjective norm with regard to growth concerns the degree to which others consider growth to be important, and influence the entrepreneurs' willingness to grow the business (Verhaul and Van Mil, 2011).

In the TPB, perceived behavioural control is the third antecedent of behavioural intentions. The concepts of perceived behavioural control and self-efficacy are closely related. Self-efficacy **concerns** cognitive perceptions of control based on internal factors, while perceived behavioural control also **includes** external and more general issues (Bandura 1997). According to Armitage and Conner (2001) self-efficacy is the preferred construct, since self-efficacy is more clearly defined and usually is more strongly correlated with intention and behaviour than perceived behavioural control. Wright and Stigliani (2013, p. 7) also argue that self-efficacy is important to study since 'some entrepreneurs have insufficient self-efficacy to cope with specific tasks, and thus, will decide not to grow their firms'. Entrepreneurial self-efficacy is important for growth aspiration and growth since the 'entrepreneur's belief that he or she could manage growth is very important' (Gilbert et al., 2006, p. 929).

A high number of studies have used the TPB to predict entrepreneurial intentions (for a review of such studies, see Schlaegel and Koenig, 2014). However, only a small handful of studies have to date used the TPB to predict business growth intentions or actual growth. One explanation may be that it is much easier to obtain data on entrepreneurial intentions from

students than it is to obtain longitudinal data from actual entrepreneurs. However, since some individuals start their businesses reluctantly (or out of ‘necessity’), the TPB may be more adequate for explaining entrepreneurial ambitions than for new business creation. Being involved with growth in a new firm is a much more committed act than merely starting a new firm (Hermans et al., 2015).

The first three hypotheses tested in the present circumstances, derived from the TPB and supported by previous studies, are:

H1a. The more favorable the attitude with respect to business growth, the stronger the entrepreneur’s growth expectation for the business.

H1b. The more favorable the subjective norm with respect to business growth, the stronger the entrepreneur’s growth expectation for the business.

H1c. The higher the entrepreneurs’ score on entrepreneurial self-efficacy, the stronger the entrepreneur’s growth expectation for the business.

The decisions entrepreneurs’ early make ‘have profound long-lasting implications for performance’ (Gilbert et al., 2006, p. 929). The TPB postulates that the intentions to grow the business determine the extent to which the business actually grows. Except from Wiklund and Sheperd (2003), all the studies summarized in Table 1 have reported significant relationships between various measures of growth willingness and actual business growth. Therefore, the second hypothesis represents a constructive replication of these studies in a different setting using different measures:

H2a. The higher the entrepreneur’s growth expectation is for the business, the higher the accumulated sales revenues and labour cost in the business.

According to the TPB, perceived behavioural control or self-efficacy is not only associated with business growth intentions, but also with subsequent actual business growth. Only in circumstances when the behaviour is under complete volitional control, perceived behavioural control or self-efficacy should not influence the behaviour in question (Ajzen, 1991). Since external factors, such as the access to resources and market dynamics is likely to reduce the degree of volitional control over business outcomes, the theory postulates that entrepreneurial self-efficacy influences actual business outcomes, even when controlling for growth expectations. Previous studies have found a relationship between entrepreneurial self-efficacy and the growth of relative new businesses (Hmielski and Baron, 2008; Hmielski and



Corbett, 2008). While these studies did not include measures of growth intentions or expectations, we hypothesize, as the TPB postulates, that entrepreneurial self-efficacy directly influences actual accumulated sales revenues and labour costs in the business, even when growth expectation is included in the model:

H2b. The higher the entrepreneur's score on entrepreneurial self-efficacy, the higher the accumulated sales revenues and labour costs in the business.

Figure 1 illustrates the research model with hypotheses. H1a, H1b and H1c relate to the prediction of business growth expectations, using the three antecedents including in the TPB. H2a concerns the relationship between growth expectations and actual achievements. Finally, H2b concerns the expected direct effect of entrepreneurial self-efficacy on actual business **outcomes**. As the TPB postulates, we expect entrepreneurial self-efficacy to have a direct effect on growth expectations as well as on actual business outcomes. We test hypotheses H2a and H2b with regard to short-term accumulated sales and labour costs (two years after start-up) as well as long-term accumulated sales and labour costs (ten years after start-up).

INSERT FIGURE 1 ABOUT HERE

## METHODOLOGY

Before a new business in Norway can trade or hire personnel legally it have to register in the Norwegian Central Coordinating Register. The sample was all business that registered during four **sequential** weeks in May/June 2002. Each week we received contact information from the register, and mailed a questionnaire to all incorporated business that registered during that week. Non-respondents received a remainder with a new copy of the questionnaire three weeks after the initial mailings. From the 743 businesses approached, we received 236 completed questionnaires (response rate 31.8 percent). All incorporated businesses in the country are obliged to send in annual reports with complete accounts to the register and the tax authorities. We later acquired annual accounts from all surviving businesses over a ten-year period. After removing respondents who were not responsible for the start-up or failed to submit a complete data set, 207 businesses remained for the hypotheses testing. Chi-square tests revealed no difference between respondents and non-respondents with regard to firm localization (rural versus urban and county) or with regard to industry (manufacturing, trade and service).

