Modeling students' evaluation scores;
Comparing economics schools in
Maastricht and Rotterdam

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ABSTRACT

Each year the Dutch magazine Elsevier publishes the results of surveys amongst students concerning the perceived quality of academic studies. Unfortunately, the original survey data are not publicly available. We therefore repeat the survey for economics students in Maastricht and Rotterdam, as we wish to examine which attributes explain the overall evaluation and whether students in the two cities have different response styles. We find that the students in Rotterdam value the curriculum, while the Maastricht students value education, examination and organization of the school. We also find that a typical student in Maastricht is inclined to give a more positive evaluation than a similar student in Rotterdam. We discuss various implications of our findings.

1. INTRODUCTION

Each year the Dutch magazine Elsevier publishes the results of surveys amongst students concerning the perceived quality of academic studies. The results consist of the overall scores of an academic study, as well as of scores for various aspects of these studies, like the quality of the lectures, of the facilities (for example, the building), and of the way the exams are taken, to mention just a few. The overall score is the average over all attributes' ratings. The goal of the survey is to provide information which universities do better on which studies, on the overall score and on attribute-specific scores. Naturally, these special issues of the Elsevier's magazine are well read, both by university board members, by professors, and also by prospective students (and their parents).

The numbers in the special issues are interesting in their own right, as they allow for a comparison of (aspects of) academic studies across universities. To facilitate a comparison, Elsevier provides the results of statistical tests concerning the hypothesis that an evaluation is equal to the average across universities. What is missing from the reported surveys, though, is the statistical relationship between the overall evaluation and various aspects of the studies. For example, it would be of interest to see if a positive overall judgment is mainly determined by the high quality of the lectures or by ample opportunities to study abroad. To answer questions like these, one needs to have the full database with the individual survey outcomes. Unfortunately, these survey outcomes are destroyed by the data provider (NIPO), and hence such an individual-specific analysis is impossible. Additionally, NIPO does not save data on the characteristics of the surveyed individuals.

In the present fully data-driven study, we aim to address the above two questions, simply by re-doing the Elsevier survey ourselves. More specific, we examine which aspects of academic studies have most impact on the overall evaluation, and which individual-specific characteristics of the surveyed individuals also have an impact on this rating. To save time and effort, we confine our analysis to economics studies at the University of Maastricht and the Erasmus University Rotterdam.

The outline of this discussion paper is as follows. In Section 2, we discuss the data collection. We show that our averaged survey results (obtained in the Spring of 2001) are very close to those of Elsevier (October 2000). In Section 3, we summarize the data in ordered regression models, where we allow the parameters to differ across Maastricht and Rotterdam. Finally, in Section 4, we discuss our main findings and their implications.

2.   DATA COLLECTION

Each year *Elsevier* conducts a survey amongst university and college (HBO) students, in which they are asked to evaluate the quality of their educational program. By comparing results across universities, a ranking of universities is made. Naturally, academic board members, professors and prospective students and their parents take these rankings rather seriously.

Since 1994, Elsevier each year commissions the marketing research agency NIPO to conduct a survey amongst 6000 university students and 6000 college students (Elsevier (2000), p.20) to assess the quality of the academic and college education of various studies in the Netherlands. In 2000, 20 university studies are evaluated at on average 5.2 different universities. Hence, on average 57.7 students are surveyed for each study at each educational institution. This last number is important for our own data collection below, as we will collect data on 132 students for two studies. The respondents are surveyed through a telephone interview. The sample is selected by the *Informatie Beheer Groep* (IBG, Information Management Group), which is a Dutch semi-governmental institution that for example monitors the applications for universities. As the database of the IBG contains background variables on all students, these variables are used for stratification. These background variables are however not publicly available, as they have been destroyed due to privacy regulations.

The respondents are asked to give their opinion on the quality of their academic study on the following areas (with a few exemplary attributes):

- Facilities   (Computer rooms, availability of seats)
- Curriculum   (Type of program, relevance of individual components of program)
- Tutors and lecturers   (Supervision, office hours)
- Education and Examination (Research skills, lectures)
- Communication between school and student   (Information, time-tables)

Respondents can give grades from 1 to 10 (1 for extremely poor, 10 for extremely good). These grades are then averaged over the students and over all attributes to derive a measure of the overall quality of the education offered by a university.

In this paper, we repeat the survey by Elsevier, but to save time and effort we confine ourselves to the university programs on economics in Rotterdam and Maastricht. The School of Economics at the Erasmus University in Rotterdam is considerably larger than its counterpart in Maastricht, in terms of undergraduate students and in terms of faculty. In addition to the difference in size, the University of Maastricht uses so-called *Probleem Gestuurd Onderwijs* (PGO, Problem Oriented Education), which essentially means that students make assignments in small groups, while closely being supervised by a tutor. In Rotterdam, education has a more traditional form, as it consists of a combination of lectures and workshops. In the 2000 survey of Elsevier, both studies obtain the same overall score, but there are considerable differences in the ratings on attributes. For example, with respect to facilities, Rotterdam scores significantly better than Maastricht, while Maastricht outperforms Rotterdam on educational organization, and on education and examination (Elsevier, 2000).

