Creative Unemployment

Knut Røed
Jens Fredrik Skogstrøm

DISCUSSION PAPER SERIES

I Z A

Creative Unemployment

Knut Røed
*Ragnar Frisch Centre for Economic Research
and IZA*

Jens Fredrik Skogstrøm
Ragnar Frisch Centre for Economic Research

ABSTRACT

Creative Unemployment[*]

We examine the impact of job loss on entrepreneurship behavior in Norway. Our identification strategy relies on the use of mass layoffs caused by bankruptcies as indicators of exogenous displacement. We find that working in a company which is going to close down due to bankruptcy during the next four years raises the subsequent entrepreneur rate by 3.7 percentage points (155 %) for men and 1.8 percentage points (180 %) for women, compared to working in a stable firm. These estimates are much larger than what has previously been reported in the literature. Taking into account that many workers lose their jobs in the comparison group of stable firms also, we reckon that the full effects of displacement are even larger.

JEL Classification: L26, J65, M13

Keywords: entrepreneurship, self-employment, unemployment

Corresponding author:

Knut Røed
The Ragnar Frisch Centre for Economic Research
Gaustadalléen 21
0349 Oslo
Norway
E-mail: knut.roed@frisch.uio.no

1. Introduction

Unemployment is potentially a destructive experience. Existing empirical evidence suggests that job displacement undermines workers' future employment opportunities and earnings, raises their likelihood of entering disability programs, raises their risk of divorce, and even raises their risk of early death; see Bratsberg *et al.* (2010) and references therein. But unemployment also triggers creativity. In particular, it may foster entrepreneurship since it most likely reduces the opportunity cost of setting up a new business. A number of previous studies have established that a significant fraction of new entrants to self-employment were recently unemployed, and that unemployed individuals have a higher probability of starting up their own business than employed workers; see, e.g., Meager (1992), Blanchflower and Meyer (1994), Kuhn and Schuetze (2001), and Berglann *et al.* (2010). However, this does not imply that unemployment *causes* entrepreneurship; it might as well be the case that entrepreneurship causes cycles of unemployment and self-employment or that entrepreneur types also tend to be high-unemployment types.

The empirical evidence on the direct causal relationship between job-loss and entrepreneurship is sparse and inconclusive. Farber (1999) examined "alternative employment arrangements" among displaced and non-displaced workers in the United States, based on various supplements to the Current Population Surveys. While he found that job losers tended to be overrepresented in subsequent temporary and part-time jobs, they were *underrepresented* in self-employment. Von Greiff (2009) examined the impacts of displacement due to firm closure on subsequent self-employment in Sweden, based on administrative register data. Her baseline estimate was that displacement raises the probability of being self-employed next year by 1.2 percentage points, or 87 %.

The present paper seeks to establish the causal effect of job-loss on entrepreneurship propensity in Norway by exploiting events of exogenous displacement triggered by mass layoffs. It thus relates closely to the paper by von Greiff (2009), and more loosely to a broader international literature addressing the consequences of job displacement; see, e.g., Hamermesh (1987), Ruhm (1991), Neal (1995), Kletzer (1998), Kuhn (2002), and Hallock (2009). The paper draws on the recent finding reported by Bratsberg *et al.* (2010) that mass layoffs identified from employer-employee registers tend to contain a large fraction of "false" layoffs, in the form of organizational restructuring, demergers, and takeovers, but that auxiliary data from bankruptcy court proceedings can be used to identify the genuine events of mass layoff. It also takes advantage of a new register-based strategy for identifying entrepreneurs proposed by Berglann *et al.* (2010), ensuring that individuals who are employed in a firm directly or indirectly owned by themselves are counted as entrepreneurs, together with the self-employed.

Our key finding is that displacement has a much larger positive impact on entrepreneurship entry that what has previously been recognized in the literature. Our baseline estimates imply that being employed in a company which is going to close down due to bankruptcy during the next four years raises the probability of being an entrepreneur four years later by 3.7 percentage points (155 %) for men and by 1.8 percentage points (180 %) for women, compared to working in a stable or growing firm, *ceteris paribus*. Since a number of workers lose their jobs in stable and growing firms also, these estimates do not capture the full effect of displacement, however. Adjusting for this source of "contamination bias" we estimate – admittedly with considerable uncertainty – that the causal effects of displacement are as large as 4.8 percentage points (392 %) for men and 2.3 percentage

points (665 %) for women. We also present evidence indicating that workers embarking on entrepreneurship in response to displacement perform relatively well as entrepreneurs. Around 43 % of them raise their personal income compared to the level that prevailed prior to displacement. Approximately 55 % organize their entrepreneurship activity through a limited liability company, rather than becoming self-employed. And on average, the displaced limited liability entrepreneurs contribute to the establishment of around six jobs (including their own).

2. Data and empirical approach

The foundation for our analysis is administrative register data from Norway, combining employer-employee registers with information on earnings and business income, firm ownership, and bankruptcy data from 2001 through 2005. In order to estimate the causal impact of job loss on entrepreneurship propensity, we seek to exploit a quasi-experimental dimension of our non-experimental administrative register data. In general, we expect the event of displacement to be highly correlated with observed and unobserved worker characteristics that also potentially affect entrepreneurship. We will argue, however, that a full closure due to bankruptcy can be considered exogenously assigned from the perspective of each employee, provided that the firm is sufficiently large and that the employee is not also an owner, a board member, or a central executive officer (CEO). But even though the event of a mass-layoff can be considered exogenous, it is in many cases possible for the employee to respond to it ex ante, e.g., by searching for a new job in anticipation of the forthcoming closure. Hence, employees actually employed at the time of a bankruptcy may constitute a selected subset of the group of workers who would have been employed in the absence of the mass-layoff. To avoid this sorting problem, we apply a forward-

looking empirical approach; i.e., we investigate the impacts of working in a firm which *is going to go bankrupt* during the next few years as opposed to working in a firm which remains in the market without significant downsizings.

To be precise, we start out with all full-time employees in single-plant private sector firms with at least 25 employees by the end of 2001.[1] We then drop from the sample workers who had key positions in the firm (owner, board member, CEO). We also drop workers who had been employed for less than a year and workers above 50 years of age. The rest constitute our risk group of potential entrepreneurs. The outcome of interest is engagement in entrepreneurship during the next four years. Our main dependent variable is a dichotomous variable indicating entrepreneurship status in 2005. But, since it is possible that displaced workers engage in entrepreneurship projects with a different probability of survival than other entrepreneurship projects, we also use the cumulative incidence of any entrepreneurship activity from 2002 through 2005 as a dependent variable. We set up probability models aimed at investigating how the occurrence of entrepreneurship depends on the fate of the firm in which the employee was originally employed (in 2001), including downsizing and closure events.