Therefore, the remaining sample is likely to be representative of new incorporated businesses in Norway.

The sample contains 56 percent service firms, 27 percent in trade and 17 percent in manufacturing industries. Seventy-percent of the firms are *de novo* entries started from scratch and 25 percent are acquisitive entries. Among the business in the sample, sixty-eight percent are team start-ups and 32 percent started by a single entrepreneur. The average age of the founder is 42 years and 59 percent of them had at least some university education.

## Measures

The measure of growth expectation is an average of five items measured along a 7-point scale (from 1 = 'very unlikely' to 7 = 'very likely'): One year from now, how likely: (1) 'Are you to work full-time for the new business?' (2) 'Is the business to have employed someone other than you?' (3) 'Is the business to have at least ten full-time employees?' (4) 'Is the business to have an annual sales revenue of at least NOK 500,000?' (5) 'Is the business to have an annual sales revenue of at least NOK 5,000,000?' A high number of previous studies have used similar measures of growth expectations (Bae et al., 2014; Liñán and Chan, 2009). The reliability of this index was satisfactory with a Cronbach alpha of .65. The growth expectation index correlated strongly with measures of the ideal size of the business one year after start-up (Spearman's  $\rho = .73$  for employment, and Spearman's  $\rho = .75$  for sales). These high correlations indicate good convergent validity.

At the time of registration, none of the businesses had any sales or any employees. It is therefore appropriate to measure sales growth as total sales revenues and employment growth as total labor costs. In the hypotheses testing, we use accumulated figures at two different points in time: First, the accumulated sales and labor costs from registration in 2002 to the end of 2003. Second, the accumulated sales and labor costs from registration to the end of 2011. The first measures correspond to the time horizon specified in the measure of growth expectation, as only 1 ½ year had passed since they answered the questionnaire. The second measure is accumulated sales and labor costs for all the businesses during their first 10 years of operation. Both measures are the aggregated sum of annual sales and annual labor costs for all the 207 businesses, enabling us to include all firms in the testing of hypotheses. Firms that had exited received a value of zero on both sales and labor costs for the years that followed after they had died. Similarly, dormant firms also received zero values for the years they were

dormant. For example, we calculated the 10 year accumulated sales for one of the participating firms by adding the total sales from each year as follows (numbers in 1000 NOK): 325 (2002) + 0 (2003) + 0 (2004) + 0 (2005) + 36 (2006) + 241 (2007) + 64 (2008) + 0 (2009) + 0 (2010) + 0 (2011) = 666. This firm died and was removed from the register in 2009. (This example only shows how we carried out the calculations, and does not represent a typical case). Accumulated sales and labour costs are indicators of the firm's impact on the economy during the period studied. Accumulated sales indicate the sales activity created by the firm. Similarly, accumulated labor costs indicate the total employment provided by the firm during the time-period in question. The cost of labour is a more accurate measure of employment than the number of employees, as many new firms use part-time employees. Since the four growth variables were skewed, we transformed the measures by taking the logarithm of each accumulated figure after adding a constant of 150.

We measured attitude by asking respondents about the extent to which they disagree or agree to statements about different work related factors along a 7-point scale (from 1 = 'completely disagree' to 7 = 'completely agree'). The questionnaire included 26 items covering eight different motives, initially developed by Kolvereid (1996) to predict occupational preferences, but here represent possible reasons for wanting or not wanting the business to grow: Independence, authority, economic reward, self-realization, security, work load, social cohesion and avoid responsibility. We used an exploratory procedure to decide which measure(s) to include as our indicator(s) of attitude. The only measure that correlated with growth expectation at the .01 level of statistical significance was social cohesion. Using social cohesion as indicator of attitude towards firm growth makes sense since expanding the workforce adds to the entrepreneurs' social environment. When an entrepreneur **hires** the first employees, the individuals in the firm form a social group with some social identity (Franklin, 2004). According to social identity theory group membership may reduce individual autonomy (Hornsey and Jetten, 2004), but through interaction, interdependence, shared goals and fate the identity and cohesiveness of the group increases (Hogg, 2006). The measure of social cohesion included the following items: (1) 'to work together with others', (2) 'to participate in a social community at work', (3) 'collegiality at the workplace' (Cronbach's alpha = .87).

The measure of subjective norm for growth consisted of six items. First, we asked respondents along a 7-point scale if (a) 'my closest family', (b) 'my closest friends', and (c) 'people who are important to me' think that the business should pursue growth in number of employees. Second, in order to assess motivation to comply, we asked respondents along a 7-

point scale about the extent to which they cared about the opinion of (a) 'my closest family', (b) 'my closest friends', and (c) 'people who are important to me'. The belief-items were re-coded into a bi-polar scale (1 = -3, to 7 = +3), multiplied with the respective motivation to comply item (Cronbach's alpha = .81).

