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# The entrepreneurial ladder and its determinants

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## Abstract

We test a new model where the entrepreneurial decision is described as a process of

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# Notes

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[http://europa.eu.int/comm/enterprise/enterprise\\_policy/survey/eurobarometer\\_intro.htm](http://europa.eu.int/comm/enterprise/enterprise_policy/survey/eurobarometer_intro.htm)

<sup>2</sup>Following this literature we also apply quadratic terms for age and education next to the linear ones.

<sup>3</sup>We also ran regressions with 1) all engagement levels, 2) only without engagement level (2a) and 3) only without engagement level (5a). It turns out that all diagnostics are in favour of the model we use.

<sup>4</sup>We used a simple likelihood ratio principle to test for the significance of  $\gamma$  in the

heteroskedasticity test. The test statistic is  $\chi^2$  distributed with  $k$  degrees of freedom (where  $k$  is the number of parameters being tested). Note that the test is only valid if the null hypothesis is true. The results of the test are reported in Table 1. The test statistic is  $\chi^2$  distributed with  $k$  degrees of freedom (where  $k$  is the number of parameters being tested). Note that the test is only valid if the null hypothesis is true. The results of the test are reported in Table 1. The test statistic is  $\chi^2$  distributed with  $k$  degrees of freedom (where  $k$  is the number of parameters being tested). Note that the test is only valid if the null hypothesis is true. The results of the test are reported in Table 1.

<sup>5</sup>To illustrate the point, consider the following example. Let  $Y_i$  be a random variable with a distribution function  $F(y)$ . Then the probability that  $Y_i$  is less than or equal to  $y$  is  $F(y)$ . The probability that  $Y_i$  is greater than  $y$  is  $1 - F(y)$ . The probability that  $Y_i$  is between  $y_1$  and  $y_2$  is  $F(y_2) - F(y_1)$ . The probability that  $Y_i$  is between  $y_1$  and  $y_2$  is  $F(y_2) - F(y_1)$ .



estimated. When these coefficient vectors do not significantly differ from each other, there is no reason to reject the 'parallel regression assumption'.

<sup>6</sup>The computation of the marginal effects is done as follows: for each observation a marginal effect is calculated and the sample averages of these values are displayed in [Table 2](#) for each variable. The p-values of these effects are comparable to p-values of the coefficients of the binary regressions in the same table.

<sup>7</sup>If the 'parallel regression assumption' is not violated for a variable, this does not necessarily imply that the marginal effects in [Table 2](#) are statistically the same across all binary regressions.

<sup>8</sup>Furthermore, we investigated the redundancy of the variables in the heteroskedastic specification (testing for each  $j$ ) with a likelihood ratio test statistic (7 degrees of freedom, 0.05 critical value is 14.07). The four test statistics given in [Table 3](#) (79.42; 69.08; 58.20; 51.22) are all in excess of 14.07, leading us to the conclusion that for each binary regression the heteroskedastic specification is again preferred to the homoskedastic specification. We also assessed the significance of each binary heteroskedastic regression in its totality (46 degrees of freedom, 0.05 critical value is 62.83). The four test statistics given in [Table 3](#) (3343.66; 2034.88; 1776.52; 1351.76) are all in excess of 62.83.

<sup>9</sup>These results support the use of the influential TEA (Total Entrepreneurial Activity) measure of GEM where nascent and young entrepreneurs are taken together (Reynolds et al., [2005](#)).

<sup>10</sup>For each age group, the level of entrepreneurial activity becomes higher as the age increases. The highest level of entrepreneurial activity is obtained for the 51-60 age group. The level of entrepreneurial activity is the highest instead of the lowest.



<sup>11</sup>Reynolds et al. (2005) support two or more firms starting its peak for the age group.

<sup>12</sup>The turning point for education resulting from the coefficients in [Table 1](#) takes the value of 47 for the variable 'age when finished full time education'.

<sup>13</sup>The absence of a significant impact of the perception of lack of financial support as well as the unambiguous influences of the perception of administrative complexities, preference for self-employment and risk tolerance are in line with findings in earlier studies using different non-ordered models but also based on the 'Flash Eurobarometer survey on Entrepreneurship' data sets of different years (Grilo and Thurik, [2005a](#), 2008; Grilo and Irigoyen, [2006](#)).

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