It is common in the literature to equate entrepreneurship to self-employment; see, e.g., Parker (2004) for a recent overview. However, many individuals who start new businesses do so by establishing small limited liability companies, either alone or together with friends/colleagues. They then become employed in their own company – or, in some cases, in another company which is again owned by their own company. These individuals

---

[1] The reason why we restrict attention to single-plant firms is that accounting and closure/takeover data are available at the company level only. By focusing on single-plant firms we also avoid complications caused by within-company job transfers following plant closures (Huttunen *et al.*, 2010).
.

will typically be classified as *employed* in register-based analyses of entrepreneurship, even though they may have played a pivotal role in setting up their own workplace and are exposed to the risks associated with being the residual claimant to the firm's earnings. Berglann *et al.* (2010) show that the inclusion of "active owner" employees into the entrepreneurship definition doubles the number of non-primary-sector entrepreneurs in Norway compared to a pure self-employment definition. From an economics perspective, we will argue that the essential features of entrepreneurship are that a person engages both labor and capital into the creation of an economic activity and operates as a residual claimant to the firm's earnings, while the mode of ownership is of secondary importance. We therefore employ an entrepreneurship concept incorporating self-employed as well as employees who own their own workplace, either directly or indirectly through other companies.[2]

Table 1 provides a descriptive overview of our analysis population. There where around 111,000 men and 40,000 women who satisfied all our employee inclusion criteria in 2001 (full-time employee below 50 years in private sector firm with at least 25 employees, at least one year employment). Half of them worked in stable or growing firms, i.e., firms that did not downsize by more than 10 percent from 2001 to 2005. Only around 2.7 percent of the men and 2.1 percent of the women worked in firms that closed down due to bankruptcy in this period. This does not imply, however, that displacements are rare. According to Salvanes (1997), as many as 10 percent of Norwegian jobs are elimi-

---

[2] Following Berglann *et al.* (2010), we define an employee as entrepreneur if he/she owns at least 30 percent of the firm (directly or indirectly) or owns at least 10 percent *and* is a board member or CEO. Note that our definition of entrepreneurship does not require that the firm is "new"; nor does it require that the entrepreneur is necessarily the founder of the firm. The central feature of our definition is the combined employment of capital and labor into a business activity. Whether this occurs through the establishment of a new firm or through takeover – and potentially revitalization – of an existing firm is of secondary importance.

nated every year. We therefore expect displacement to be relatively common even in stable or growing firms.[3] Columns II and VIII in Table 1 show how the downsizing and closure indicators correlate with subsequent incidences of registered unemployment over the whole four-year period in our data. With unemployment incidence rates of 64 percent for men and 73 percent for women, entry into registered unemployment is indeed *much* higher among workers exposed to a bankruptcy-driven closure than among other workers. It is nonetheless clear from the table that unemployment is relatively frequent irrespective of downsizing events at the initial workplace. If we take the fraction of unemployment incidences in the "closure with bankruptcy category" as an estimate of the fraction of displaced workers who tends to register as unemployed, we can use the reported unemployment frequencies in Columns II and VIII to back out the number of job losses in other types of firms as well; see Bratsberg *et al.* (2010). Doing this separately for men and women, we "guesstimate" that 33 percent of the male and 31 percent of the female employees in our dataset did lose their job at some time during the 2002-2005 period.[4] Even in the no-downsizing bracket, we estimate that the four-year job-loss rate is around 21-22 percent for both men and women (indicating that around 6 % of the workers lose their job every year). In comparison, we find that 31.9 % of the men and 33.4 % of the women initially employed in non-downsizing firms leave their firm before the end of 2005. Hence, our estimates imply that around two thirds of the job-separations in stable/growing private

---

[3] Job losses in stable and growing firms do often not involve formal dismissals, but rather non-renewal of temporary contracts and encouragements to quit "voluntarily" (sometimes in the form of severance packages). From a theoretical point of view, one may question whether the distinction between quits and layoffs is meaningful at all; see, e.g., McLaughlin (1991).

[4] These numbers are almost exactly equal to what would be expected on the basis of the 10 percent annual job elimination rate reported by Salvanes (1997), which – provided that the risk is independently distributed across individuals over time – yields a 34 percent cumulative displacement rate over a four-year period ($1-0.9^4$).

sector firms can be interpreted as job losses, in the sense that they are not initiated by employees.

The assumption that the propensity for unemployment registration is the same for job losses in stable and bankrupt firms is of course questionable. On the one hand, one could argue that a worker laid off from a stable firm might be negatively selected, and hence has weaker labor market prospects than the average employee displaced from a bankrupt firm. This may imply higher unemployment registration propensities for job losses in stable firms, and thus fewer actual job losses behind a given number of registered unemployed. On the other hand, job losses in continuing firms are typically announced well in advance of the event, giving displaced workers more time to search for new jobs and hence avoid being registered as unemployed. In addition, job losses in continuing firms are often organized such that the employee is not eligible for unemployment benefits (due to "voluntary" quits and severance payments) and thus have weaker incentives to register at the employment office. And congestion effects in local labor markets may imply that mass layoffs have larger adverse consequences than selective layoffs. Such factors suggest lower registration frequencies for job losses in stable firms.

- Table 1 around here -

Table 1 also shows that 3.7 percent of the men and 1.4 percent of the women in our analysis population engaged in entrepreneurship at some time during the four year outcome period; see Columns III and IX. The probability that a worker engages in entrepreneurship rises monotonously with downsizing, and it is *an order of magnitude* larger for workers in bankruptcy firms than for workers in stable firms (8.8 versus 3.1 percent for men and 3.9 versus 1.2 percent for women). Finally, Columns IV-VII and X-XII report the

labor market states recorded at the end of our outcome period, i.e., in 2005, for men and women, respectively. We distinguish between entrepreneurship, employment and no longer being in work. A first point to note is that roughly 75 percent of those who tried entrepreneurship are still entrepreneurs at this point, and this fraction is similar for entrepreneurs from stable and closing firms. A second point to note is that working in a bankruptcy firm implies a substantially higher probability of becoming inactive, particularly for women. As much as 49 percent of the bankruptcy-hit women were not working at all in 2005, as opposed to 18 percent of the women initially working in stable or growing firms. For men, the corresponding rates where 26 (bankruptcy firms) and 10 (stable firms) percent.

Given that we are interested in the causal impacts of firms' future downsizing or closure on their workers' entrepreneurship endeavors, we clearly need to take into account that the composition of workers may vary across the various types of firms. Table 2 provides some summary statistics regarding the employee-composition in stable, downsizing, and closing firms. Employees in firms that close down due to bankruptcy have on average lower education and lower earnings than employees in stable, growing, or moderately downsizing firms. Bankruptcy firms also tend to have been through some turbulence during the two years prior to the start of our analysis period, with higher downsizing and turnover rates than other firms. These latter differences suggest that a sorting process may already have occurred at our baseline, a point to which we return below. It is also worth noting that employees in firms that close down due to liquidation or takeover have higher education and higher earnings than workers in other types of firms.

- Table 2 around here -

3. The effect of displacement on the entrepreneurship propensity

We estimate the impacts of downsizing and closure on entrepreneurship propensity by means of logit probability models, i.e;

$$\ln \frac{\Pr\left[y_i = 1 \mid x_i\right]}{\Pr\left[y_{it} = 0 \mid x_i\right]} = x_i'\beta, \tag{1}$$

where y_i is a dichotomous outcome variable and x_i is a vector of explanatory variables. We use two alternative outcome measures in this section: i) entry into entrepreneurship at some point during 2002-2005, and ii) being an entrepreneur in 2005. The covariates include 7 indicators for downsizing/closure, corresponding to the grouping in Table 1. In order to minimize the likelihood that compositional differences across firm types bias the estimated effects of downsizing/closure, we control for observed worker heterogeneity with a minimum of functional form restrictions, i.e., by representing most variables with a separate dummy for each possible value. Age is represented by 29 dummy variables (one for each year), nationality is represented by 7 dummy variables (representing immigrants and descendants from different parts of the world), and geography is represented by 18 dummy variables (one for each county in Norway), in addition to 4 size-of-municipality dummy variables. Occupation is represented in the model by 19 dummy variables combining the level of education with industry. Finally, we use 4 dummy variables to represent firm size.