In the entrepreneurship literature there is a discussion with regard to the dimensionality of the entrepreneurial self-efficacy (ESE) concept. McGee et al. (2009) argue that ESE is a multidimensional concept, and encouraged scholars to investigate 'how the different dimensions of ESE relate to venture growth expectations' (2009, p. 984). Since perceived self-efficacy is task and situation specific, Bandura (1997) warned against using general types of self-efficacy measures. The questionnaire contained 23 items that concerned ESE, covering the following six dimensions: coping with unexpected challenges (DeNoble et al., 1999), risk taking (Chen et al., 1998), developing new product and market opportunities (DeNoble et al., 1999), economic challenges (Anna et al., 2000) and human competence (Anna et al., 2000; DeNoble et al., 1999). Following the advice of Betz and Hackett (1998) and Bandura (2006) concerning the measurement of self-efficacy, respondents were asked their degree of confidence in successfully performing different task related to entrepreneurship on a 11-point scale (from 0 = 'no confidence at all', through 5 = 'some confidence', to 10 = 'complete confidence'). As with the measure of attitude towards growth mentioned above, we used an exploratory procedure to decide which ESE dimension(s) to include in the testing of hypotheses. We started by looking at the correlations between the six ESE dimensions, growth expectation and actual growth. The only ESE dimension that correlated with any of the dependent variables at  $p \leq .01$  was opportunity recognition. The opportunity recognition measure contained six items: (1) see new market opportunities for new products/services, (2) discover new ways to improve existing products/services, (3) identify new areas for potential growth, (4) design products services that solve current problems, (5) create products/services that fulfil customers' unmet needs, (6) bring a products concepts to market in a timely manner. Cronbach's alpha for this scale was .90, indicating a very good internal consistency.

Previous research supports the importance of opportunity recognition. DeNoble et al. (1999) found that opportunity recognition correlated strongly with undergraduate students' intentions to become an entrepreneur. Others have failed to find a statistical significant association between opportunity perception and growth ambition (Verheul and Van Mil, 2011), and between opportunity recognition skills and venture growth (Baum et al., 2001). The failure of previous research to find a significant relationship between opportunity recognition, growth

expectations and growth can be due to the operationalization of the construct. For example, Verheul and Van Mil (2011) used a single item yes/no question to measure opportunity recognition.

We carried out a principal component analysis (PCA) in order to investigate the component structure among twelve items used to measure the three TPB concepts. We used varimax rotation to minimize the effect of possible multicollinearity. Table 2 shows the results. As expected, the PCA derived three dimensions where all the items loaded highest on the expected dimension. The communalities reported in Table 2 are good, the loadings of each of the components they belong to are high, and the side loadings are low. This indicates that the three antecedents of intentions in the TPB are empirically distinct, showing evidence of discriminant validity of the composite measures. We computed component scores using the regression method, which we used in the correlation and regression analyses.

INSERT TABLE 2 ABOUT HERE

We included several control variables that concerned the entrepreneurs and their businesses. The control variables that concerned the entrepreneur are age (measured in years), and education (1=at least some university education). These are variables commonly controlled for in earlier studies of growth (Gilbert et al, 2006). The control variables that concern the business included team start-up, industry (a dummy variable for manufacturing and a dummy variable for trade, with services as the reference group), whether the business started from scratch (*de novo*) or an acquisitive entry. These variables are commonly included as controls in previous growth studies (Gilbert et al., 2006). Mode of entry is important to control for since entrepreneurs who truly create new businesses tend to be more optimistic in their growth assessments than entrepreneurs who purchase or inherit a business (Landier and Thesmar, 2008). For the same reason, we also included a measure of business novelty as a control variable. Landier and Thesmar (2008) found that entrepreneurs who started novel businesses, driven by a desire to take advantage of a new idea, tended to systematically overestimate their growth prospects. Similarly, Stenholm (2011) found that innovative behaviour in the form of launching new products and services impeded the chances of realizing the founders' growth intentions. Social psychological theory suggests that when odds are very difficult to assess, people tend to hold high beliefs on their chances at performing at a given task (Taylor and Brown, 1988). Entrepreneurs with novel business ideas may therefore be too optimistic in their growth assessments. The measure applied to reflect product/service novelty is adapted from questions that appeared in Reynolds et al. (2002). The novelty measure is an index calculated

as the average of the following items along a 7-point scale (from 1 = 'completely disagree' to 7 = 'completely agree'): (1) 'The customers will perceive the product or service as new and unfamiliar.' (2) 'There are few or none competitors that offer a similar product or service.' (3) 'The technology used by the business is not readily available to others.' The Cronbach alpha of this index is .75.

## RESULTS

Table 3 shows descriptive statistics and correlations. The low correlations between the independent variables and the low Variance Inflation Factor (VIF) values in the regressions (the highest VIF-value was 1.38) indicate that multicollinearity does not seriously distort the regression models.

### INSERT TABLE 3 ABOUT HERE

Table 3 reveals that several of the control variables correlate significantly with growth expectations. Age and education correlates negatively with growth expectations. Entrepreneurs in trade have stronger growth expectations than entrepreneurs who have started businesses in the manufacturing or service industries. Entrepreneurs who have started their business from scratch (*de novo* entries) have lower growth expectations than entrepreneurs in acquisitive entries. Business novelty correlates positively with growth expectations, but this correlation is only significant at  $p \leq .1$ .

The three antecedents of intention included in the TPB correlate with growth expectation in the hypothesized direction. Social cohesion (attitude), subjective norm and opportunity recognition (self-efficacy) correlate positively with growth expectation at the .01 level of statistical significance. Moreover, growth expectation correlates significantly positively with the four indicators of accumulated sales and employment (at  $p \leq .01$ ).

Most of the variables that correlate in a certain way with growth expectations also correlate with the various measures of accumulated business outcomes in the same direction. The only exception is business novelty, which correlates positively with growth expectations and negatively with all the measures of accumulated sales and employment.

We used hierarchical regression to test the hypotheses. To test H1a, H1b, and H1c regarding the antecedents of growth expectations, we first entered the control variables followed by the TPB variables. See Model 1 and 2 in Table 4 for the results. Model 2 is

significant at the .001 level of statistical significance and has an adjusted  $R^2$  of .20. Adding the TPB variables to the regression equation produces a significant increase in the explanatory power of the equation ( $\Delta R^2 = .11$ ,  $p \leq .001$ ). Moreover, social cohesion, subjective norm and opportunity recognition are all positively and significantly associated with growth expectation, supporting H1a, H1b, and H1c, respectively. The reported standardized betas indicate that subjective norm is the strongest predictor of growth expectation, followed by opportunity recognition and social cohesion.

#### INSERT TABLE 4 ABOUT HERE

To test hypothesis 2a, concerning the relationship between growth expectation and actual business outcomes, we used a similar procedure. We first entered the control variables together with the measures of attitude (social cohesion), subjective norm and ESE (opportunity recognition). In the second step, we entered entrepreneurial expectation about growth. Models 3 and 4 in Table 4 show the results for accumulated sales and Models 7 and 8 show the results for accumulated labour costs, the first two years after business start-up. The explanatory power of the regressions that include the growth expectations of the entrepreneur (Models 4 and 8) are significantly higher than the regressions that do not (Models 3 and 7). Model 4, which concerns accumulated sales, is significant at  $p \leq .001$ , has an adjusted  $R^2$  of .31, and represents a significant improvement in  $R^2$  compared to Model 3 ( $\Delta R^2 = .13$ ,  $p \leq .001$ ). With respect to accumulated labour costs, Model 8 has an adjusted  $R^2$  of .38 ( $p \leq .001$ ) and adding the growth expectation variable significantly improve the variance explained ( $\Delta R^2 = .21$ ,  $p \leq .001$ ). These findings support hypothesis 2a.

Models 5, 6, 9, and 10 show the results of an additional test of hypothesis 2a, where the dependent variables are aggregated sales revenue and labour costs during the first ten years of operation. Model 6 and Model 10 are statistically significant at  $p \leq .001$ . Adding the growth expectation variable contributes to a statistically significant increase in  $R^2$  compared with Model 5 and Model 9 ( $\Delta R^2 = .06$ ,  $p \leq .001$  and  $\Delta R^2 = .14$ ,  $p \leq .001$ , respectively). Hence, the entrepreneurs' growth expectations for the first two years after start-up have a significant effect on ten-year accumulated sales revenue ( $\beta = .29$ ,  $p \leq .001$ ) as well as on ten-year accumulated labor costs ( $\beta = .42$ ,  $p \leq .001$ ). This finding supports hypotheses 2a and indicates that two-year growth expectations not only predict business short-term outcomes (the first 2 years), but also long-term **outcomes** (the first 10 years).

Hypothesis 2b stated that self-efficacy has a direct effect on accumulated sales revenues and labour costs. The results reported in Models 4, 6, 8 and 10 show that ESE with regard to opportunity recognition is not statistically significantly associated with accumulated sales or labor costs. Therefore, we find no support for Hypothesis 2b. The significant negative effect of subjective norm on accumulated sales reported in Model 4 in Table 4 is unexpected and difficult to interpret.

Several of the control variables deserve attention. The age of the entrepreneur is negatively associated with growth expectations and two-year growth in sales. Age has also a negative, but a not significant effect on outcomes in the other regressions. Possible explanation are that the oldest entrepreneurs have retired, started to prepare for retirement, or have become portfolio entrepreneurs. Education and team have not a significant effect in any of the regressions.