In this section, we report the estimated average marginal effects of the downsizing/closure variables on the subsequent entrepreneurship probabilities. Average marginal effects are computed on the basis of relevant comparisons only, implying that for dummy variable sets with more than two categories, each category's average marginal effect is

calculated for observations belonging to the category in question and the reference category only; see Bartus (2005). A complete list of explanatory variables and estimation results is reported in the Appendix.

3.1 Main results

Table 3 provides the key regression results. Downsizing and closure clearly boost entrepreneurial activities. And working in a firm which is going to close down due to bankruptcy raises entrepreneurship propensities *a lot*. For example, the probability that a full-time employed man in 2001 is an entrepreneur in 2005 is estimated to rise with 3.7 percentage points if he worked in a bankruptcy-doomed firm rather than in a stable or growing firm, ceteris paribus; see Column II. Since the average entrepreneur rate in stable firms was around 2.4 %, this corresponds to a 155 % rise in entrepreneurship propensity. For women, the corresponding effect is estimated to 1.8 percentage points (180 %); see Column IV.

- Table 3 around here -

It is clear from Table 3, Columns I and III, that the marginal impact of displacement on entrepreneurship entry at any time during 2002-2005 (without conditioning on entrepreneurship survival until 2005) is even larger than the impact on entrepreneurship propensity in 2005. However, relative to the overall number of entrepreneurship attempts, the effects are virtually the same as those reported for 2005-entrepreneurship. This suggests that the "failure rate", i.e., the fraction of entrepreneurship endeavors that do not survive until the end of the observations period, is not particularly high for entrepreneurship triggered by job loss.

Since workers lose their jobs in stable and growing firms also (conf. Table 1), the estimated effects of working in a bankruptcy firm do not capture the full effect of dis-

placement. To identify the causal effect of displacement, we need to eliminate the contamination bias caused by job losses occurring in the reference group of stable and growing firms. Building on the estimate referred to in the previous section that around 21 % of the workers in stable or growing firms actually lost their jobs during 2002-2005, and assuming that job loss has the same effect on entrepreneurship propensities regardless of its cause, we infer that the estimated average effect of displacement on the 2005 entrepreneurship rate is as large as 4.8 percentage points, which corresponds to a proportional rise of 392 %. For women, the corresponding displacement effects are 2.3 percentage points (665 %).[5] These numbers imply that around 56 % of all male and 68 % of all female entrepreneurship transitions (from 2001 to 2005) in our data can be directly attributed to job loss. Job loss thus seems to be a major force behind entrepreneurship endeavors among initially full-time employed workers in Norway.[6]

The assumption that job loss has the same effect on entrepreneurship propensity regardless of its cause is questionable. In particular, we may suspect that a job loss caused by bankruptcy has a particularly large effect on entrepreneurship because new firms may arise directly from the ashes of the old one. To examine the empirical relevance of this argument, we drop from our sample the 569 entrepreneurship entrants (15 %) who became "active owners" in exactly the same industry as they were previously employed in (based

---

[5] The average marginal effect of displacement is computed as the average marginal effect of working in a bankruptcy as opposed to a stable firm divided by estimated fraction of non-displaced workers in stable firms (3.7/(1-0.21)=4.7).

[6] Note, however, that moving from full-time-employment to entrepreneurship is not the most common gateway to entrepreneurship in Norway. Based on our data, we estimate that approximately 32 % of entrepreneurship entrants were full-time employed October 1 in the year prior to entrepreneurship entry, while 20 % were part-time employed, and 9 % were unemployed (all numbers based on 2001-2005 averages). The most common gateway to entrepreneurship is thus to enter directly from outside the labor force.

on standard industrial classification code, SIC), and re-estimate the models.[7] Focusing on the impact on being entrepreneur in 2005, we find that the estimated marginal effect of working in a bankruptcy firm then drops from 3.72 to 3.43 (standard error 0.54) for men and from 1.82 to 1.73 (0.73) for women (not shown in the table). However, since the overall entrepreneurship rates are also lower in the reduced sample (it declines from 2.81 to 2.37 % for men and from 1.07 to 0.95 % for women), the relative effects of bankruptcy are actually larger when we focus more strongly on new-industry-entrepreneurship. Hence, the hypothesis that the large impact of bankruptcy-displacement primarily is caused by former employees taking over the old firm's activities is not supported by the data.

3.2   Robustness

The estimated impacts of working in a bankruptcy firm may be biased if the population of workers in bankruptcy firms differs systematically from the population of workers in stable firms, even conditional on our vector of explanatory variables. This section examines robustness with respect to the composition of the analysis population. The exposition focuses on entrepreneurship in 2005 as the outcome measure. Using the 2002-2005-outcome instead does not change anything of interest.

- Table 4 around here -

Could our results be explained by entrepreneurial types being disproportionally *sorted* into the bankruptcy firms rather than by the bankruptcies themselves *causing* entrepreneurship? One way this could happen is trough ex ante sorting out of already declining firms. We saw in Table 2 that many bankruptcy firms had already been in decline for some

---

[7] Note that we do not observe industry for self-employed entrepreneurs (44 % of the entrepreneurship entrants).

time at baseline, and we may worry that the most risk averse – and least entrepreneurial – workers tend to leave for safer havens first. In the first robustness analysis, we thus limit the analysis to firms for which no downsizing at all occurred during the two years prior to the start of our analysis period. As is evident from Table 4, Columns II and VI, however, this limitation does not reduce the estimated impacts. To the contrary, limiting the analysis to firms that were stable ex ante raises the estimated impact of bankruptcy on future entrepreneurship.

Even though our results are not driven by sorting due to ex ante downsizing, it could still be the case that entrepreneurial types are sorted into high-risk firms. To investigate this hypothesis, we would clearly have liked to check whether employees in bankruptcy firms showed signs of being particularly entrepreneurial not only in the future, but also in the past. Since we do not have data on entrepreneurship prior to 2000, we cannot do this directly. What we can do, however, is to focus on workers for which we can identify a long period of stable employment. Hence, in the second robustness analysis we restrict the analysis to employees with at least five years tenure in the current firm. This restriction obviously implies a significant loss of observations; the sample of workers is reduced by 67 % for men and 80 % for women, while the number of included firms is reduced by 25 % for men and 40 % for women. The results, however, remain essentially unchanged; see Columns III and VII. The estimated impacts of working in a bankruptcy firm are even slightly larger than in the baseline model.

Could our results be explained by reverse causality, i.e., that entrepreneurial activity among the employees sometimes contributes to the bankruptcy? One way to address this potential problem is to focus on very large companies only, for which it is unlikely

that a single (or a few) employees can cause bankruptcy. By limiting the analysis to firms with minimum 25 employees, we have indeed taken this problem into consideration already in the setup of our baseline model. Restricting the dataset to even larger firms reduce the sample of firms and bankruptcies considerably. In our final robustness analysis, we use firms with at least 50 employees only. This implies that we remove around 65 % of the firms and – more importantly – almost 80 % of the bankruptcies. The estimation results reported in Columns IV and VIII indicate smaller effects of bankruptcy compared to the estimates from the baseline model, though still highly significant for men. Given the low number of bankruptcies among large firms (33 in the male sample and 30 in the female sample), the (clustered) standard errors are relatively large for the bankruptcy coefficient (not shown in the table), and the estimates are not statistically significantly different from those of the baseline model. For men, a 95 % confidence interval ranges from 0.9 % to 3.7 %, while for women it ranges from -0.8 % to 3.5 %.