Industry has a significant effect on growth expectations, but this effect disappears when the TPB variables are included. Similarly, the effect of industry essentially disappears when growth expectation is included in the regressions for accumulated sales and employment. There is only one exception. Entrepreneurs in trade have lower accumulated labour **costs** after ten years, compared to entrepreneurs in other industries. This may indicate that there are limits to growth for entrepreneurs in the trade industry. A retail shop grows relatively fast the first years after start-up, but further growth is difficult.

Entrepreneurs in businesses started from scratch (*de novo* entries) have lower growth expectations than entrepreneurs in acquisitive entries. Businesses started from scratch also have lower sales and labour costs than acquired businesses. This is hardly a surprising result, but suggests that ambitious entrepreneurs are better off by buying an existing business than by starting one from scratch.

Business novelty has a positive effect on growth expectation. However, this effect is not statistically significant after inclusion of the TPB variables. In the regressions of accumulated sales and labor costs, novelty has a consistent negative effect, even after inclusion of expected growth. Entrepreneurs in businesses with high novelty appear to be too optimistic in their growth expectations.

It is interesting to observe that *de novo* entry and novelty remain to be significantly negatively associated with accumulated sales and labour costs, even after entering growth expectation to the regressions. If the behaviour is under complete volitional control, intentions



alone should predict subsequent behaviour (Ajzen, 1991). Under such circumstances, perceived behavioural control or entrepreneurial self-efficacy should have no effect on actual behaviour. The present findings therefore suggest that entrepreneurs who start their business from scratch, or have a novel business idea, have less control than other founders have over the actual **outcomes** in the business. They may face higher risk and uncertainty and have more difficulties in obtaining resources. They may also have to spend more time and resources developing their business ideas and persuading customers to buy their products.

### **Sensitivity tests**

To check whether the relationships between growth expectations and subsequent sales and labour costs are consistent, we carried out several sensitivity tests. We first looked at the correlations between growth expectation and annual total sales and annual total labor costs in surviving firms. Table 5 shows the results.

INSERT TABLE 5 ABOUT HERE

As the measure of growth expectation concerns short-term growth, we expected the correlations between growth expectation and size to decline as time passes. This does not appear to be the case. Our measure of growth expectation correlates strongly positively with annual sales and labor costs in each of the ten years after start-up. Therefore, the results reported here do not appear to be sensitive to the choice of dependent variables or the treatment on non-surviving firms.

The results do not appear to be particularly sensitive to the choice of control variables included. We tried out a high number of different control variables that researchers have suggested may influence growth expectations and actual business outcomes. Variables such as entrepreneurial experience, and firm location had no significant effect in our regressions. Unfortunately, there are too few women entrepreneurs in our sample to allow us to control for gender.

Further, we checked for possible interaction effects for education, experience and various measures of the perceived environment on the relationship between growth expectations and actual business outcomes. The only interaction that was statistically significant was the product of novelty and growth expectation on two-year accumulated sales and employment, which was significantly negatively associated with two-year as well as 5-year

(but not 10-year) accumulated sales and employment. However, our findings do not support the findings of Wiklund and Sheperd (2003) who reported that education, experience and environmental dynamism magnify the effect of growth aspiration on growth.

## CONCLUSION

In this study, we focused on growth expectation in new firms and the influence of entrepreneurs' growth expectations on subsequent short-term and long-term accumulated sales revenues and labour costs. Since business achievements are important for various stakeholders of the firm, increased knowledge about factors that contribute to and impede entrepreneurs' growth expectation is important. This study contributes to the entrepreneurship literature by using the TPB to guide the selection of explanatory variables. We find that the entrepreneurs' perceptions with regard to attitude (social cohesion), subjective norm with regard to growth and self-efficacy (opportunity recognition) are significantly associated with the entrepreneurs' growth expectation. The findings are in line with Davidsson (1991) who found that managers' perceptions of ability, need and opportunity significantly influence their growth motivation. The findings highlight the need for entrepreneurship scholars to consider the entrepreneur's subjective perceptions when investigating growth expectations.

While the growth expectation concept is interesting in itself, it is even more important to study the linkage between growth expectations and firm outcomes. The results presented here, along with findings from previous research summarized in Table 1, demonstrate a strong link between growth expectations and related measures of growth motivation or willingness and different indicators of firm outcomes in terms of sales and employment. In this **study**, we find that the entrepreneurs' short-term growth expectations has a strong effect on **accumulated** sales and employment the first two years. The expectations of the entrepreneurs correspond largely with firm outcomes in terms of sales and employment. It is perhaps more surprising that the entrepreneurs' initial growth expectations also has a strong positive effect on accumulated ten-year sales and ten-year employment and, as shown in Table 5, a strong effect on total annual sales and labor costs during the first ten years of operation. For entrepreneurship research, this lasting effect implies that the individual level of analysis in general and the entrepreneurs' subjective expectations in particular should be taken into consideration when investigating the outcomes in new businesses.

In this study entrepreneurial self-efficacy failed to directly predict accumulated sales and employment. According to the TPB, a possible explanation is that the entrepreneurs have almost complete control over firm achievements. In the case of complete control over the behaviour, self-efficacy should only have an indirect influence on the behaviour through the effect on behavioural intention. Another possible explanation is that we have failed to include the dimensions of entrepreneurial self-efficacy that influence business outcomes directly. An interesting finding is that two of the control variables, *de novo* entry and novelty are negatively associated with accumulated sales and labour costs. It is possible that these variables reduce the entrepreneurs' control over the achievements in their businesses. Starting a business from scratch is probably more challenging than acquiring an existing business, and starting a firm based on a novel business idea is likely to be more challenging than starting a traditional business. It is possible that a measure of perceived behavioural control could have captured the negative effect of these two control variables on actual business outcomes.

The present research has several limitations, which opens several avenues for future research. The sample size is not impressive and the representativeness of the sample can be questioned. We are relatively confident that our sample is representative of corporations started during the specified four weeks in 2002, but the sample is potentially not representative for all Norwegian corporations started in 2002. Future studies should try to include a larger representative sample of new businesses. Moreover, due to the relative small sample size we used an exploratory approach to select measures of attitude toward growth. Only one of the eight attitude measures was included and only one of the six self-efficacy measures was included. There is a need to develop better measures of the attitude toward growth. The work of Wiklund et al. (2003) can here be a promising point of departure. However, it should be noted that the salient beliefs that concern growth are likely to be different for very small firms and larger firms. Social cohesion is probably a stronger motive for sole entrepreneurs than entrepreneurs in larger firms. Therefore, researchers probably need to use different attitudes measures to predict growth expectations in new and very small firms than in larger established firms.

We also used an exploratory procedure to decide which ESE dimensions to include in the testing of hypotheses. More work is needed to develop better measures of ESE and the search for relevant self-efficacy dimensions to predict business outcomes should continue.

Future research is needed in order to identify factors that influence the relationship between growth expectations and actual business outcomes. Such factors may concern the

individual entrepreneur (such as propensity to act, action doubt, fear, and aversion), the business (such as strategy and organizational structure) and/or the environment (such as access to resources, market demand and competition).

Another issue that should be mentioned is that the variance in growth rates for new businesses is considerably greater than for established firms (Gilbert et al., 2006). It is therefore possible that growth expectations relate more strongly to subsequent business growth in brand new firms than in older firms. Our focus on very new business might explain why we in this study found such a strong and lasting relationship between growth expectations and subsequent sales and employment.

## **Implications**

This research has several practical implications. The results indicate that attitudes relating to social cohesion, subjective norm and self-efficacy with regard to opportunity recognition have an indirect effect on accumulated sales and employment through their influence on growth expectation. These findings have practical implications for educators and policy-makers. Entrepreneurs' attitude, subjective norm and self-efficacy are possible to change. With respect to social cohesion, it is possible for educational institutions to promote teamwork among entrepreneurship students so that they learn to appreciate the social aspects of starting and growing a firm. The finding that subjective norm is associated with growth expectation illustrates that not only the individual entrepreneur, but also the entrepreneurs' family, friends and significant others social are of importance. Entrepreneurs might be advised to communicate with their family and friends in order to get support for business growth. The entrepreneurs' ability to recognize opportunities can also be strengthened. According to Bandura (1997) mastery experience is the most important source for strengthening perceived self-efficacy. Educational institutions and policy makers can create training programs for prospective and practicing entrepreneurs in opportunity recognition.

The findings reported here also have implications for prospective entrepreneurs. Ambitious entrepreneurs are probably better off by acquiring an existing business rather than starting one from scratch. The business idea should not be too novel, as novelty is likely to be

associated with higher risk, difficulties with obtaining resources and difficulties with gaining acceptance in the marketplace.

Policy makers and investors should believe in the entrepreneurs' growth expectations. For most entrepreneurs the growth expectations or intentions do not appear to be too optimistic targets, as LeBrasseur et al.'s (2003) findings suggested. In general, the entrepreneurs' attitude toward growth and subjective norm with regard to growth, and self-efficacy with regard to growth, determine their growth expectations. However, there is reason to question these expectations if the business pursues a novel business idea. Entrepreneurs with novel ideas are likely to be too optimistic about their growth expectations.