4. Proactive and reactive entrepreneurship performance compared

How do displaced workers perform as entrepreneurs compared to non-displaced workers? We can gain some insight into this question by comparing entrepreneurs originating in stable/growing and bankruptcy firms. Recall, however, that job losses occur in both stable and closing firms, and that some entrepreneurs from bankruptcy firms would have become entrepreneurs even without the job loss. We label entrepreneurship that is triggered by job loss *reactive* and entrepreneurship that is not triggered by job loss *proactive*. A "back-of-the-envelope" calculation based on the estimates reported in the previous section suggests that close to 50 % of the entrepreneurs from stable/growing firms and around 80 % of the entrepreneurs from bankruptcy firms are *reactive*. Hence, while a comparison of the two

groups clearly does not correspond to a comparison of reactive and proactive entrepreneurs, it may shed light on systematic differences between them.

We look at two dimensions of "performance" for the group of entrepreneurs who were still active in 2005. The first focuses on private returns. We use a comprehensive personal income concept for this purpose, encompassing all sources of registered income, including wage earnings, dividends, and other sources of capital income. Based on administrative records, we compute incomes for all entrepreneurs, before and after entrepreneurship entry. We use registered income in 2001 (the baseline year) to proxy the "before-income" and the average of annual incomes in 2005 and 2006 (discounted to 2001-value) to proxy the "after-income".[8] The second performance measure focuses on the companies in which the entrepreneurs were engaged. We report the firms' operating surpluses in 2005 and their numbers of employees. We also report changes in these numbers from 2001 to 2005 to the extent that the firms existed prior to the entrepreneurship entry. These measures can only be computed for the subset of entrepreneurs (around 50 %) that engaged in limited liability companies for which audited accounts are available.

- Table 5 around here -

Table 5 summarizes our main findings. While the average entrepreneur from a stable/growing firm raised his/her personal income by 152,000 NOK from 2001 to 2005/2006, the average entrepreneur from bankrupt firms lowered his/her income by 60,000 NOK. The difference in income growth between the two groups is thus 218,000 NOK, which is sizeable number corresponding to roughly half of the average annual earn-

---

[8] Note that there was an important *announced* tax reform in 2006, introducing a 28% tax on dividends (above a certain "safe return" level). This gave investors strong incentives to take out their profits in 2005, rather than in 2006; see Berglann *et al.* (2010) for details. That is why we have chosen to report the average incomes for these two years.

ings for fulltime employees in Norway. However, this large difference in average outcomes was strongly influenced by a relatively small number of extremely successful entrepreneurs emanating from stable/growing firms. For the *median* entrepreneurs from the two groups the difference in income growth was only 33,000 NOK. Figure 1 presents the distribution of personal income gains by type of origin firm in more detail. In both groups, the majority of entrepreneurs experienced moderate gains or losses. The fraction of entrepreneurs with negative income development was somewhat larger among entrepreneurs from bankruptcy firms than for entrepreneurs from stable/growing firms (57.1 versus 45.5 %). Moreover, the fraction with *really big gains* – more than 1 million NOK – was significantly larger among entrepreneurs from stable/growing firms (4.5 versus 1.4 %). Higher incomes for proactive than for reactive entrepreneurs is not very surprising, given that reactive entrepreneurs have embarked on entrepreneurship in response to displacement, while proactive entrepreneurs have had the "luxury" of being able to choose entrepreneurship only to the extent that it is expected to pay off in relation to the baseline income.

- Figure 1 around here -

Around 55 % of the entrepreneurs engaged in limited liability companies (rather than in self-employment). This number was roughly the same for entrepreneurs from stable/growing and bankrupt firms. But while as much as 69 % of the limited-liability-entrepreneurs from bankrupt firms started a *new* company (as opposed to buying an existing one), this was only the case for 52 % of the entrepreneurs from stable/growing firms. On average, entrepreneurs from stable/growing firms engaged in companies that subsequently experienced much larger surpluses and much larger surplus growth than entrepreneurs from bankrupt firms. But again, the large average difference is heavily influenced by

a relatively low number of very successful firms. The difference is much smaller when we compare the median than when we compare the mean entrepreneurs in each group. It is also worth noting that entrepreneurs from bankrupt firms tended to engage in companies with similar or even slightly higher employment growth than the companies in which entrepreneurs from stable/growing firms engaged. The latter point is illustrated in more detail in Figure 2. While 58.9 of the limited liability entrepreneurs from bankruptcy firms contributed to generating jobs for others (i.e., established at least two jobs) this was the case for 54.9 of the entrepreneurs from stable or growing firms.

- Figure 2 around here -

5. Concluding remarks

Reactive entrepreneurship is empirically important in Norway, and job-loss is the triggering event behind more than half of the transitions from fulltime employment to entrepreneurship. This conclusion is somewhat at odds with recent questioner-based evidence based on the Global Entrepreneurship Monitor (Ardagna, 2008, p.37), which indicates that entrepreneurship motivated by the failure to find regular employment is virtually non-existent in Norway: Only 3 % of the entrepreneurs in this study – defined as individuals who start a new business or are owners/managers of a young firm – report to have taken this role "because they could find no better economic work".[9] By contrast, 85 % claim to have become entrepreneurs "to take advantage of a business opportunity". Our results suggest that these numbers give a distorted picture of why people become entrepreneurs.

---

[9] This was the lowest fraction among all the 37 countries covered by the study. The average fraction in all OECD-countries was 15%.

Shocks to alternative employment opportunities play a key role, and job displacement more than quadruples the subsequent entry rate to entrepreneurship.

The findings presented in this paper may indicate that workers are reluctant to leave the relative safety of fulltime employment in favor of risky entrepreneurship endeavors. Those who do embark on entrepreneurship projects without being pushed by job-loss tend to raise their incomes substantially as a result. Workers' hesitation to voluntarily leave fulltime employment for entrepreneurship may reflect risk aversion and lack of social insurance safety net in entrepreneurship.

Even among reactive entrepreneurs – i.e., persons "pushed" into entrepreneurship by the loss of regular employment – there appears to be many success stories. Roughly 43 % experience an income gain compared to their pre-displacement earnings. 55 % take over or establish a limited liability company. And on average the limited liability entrepreneurs from bankrupt firms contribute to the establishment of around six jobs. Hence, it seems that the concept of *creative destruction* can be given a dual interpretation in Norway: Not only is creativity the source of destruction; destruction also seems to be a source of creativity.

References

Ardagna, S. (2008) Explaining International Differences in Entrepreneurship: The Role of Individual Characteristics and Regulatory Constraints. NBER Working Paper Series 14012.

Bartus, T. (2005) Estimation of Marginal Effects Using Margeff. *The Stata Journal*, Vol. 5, No. 3, 309

Berglann, H., Moen, E. R., Røed, K. and Skogstrøm, J. F. (2010) Entrepreneurship: Origins and Returns. *Labour Economics*, forthcoming.