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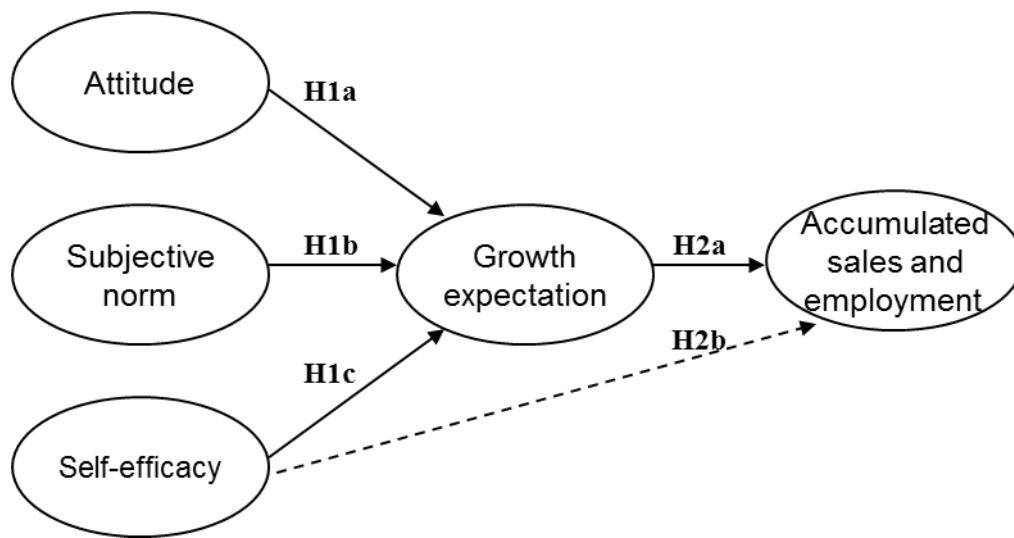


Figure 1. Conceptual model with hypotheses

Table 1. Summary of previous research on growth aspiration and growth.

	Sample size	Country	Mean firm age	Mean firm size	Independent variable	Dependent variable	Time-lag	Effect size*
Baum et al. (2011)	283	USA	3.1	10	Average annual percentage growth rate goals	Compound annual growth rates	4 years	E/S: .31
Baum and Locke (2004)	224	USA	3.6	6.3	Average annual goals for sales and employment	Compound annual sales and employment rates	6 years	E/S: .27
Delmar and Wiklund (2008)	673	S	25.5	19.9	Growth motivation (single item)	Relative growth in sales and employment	3-4 years	E: .27 S: .29
Kolvereid and Bullvåg (1996)	175	N	5.0	3.5	Growth aspiration, growth intention (single items)	Relative change in sales and employment	2 years	E: .16 S: .12
Leitner and Guldenberg (2010)	91	A	48	128	Growth as a strategic goal (single item)	Percentage growth in sales and employment over industry average	10 years	E: .22 S: .24
Moen et al. (2016)	247	N	35.3	50.8	Growth motivation index	Relative change in sales and employment	4 years	E: .11 S: .21
Stam and Wennberg (2009)	647	NL	0	1.6	Growth ambition (single item)	Relative change in employment	6 years	E: .20
Stenholm (2011)	232	SF	39	25	Growth willingness (single item)	Relative growth index	3 years	E/S: .21
Wiklund and Sheperd (2003)	236	S	23.0	29.4	Growth aspiration (index)	Relative growth index	3 years	E/S: .02

\*E = employment, S = sales. The effect size is the correlation between growth ambition and actual growth.

Table 2. TPB measures: Principal Component Analysis (PCA) with varimax rotation.

TPB measures	Varimax Rotated Components			
	1	2	3	Communality
<b>Self-efficacy - Opportunity recognition</b>				
See new market opportunities for new products/services	<b>0.83</b>	-0.01	0.14	0.70
Discover new ways to improve existing products/services	<b>0.83</b>	0.02	0.21	0.73
Identify new areas for potential growth	<b>0.88</b>	0.04	0.17	0.80
Design products services that solve current problems	<b>0.79</b>	0.15	0.04	0.65
Create products/services that fulfil customers' unmet needs	<b>0.80</b>	0.20	-0.03	0.68
Bring a products concepts to market in a timely manner	<b>0.75</b>	0.17	-0.06	0.59
<b>Attitude – Social cohesion</b>				
Working together with others	0.15	<b>0.85</b>	0.11	0.76
Participate in a social community	0.14	<b>0.91</b>	0.08	0.86
Collegiality at the workplace	0.06	<b>0.88</b>	0.08	0.78
<b>Subjective norm</b>				
SN Family	0.07	0.10	<b>0.83</b>	0.70
SN Friends	0.03	0.06	<b>0.90</b>	0.81
SN Significant others	0.17	0.11	<b>0.82</b>	0.72
Eigenvalue	4.03	2.44	2.29	
Percent variance explained	33.6	20.3	19.1	
Cumulative percent of variance	33.6	53.9	73.0	
Cronbach's alpha	0.90	0.87	0.81	

Notes: The percent variance explained is after varimax rotation. Overall MSA value, the Kaiser-Meyer-Olkin measure of sampling adequacy = 0.797. Bartlett Test of Sphericity approx. Chi Square = 1458; d.f. 66  $p \leq .0001$ . N=207.

Table 3. Descriptive statistics and correlation coefficients.

	Mean	SD	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.	13.	14.
<i>Control variables</i>																
1. Age	41.64	9.85	1.00													
2. Education	0.59		.11	1.00												
3. Team	0.68		-.05	-.04	1.00											
4. Industry-manufacturing	0.17		-.05	-.20	.00	1.00										
5. Industry-trade	0.27		-.13	-.28	.06	-.27	1.00									
6. De novo entry	0.75		-.13	.08	.01	-.01	-.18	1.00								
7. Novelty	2.75	1.70	.02	.06	.20	-.13	.07	.12	1.00							
<i>TPB variables</i>																
8. Attitude: Social cohesion	0.00	1.00	-.03	-.06	.00	.05	.09	-.13	.02	1.00						
9. Subjective norm	0.00	1.00	-.17	.06	.16	.04	.15	.01	.00	.00	1.00					
10. SE: Opportunity recognition	0.00	1.00	-.01	-.08	.06	-.08	.08	-.02	.32	.00	.00	1.00				
<i>Growth expectations and outcomes</i>																
11. Growth expectations	4.49	1.27	-.14	-.17	.04	.08	.22	-.19	.12	.20	.26	.23	1.00			
12. Two-year sales income	7.36	1.40	-.18	-.09	-.04	.03	.17	-.28	-.30	.13	-.02	-.06	.39	1.00		
13. Ten-year sales income	8.81	1.88	-.08	-.02	-.01	.04	.01	-.18	-.24	.11	-.01	-.03	.25	.77	1.00	
14. Two-year labour costs	6.22	1.08	-.12	-.15	-.04	.14	.08	-.32	-.26	.16	.03	-.04	.50	.74	.56	1.00
15. Ten-year labour costs	7.43	1.79	-.06	-.05	-.01	.13	-.06	-.20	-.18	.15	.01	.02	.38	.62	.83	.71

Notes: Correlations greater than  $\pm 0.14$  are significant at  $p \leq .05$  (2-tailed); correlations greater than  $\pm 0.18$  are significant at  $p \leq .01$  (2-tailed). N=207.

Table 4. Regression Results (N=207).

	Growth expectations		Accumulated sales income				Accumulated labour costs			
	Model 1	Model 2	First two years		First ten years		First two years		First ten years	
	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7	Model 8	Model 9	Model 10
<b>Control variables</b>										
Age	-.13†	-.09	-.20**	-.16**	-.10	-.07	-.14*	-.09	-.08	-.05
Education	-.07	-.09	.02	.06	.03	.06	-.07	-.02	-.01	.02
Team	-.01	-.04	.01	.02	.04	.05	-.01	.01	.02	.03
Industry-manufacturing‡	.13†	.10	.03	-.01	.01	-.02	.09	.04	.07	.03
Industry-trade‡	.18*	.12	.14†	.09	-.01	-.04	.01	-.05	-.10	-.15*
De novo entry	-.19**	-.16*	-.23**	-.17**	-.16*	-.11	-.29***	-.21**	-.20**	-.13†
Novelty	.15*	.09	-.28***	-.32***	-.24**	-.27***	-.21**	-.26***	-.17*	-.21**
<b>TPB</b>										
Attitude: Social cohesion		.15*	.09	.03	.09	.05	.12†	.04	.13†	.06
Subjective norm		.23***	-.07	-.17**	-.03	-.10	.01	-.11†	.01	-.09
SE: Opportunity recognition		.20**	.02	-.06	.05	-.01	.03	-.08	.08	-.01
Growth expectations				.41***		.29***		.52***		.42***
R <sup>2</sup>	0.13	0.24	0.22	0.35	0.10	0.16	0.21	0.42	0.11	0.25
Adjusted R <sup>2</sup>	0.10	0.20	0.18	0.31	0.06	0.12	0.17	0.38	0.07	0.21
ΔR <sup>2</sup>		0.11		0.13		0.06		0.21		0.14
F value	4.32***	6.09***	5.45***	9.39***	2.20*	3.51***	5.11***	9.13***	2.47**	5.85***
ΔF value		9.00***		38.39***		15.05***		69.26***		35.32***

Notes: Standardized regression coefficients (betas) are displayed in the table. ‡ The reference category is service. Level of statistical significance: † indicates  $p \leq .10$ ; \* indicates  $p \leq .05$ ; \*\* indicates  $p \leq .01$ ; \*\*\* indicates  $p \leq .001$  (2 tailed).



Table 5. Descriptive statistics and correlations (Spearman's rho) between growth expectations at start-up, sales income and labour costs.

Year	Number of surviving firms	Mean sales income*	Correlations with sales income	Mean labour costs*	Correlations with labour costs
2002	201	1598	.44	347	.45
2003	191	2510	.43	564	.52
2004	175	3079	.41	740	.47
2005	160	3718	.43	1008	.50
2006	148	3690	.41	1058	.51
2007	140	3911	.39	1207	.44
2008	133	4418	.36	1410	.42
2009	124	4026	.45	1376	.45
2010	115	4263	.44	1439	.46
2011	110	5642	.44	1776	.44

\*Figures in 1000 NOK.