Blanchflower, D. G. and Meyer, B. (1994) A Longitudinal Analysis of the Young Self-Employed in Australia and the United States. *Small Business Economics*, Vol. 6, 1-19.

Bratsberg, B., Fevang, E., and Røed, K. (2010) Disability in the Welfare State – An Unemployment Problem in Disguise? IZA Discussion Paper No. 4897.

Farber, H. S. (1999) Alternative and Part-Time Employment Arrangements as a Response to Job Loss. *Journal of Labor Economics*, Vol. 17, No. 4, pt.2, S142-S169.

Hallock, K. F. (2009) Job Loss and the Fraying of the Implicit Employment Contract. *Journal of Economic Perspectives,* Vol. 23, No. 4, 69-93.

Hamermesh, D. (1987) The Costs of Worker Displacement. *Quarterly Journal of Economics,* Vol. 102, No. 1, 51-76.

Huttunen, K., Møen, J., and Salvanes, K. G. (2010) How Destructive is Creative Destruction? Effects of Job Loss on Mobility, Withdrawal and Income. *Journal of the European Economic Association*, forthcoming.

Kletzer, L. G. (1998.) Job Displacement. *Journal of Economic Perspectives,* Vol. 12, No. 1, 115-136.

Kuhn, P. J. and Schuetze, H. J. (2001) Self-Employment Dynamics and Self-Employment Trends: A study of Canadian Men and Women, 1982-1998. *Canadian Journal of Economics,* Vol. 34, 760-784.

Kuhn, P. J., ed. (2002). *Losing Work, Moving On. International Perspectives on Worker*

Displacement. W.E. Upjohn Institute for Employment Research, Kalamazoo, Michigan.

McLaughlin, K. J. (1991) A Theory of Quits and Layoffs with Efficient Turnover. *Journal of Political Economy*, Vol. 99, No. 1, 1-29.

Meager, N. (1992) Does Unemployment Lead to Self-Employment? *Small Business Economics*, Vol. 4, 87-103.

Neal, D. (1995) Industry-Specific Human Capital: Evidence from Displaced Workers. *Journal of Labor Economics*, Vol. 13, No. 4, 653-677.

Parker, S. C. (2004) *The Economics of Self-Employment and Entrepreneurship*. Cambridge University Press.

Ruhm, C. J. (1991) Are Workers Permanently Scarred by Job Displacements? *The American Economic Review*, Vol. 81, No. 1, 319-324.

Salvanes, K. G. (1997) Market Rigidities and Labour Market Flexibility: An International Comparison. *The Scandinavian Journal of Economics*, Vol. 99, No. 2, pp. 315-333.

Von Greiff, J. (2009) Displacement and Self-Employment Entry. *Labour Economics*, Vol 16, 556-565.

Table 1. Full-time employees below 50 years in single-plant private sector firms with at least 25 employees (end of 2001)

	Men						*Women*					
	I N	II Unemp. 02-05	III Entr. 02-05	IV Entr. 05	V Empl. 05	VI No work 05	VII N	VIII Unemp. 02-05	IX Entr. 02-05	X Entr. 05	XI Empl. 05	XII No work 05
Employees all firms	110,898	21.0 %	3.7 %	2.8 %	83.7 %	13.5 %	39,873	23.0 %	1.4 %	1.1 %	75.5 %	23.4 %
Employees in:												
Stable firms	57,324	14.2 %	3.1 %	2.4 %	87.2 %	10.4 %	20,173	15.3 %	1.2 %	1.0 %	80.8 %	18.2 %
10-20 % downsizing	11,062	20.5 %	3.3 %	2.5 %	84.2 %	13.3 %	4,286	22.1 %	1.5 %	1.2 %	76.4 %	22.4 %
20-35 % downsizing	10,633	26.6 %	3.9 %	3.1 %	81.8 %	15.1 %	4,108	28.9 %	1.4 %	1.0 %	72.2 %	26.8 %
35-99 % downsizing	18,937	31.6 %	4.2 %	3.2 %	77.6 %	19.2 %	6,541	36.2 %	1.8 %	1.2 %	66.8 %	32.0 %
Closure	12,942	30.8 %	5.5 %	4.1 %	78.1 %	17.8 %	4,761	33.5 %	1.7 %	1.3 %	67.4 %	31.3 %
Closure with:												
Bankruptcy	2,957	63.8 %	8.8 %	6.7 %	67.7 %	25.6 %	840	72.7 %	3.7 %	2.6 %	48.3 %	49.1 %
Liquidation	4,788	24.3 %	5.3 %	4.3 %	79.3 %	16.4 %	1,953	30.7 %	1.5 %	1.1 %	71.8 %	27.1 %
Takeover	4,295	16.9 %	3.1 %	2.1 %	83.7 %	14.2 %	1,598	17.8 %	1.0 %	0.9 %	71.0 %	28.2 %
Undecided	902	23.4 %	6.2 %	4.4 %	78.8 %	16.8 %	370	28.1 %	1.1 %	0.5 %	71.9 %	27.6 %

Table 2. Descriptive statistics by firm closure and downsizing status.

	Men				Women			
	I	II	III	IV	V	VI	VII	VIII
	Closure w bankruptcy	Liquidation or takeover	Downsizing	No downsizing (<10%)	Closure w bankruptcy	Liquidation or takeover	Downsizing	No downsizing (<10%)
Age	36.3	36.3	37.1	36.9	36.3	36.4	36.6	37.1
Education (%)								
Compulsory	25.9 %	18.8 %	22.5 %	20.3 %	31.1 %	21.6 %	25.4 %	20.8 %
Secondary	53.3 %	47.9 %	51.4 %	52.2 %	43.9 %	40.5 %	43.5 %	43.4 %
College/University	20.0 %	32.6 %	25.3%	26.8 %	23.0 %	36.7 %	30.1 %	35.1 %
Unknown	0.8 %	0.7 %	0.8 %	0.7 %	0.2 %	1.2 %	1.0 %	0.7 %
Earnings 2001 (1000 NOK)	347,973	422,232	373,876	393,228	280,039	335,653	310,203	320,537
Plant size (# employees)	92.0	104.2	183.5	138.7	69.5	89.4	139.1	151.3
Turnover 2000/2001	17.0 %	16.1 %	15.1 %	14.5 %	21.5 %	18.5 %	19.2 %	17.5 %
Downsizing>20% 00/01 (%)	12.3 %	6.2 %	12.1 %	5.9 %	14.3 %	10.7 %	11.0 %	4.6 %
Non-western immigrants (%)	2.5 %	1.8 %	2.7 %	1.6 %	4.8 %	4.1 %	3.4 %	2.4 %
Sample size (N)	2,957	9,083	40,632	57,324	840	3,551	14,917	20,173
Number of firms	148	379	1557	2222	138	355	1459	2048

Table 3. Estimated average marginal effects (AME) of downsizing/closure on subsequent entrepreneurship probability, with robust standard errors (RSE)

	Men				Women			
	I Entrepreneur 2002-2005		II Entrepreneur 2005		III Entrepreneur 2002-2005		IV Entrepreneur 2005	
	AME	RSE	AME	RSE	AME	RSE	AME	RSE
Stable firms	Ref.		Ref.		Ref.		Ref.	
10-20 % downsizing	0.25	0.27	0.22	0.24	0.23	0.20	0.17	0.18
20-35 % downsizing	0.97***	0.31	0.86***	0.26	0.18	0.24	0.10	0.20
35-99 % downsizing	1.60***	0.31	1.26***	0.26	0.72***	0.26	0.35*	0.20
Closure with:								
Bankruptcy	4.99***	0.72	3.72***	0.56	2.58***	0.85	1.82**	0.82
Liquidation	1.24***	0.41	1.18***	0.36	0.14	0.27	-0.06	0.23
Takeover	0.07	0.37	-0.18	0.28	-0.20	0.30	-0.14	0.25
Number of firms	4,364		4,364		4,057		4,057	
Bankruptcy (# firms)	148		148		138		138	
Sample size (workers)	110,898		110,898		39,851		40,317	
Fraction with outcome	3.66%		2.81%		1.43%		1.07%	

*(**)(***) Significant at the 10(5)(1) percent level.

Table 4. Robustness: Estimated average marginal effects (AME) of downsizing/closure on entrepreneurship in 2005

	Men				*Women*			
	I	II	III	IV	V	VI	VII	VIII
	Baseline	No prev. downsizing (2000/2001)	Workers w stable emp. only	Large firms only (>49 empl.)	Baseline	No prev. downsizing (2000/2001)	Workers w stable emp. only	Large firms only (>49 empl.)
Stable firms	Ref.	Ref.	Ref.	Ref.	Ref.	Ref.	Ref.	Ref.
10-20 % downsizing	0.22	0.17	0.39	0.16	0.17	0.14	0.42	0.19
20-35 % downsizing	0.86***	0.76**	0.86**	0.56	0.10	0.07	-0.09	0.17
35-99 % downsizing	1.26***	1.28***	1.16***	1.07***	0.35*	0.36*	0.62	0.61**
Closure with:								
Bankruptcy	3.72***	4.13***	3.95***	2.30***	1.82**	2.11**	2.25	1.37
Liquidation	1.17***	1.23***	1.48**	1.10**	-0.06	0.01	0.86	-0.13
Takeover	-0.18	-0.17	-0.60*	0.01	-0.14	-0.11	-0.32	0.11
Sample size (# workers)	110,898	103,131	37,199	72,006	39,851	36,945	7,848	25,894
Fraction with outcome	2.81 %	2.81 %	2.36 %	2.11 %	1.07 %	1.09 %	0.83 %	0.88 %
Fraction with bankruptcy	2.67 %	2.55 %	2.19 %	1.85 %	2.11%	1.96 %	1.89 %	1.43 %
# firms	4,364	4,026	3,268	1,569	4,057	3,739	2,421	1527
# bankruptcy firms	148	129	88	33	138	120	58	30

*(**)(***) Significant at the 10(5)(1) percent level.

Table 5. Performance of entrepreneurs from stable/growing and bankrupt firms

	I Entrepreneurs from sta- ble or growing firms	II Entrepreneurs from bankrupt firms
I. Individual income		
# Entrepreneurs	1,550	219
Average income at baseline (2001), 1000 NOK	554	475
Average income gain from 2001 to 2005/2006 (2001-value), 1000 NOK	152	-60
Average ratio of 2005/2006-income (in 2001-value) to 2001-income	2.05	1.03
Median income at baseline (2001), 1000 NOK	351	360
Median income gain from 2001 to 2005/2006 (2001-value), 1000 NOK	12	-21
Median ratio of 2005/2006- income (in 2001-value) to 2001-income	1.03	0.93
II. Firm performance		
# Firms	853	124
Fraction of firms established by "our" entrepreneur (new firms)	0.52	0.69
Average number of employees in 2005	18.7	7.5
Average change in the number of employees from 2001 to 2005 (0 employees in 2001 for new firms)	5.9	6.6
Average running surplus in 2005, 1000 NOK	1,757	444
Average change in running surplus from 2001 to 2005 (0 surplus in 2001 for new firms), 1000 NOK	1,124	394
Median number of employees in 2005	6	4
Median change in the number of employees from 2001 to 2005 (0 employees in 2001 for new firms)	3	4
Median running surplus in 2005, 1000 NOK	243	138
Median change in running surplus from 2001 to 2005 (0 surplus in 2001 for new firms), 1000 NOK	122	99

Note: The data on firm performance include limited liability companies only (not self-employed).
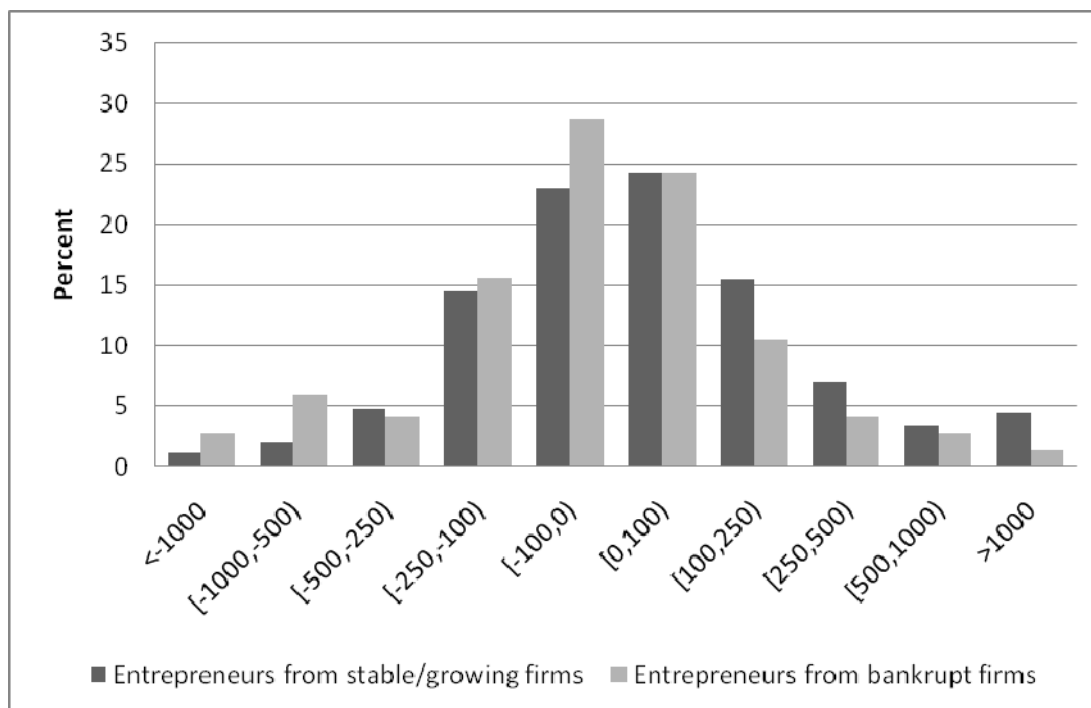
Figure 1. The distribution of personal income gains (from 2001 to 2005/2006) for entrepreneurs from stable/growing and bankruptcy firms (1000 NOK)
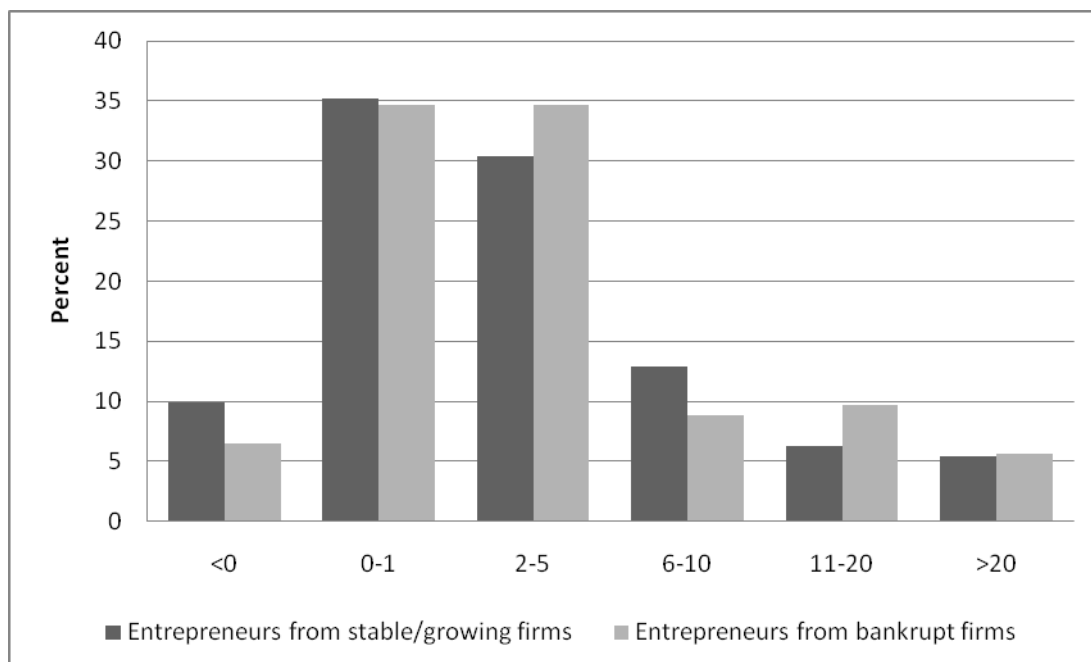

Figure 2. The distribution of employment growth from 2000 to 2005 in companies with entrepreneurs from stable/growing and bankruptcy firms.

Appendix

Table A1. Estimated Average Marginal Effects (AME) in the baseline models

	Men		Women	
	Entrepreneur 2002-2005	Entrepreneur 2005	Entrepreneur 2002-2005	Entrepreneur 2005
	AME (stand. error)	AME (stand. error)	AME (stand. error)	AME (stand. error)
Downsizing/closure				
Stable or growing firm	Ref.	Ref.	Ref.	Ref.
10-20 % downsizing	0.25	0.22	0.23	0.17
	(0.27)	(0.24)	(0.20)	(0.18)
20-35 % downsizing	0.97	0.86	0.18	0.10
	(0.31)	(0.26)	(0.24)	(0.20)
35-99 % downsizing	1.60	1.26	0.72	0.35
	(0.31)	(0.26)	(0.26)	(0.20)
Bankruptcy	4.99	3.72	2.58	1.82
	(0.72)	(0.56)	(0.85)	(0.82)
Liquidation	1.24	1.18	0.14	0.06
	(0.42)	(0.36)	(0.27)	(0.23)
Takeover	0.07	-0.18	-0.20	-0.14
	(0.37)	(0.28)	(0.30)	(0.25)
Undecided	1.51	0.94	-0.40	-0.54
	(0.61)	(0.52)	(0.39)	(0.30)
Age				
Age 22	-1.10	-0.75	-0.96	-0.64
	(0.44)	(0.41)	(0.25)	(0.17)
Age 23	-0.55	-0.26	0.12	-0.03
	(0.44)	(0.40)	(0.58)	(0.41)
Age 24	-1.06	-0.69	-0.55	-0.20
	(0.41)	(0.38)	(0.36)	(0.33)
Age 25	-0.45	-0.02	-0.09	0.09
	(0.45)	(0.42)	(0.45)	(0.40)
Age 26	-0.69	-0.49	-0.04	-0.02
	(0.40)	(0.35)	(0.43)	(0.34)
Age 27	-0.57	-0.59	-0.29	-0.07
	(0.39)	(0.33)	(0.34)	(0.31)
Age 28	0.11	-0.01	0.07	0.32
	(0.43)	(0.37)	(0.43)	(0.43)
Age 29	-0.30	-0.33	0.35	0.11
	(0.40)	(0.34)	(0.51)	(0.36)
Age 30	0.08	0.01	0.12	0.14
	(0.41)	(0.36)	(0.43)	(0.36)
Age 31	0.06	0.16	0.16	0.24
	(0.41)	(0.38)	(0.45)	(0.40)
Age 32	0.22	0.15	0.25	0.31
	(0.43)	(0.38)	(0.48)	(0.42)
Age 33	-0.02	0.01	0.66	0.72
	(0.39)	(0.35)	(0.56)	(0.54)
Age 34	0.20	0.09	0.57	0.79
	(0.42)	(0.37)	(0.54)	(0.56)
Age 35	-0.05	-0.31	0.49	0.56
	(0.41)	(0.34)	(0.52)	(0.49)
Age 36	0.07	0.18	0.00	0.03

	Men		Women	
	Entrepreneur 2002-2005	Entrepreneur 2005	Entrepreneur 2002-2005	Entrepreneur 2005
	AME (stand. error)	AME (stand. error)	AME (stand. error)	AME (stand. error)
	(0.41)	(0.37)	(0.42)	(0.35)
Age 37	0.28	0.02	0.34	0.53
	(0.42)	(0.36)	(0.47)	(0.50)
Age 38	-0.25	-0.31	0.46	0.51
	(0.38)	(0.32)	(0.53)	(0.49)
Age 39	0.53	0.43	0.61	0.66
	(0.46)	(0.41)	(0.57)	(0.54)
Age 40	Ref.	Ref.	Ref.	Ref.
Age 41	0.29	0.01	0.41	0.53
	(0.45)	(0.39)	(0.54)	(0.51)
Age 42	-0.19	-0.16	0.75	0.85
	(0.40)	(0.36)	(0.60)	(0.58)
Age 43	-0.16	-0.34	-0.33	0.02
	(0.42)	(0.35)	(0.35)	(0.36)
Age 44	-0.37	-0.56	0.36	0.46
	(0.40)	(0.34)	(0.53)	(0.49)
Age 45	-0.11	-0.13	-0.21	0.05
	(0.43)	(0.38)	(0.38)	(0.37)
Age 46	-0.51	-0.49	-0.26	0.08
	(0.40)	(0.35)	(0.38)	(0.39)
Age 47	-0.01	-0.19	-0.09	0.23
	(0.44)	(0.38)	(0.43)	(0.43)
Age 48	-0.45	-0.38	-0.26	0.17
	(0.42)	(0.37)	(0.40)	(0.42)
Age 49	-0.40	-0.37	-0.24	0.17
	(0.42)	(0.37)	(0.42)	(0.43)
Age 50	-0.85	-1.02	-0.01	0.29
	(0.39)	(0.31)	(0.48)	(0.47)
Age 51	-1.02	-1.02	-0.38	0.02
	(0.38)	(0.31)	(0.39)	(0.40)
Education and industry				
Low education*primary industry	1.16	-0.45		
	(1.65)	(1.14)		
Low education*manufacturing	Ref.	Ref.	Ref.	Ref.
Low education*retail	0.29	0.22	1.13	1.05
	(0.29)	(0.27)	(0.43)	(0.41)
Low education*hotel, restaurants	2.32	1.56	1.46	1.09
	(0.81)	(0.73)	(0.53)	(0.47)
Low education*transport	0.85	0.58	0.27	0.16
	(0.41)	(0.33)	(0.34)	(0.28)
Low education*finance	2.18	1.59	1.14	0.70
	(0.52)	(0.45)	(0.41)	(0.32)
Low education*education	3.87	3.34		
	(3.27)	(2.48)		
Low education*health service	1.33	1.02	0.41	0.04
	(0.86)	(0.74)	(0.37)	(0.25)
Low education*other industry	0.21	0.11	0.94	0.49
	(0.72)	(0.66)	(0.56)	(0.45)
Medium education*primary industry	1.79	0.87	4.09	4.63
	(1.46)	(1.17)	(3.30)	(3.63)
Medium education*manufacturing	1.07	0.86	0.74	0.57
	(0.20)	(0.18)	(0.30)	(0.27)
Medium education*retail	0.94	0.70	0.84	0.76

	Men		Women	
	Entrepreneur 2002-2005	Entrepreneur 2005	Entrepreneur 2002-2005	Entrepreneur 2005
	AME (stand. error)	AME (stand. error)	AME (stand. error)	AME (stand. error)
	(0.31)	(0.27)	(0.38)	(0.37)
Medium education*hotel, restaurants	2.76	1.58	2.08	1.91
	(0.66)	(0.57)	(0.65)	(0.67)
Medium education*transport	0.85	0.49	0.14	0.18
	(0.36)	(0.32)	(0.29)	(0.29)
Medium education*finance	1.86	1.42	0.95	0.64
	(0.42)	(0.38)	(0.35)	(0.29)
Medium education*education	4.00	2.71	0.91	0.34
	(2.12)	(1.86)	(0.99)	(0.78)
Medium education*health service	-0.13	0.03	0.42	0.23
	(0.57)	(0.53)	(0.42)	(0.35)
Medium education*other industry	2.47	1.55	1.27	0.30
	(1.02)	(0.76)	(0.75)	(0.46)
Bachelor degree	1.67	1.07	1.25	0.92
	(0.29)	(0.24)	(0.37)	(0.32)
Graduate school	1.30	0.80	1.42	0.82
	(0.35)	(0.29)	(0.48)	(0.36)
Other/Missing	0.69	0.20	0.61	0.70
	(0.75)	(0.63)	(0.63)	(0.64)
Immigrant status				
Immigrant OECD	0.15	-0.15	0.07	0.11
	(0.42)	(0.37)	(0.40)	(0.35)
Immigrant Eastern Europe	-1.13	-0.41	-0.40	-0.06
	(0.47)	(0.46)	(0.45)	(0.45)
Immigrant Middle East/Africa	-1.50	-0.90	0.64	0.36
	(0.50)	(0.48)	(1.17)	(1.01)
Immigrant Other Africa	-2.03	-1.46	-0.51	
	(0.75)	(0.69)	(0.95)	
Immigrant SE Asia	-1.72	-1.38	-0.38	-0.35
	(0.50)	(0.44)	(0.42)	(0.33)
Immigrant Other Asia	-0.69	-0.27	-1.08	-0.71
	(0.69)	(0.60)	(0.38)	(0.38)
Immigrant South America	-2.58	-2.26	0.36	-0.50
	(0.57)	(0.41)	(0.97)	(0.59)
County of residence				
Oslo	Ref.	Ref.	Ref.	Ref.
Østfold	-0.73	-0.32	0.10	0.16
	(0.34)	(0.31)	(0.38)	(0.33)
Akershus	0.10	-0.03	-0.00	0.10
	(0.32)	(0.28)	(0.27)	(0.24)
Hedmark	-1.52	-1.07	-0.00	0.05
	(0.37)	(0.33)	(0.49)	(0.45)
Oppland	-0.72	-0.77	-0.34	-0.29
	(0.48)	(0.39)	(0.38)	(0.31)
Buskerud	0.01	-0.26	-0.39	-0.32
	(0.40)	(0.32)	(0.28)	(0.22)
Vestfold	-0.97	-0.82	0.14	0.17
	(0.37)	(0.32)	(0.41)	(0.37)
Telemark	-0.12	-0.02	-0.94	-0.70
	(0.56)	(0.46)	(0.28)	(0.23)
Aust-Agder	-0.26	-0.30	-0.44	-0.14
	(0.53)	(0.45)	(0.51)	(0.49)
Vest-Agder	-0.44	-0.30	-0.09	0.25
	(0.44)	(0.40)	(0.47)	(0.47)

	Men		Women	
	Entrepreneur 2002-2005	Entrepreneur 2005	Entrepreneur 2002-2005	Entrepreneur 2005
	AME (stand. error)	AME (stand. error)	AME (stand. error)	AME (stand. error)
Rogaland	-0.60	-0.50	-0.47	-0.33
	(0.40)	(0.35)	(0.23)	(0.19)
Hordaland	-0.73	-0.75	0.01	-0.05
	(0.31)	(0.26)	(0.28)	(0.23)
Sogn og Fjordane	-1.88	-1.38	-0.27	0.13
	(0.41)	(0.37)	(0.50)	(0.52)
Møre og Romsdal	-1.73	-1.45	-0.33	-0.04
	(0.31)	(0.25)	(0.35)	(0.34)
Sør-Trøndelag	-1.41	-1.12	-0.28	-0.24
	(0.30)	(0.27)	(0.32)	(0.26)
Nord-Trøndelag	-1.57	-1.52	-0.16	0.35
	(0.53)	(0.42)	(0.63)	(0.67)
Nordland	-2.13	-1.77	-0.29	-0.11
	(0.31)	(0.26)	(0.38)	(0.36)
Troms	-1.20	-1.20	-0.56	-0.29
	(0.45)	(0.37)	(0.51)	(0.47)
Finnmark	-2.15	-2.11	-0.53	-0.02
	(0.53)	(0.36)	(0.66)	(0.71)
Size of municipality				
Municipality population<2000	0.78	0.97	0.22	0.28
	(0.58)	(0.53)	(0.78)	(0.70)
Municipality population 2000-5000	0.89	0.89	0.30	-0.00
	(0.33)	(0.29)	(0.36)	(0.28)
Municipality population 5000-10000	0.17	0.26	0.08	-0.22
	(0.25)	(0.22)	(0.27)	(0.21)
Municipality population 10-50000	0.01	0.09	-0.04	-0.17
	(0.19)	(0.17)	(0.19)	(0.15)
Municipality population>50000	Ref.	Ref.	Ref.	Ref.
Size of firm				
# of employees 25-49	Ref.	Ref.	Ref.	Ref.
# of employees 50-74	-1.43	-1.11	-0.50	-0.36
	(0.22)	(0.19)	(0.17)	(0.15)
# of employees 75-99	-2.10	-1.64	-0.22	-0.11
	(0.24)	(0.20)	(0.25)	(0.20)
# of employees 100-199	-2.69	-2.02	-0.61	-0.45
	(0.19)	(0.16)	(0.16)	(0.14)
# of employees >199	-3.53	-2.79	-1.08	-0.87
	(0.16)	(0.13)	(0.15)	(0.12)