We aim to have a survey, which comes close to that of Elsevier. However, a few little differences exist. First, where the Elsevier survey relies on a ten-point scale to rate the quality of some items or to indicate the level of agreement with a certain statement, we use a five-point scale. As is well known, a ten-point scale can falsely suggest exactness, which is due to respondents having a tendency to neglect the extreme categories when faced with many alternatives. Second, Elsevier simply adds the scores on different attributes. As these attributes may not be equally important in determining the overall assessment of the quality, we add a question on the general overall quality of the study. This question will be used as the dependent variable in the ordered logit model in the next section. Finally, some questions of the original Elsevier questionnaire have been modified. For example, the question on the quality of the support and supervision of professors with regards to theses and other papers has been omitted. This is done because second-year students are interviewed as well, while they may not have any experience with writing theses and papers as of yet, nor with the related supervision. Another question has been split into two separate questions, as the original question asks the respondent to rate more than one attribute. Finally, the questions aimed at assessing the quality of *hoorcolleges* and *werkcolleges* (lectures and tutorials, respectively) have been combined, as, due to PGO in Maastricht, these students should be unable to distinguish between these two types of methods.

We also include some questions concerning individual-specific characteristics. These background variables are

- Age

- Gender

- The year in which the respondent has started with the current economics program

- Indicator variable that reveals whether a respondent has already enjoyed university or college education prior to the current study

- Indicator variable that represents whether the respondent has attended information meetings on the study of economics at other universities

- Variable that indicates whether the respondent is still living with his/her parents

- Variable that indicates whether the respondent is a regional student, that is, whether his/her parents live in the same province as the university city

The resulting questionnaire (both the original Dutch version and a translated version, for the sake of this paper) is included in appendix A.

It should be mentioned that the students are surveyed under different circumstances. In Rotterdam, where lectures are common practice, it is possible to reach a large group of students during one of these lectures. A total number of 70 students are interviewed in Rotterdam. In Maastricht, due to PGO, there are no lectures that are attended by such numbers of students, and hence the survey is conducted in the university cafeteria during lunchtime, on three consecutive days. In total, 62 Maastricht students are surveyed.

Table 1 summarizes our data and those of the Elsevier (2000) study for economics studies in Rotterdam and Maastricht. It should be stressed that the differences across the Elsevier surveys in 2000 and 2001 are minor, where the latter survey did appear in October 2001. In order to make the two surveys comparable, the average scores of our own survey are rescaled to a ten-point scale. The variance of the scores is rescaled accordingly. This table shows that our survey results on average are very similar to the one conducted by Elsevier and NIPO in 2000. Students in Rotterdam value more the facilities and the organization and communication of the Erasmus University Rotterdam, while the students in Maastricht are more satisfied with the educational organization of their university. Note that there seem to be more extreme average scores in our survey. If one takes into account that these averages are scaled up from a five-point to a ten-point scale, this is not surprising. In fact, it confirms that, when faced with (too) many answer categories, respondents have a tendency to consider only the middle categories.

Table 2 summarizes the average values of the background variables of the respondents in our survey. The most striking difference between the Rotterdam and Maastricht students is that over 67% of the students in Maastricht have attended an information or orientation meeting at another university, whereas this percentage is only about 36% for students in Rotterdam. A detailed overview of the distribution of the background variables across the students in the two cities can be found in Appendix B.

3.   EMPIRICAL RESULTS

In this section we first describe the econometric model used to summarize the data. Next, we discuss the empirical results.

3.1   The ordered regression model

The explanatory variable, which is the overall rating, is an ordered discrete variable. To model such a variable, it is convenient to introduce a latent variable y_i^*. To keep notation simple, it is first assumed that this variable is explained by a single explanatory variable x_i and an intercept, that is,

$$y_i^* = \boldsymbol{b}_0 + \boldsymbol{b}_1 x_i + \boldsymbol{e}_i, \qquad (1)$$

where e_i is an error term. This latent variable is mapped onto the multinomial variable of interest, the observed Y_i, which has J ordered categories. An intuitively appealing approach is to use threshold values and to compare the value of y_i^* with these threshold values in order to map the latent variable onto Y_i. More formally, if a_0, a_1, …, a_J denote the unobserved thresholds, then

$$
\begin{aligned}
&Y_i = 1 \text{ if } a_0 < y_i^* = a_1 \\
&Y_i = j \text{ if } a_{j-1} < y_i^* = a_j \text{ for } j = 2, 3, …, J\text{-}1 \qquad (2) \\
&Y_i = J \text{ if } a_{J-1} < y_i^* = a_J
\end{aligned}
$$

Due to the ordered nature of the data, it must hold that $a_0 < a_1 < \ldots < a_J$, where one can set $a_0 = -8$ and $a_J = +8$ (see Franses and Paap, 2001). Combining (1) and (2), the probability that category j is chosen by individual i, conditional on the explanatory variable x_i is given by

$$
\begin{aligned}
\Pr[Y_i = j \mid X_i] &= \Pr(\boldsymbol{a}_{j-1} < y_i^* \leq \boldsymbol{a}_j) \\
&= \Pr(\boldsymbol{a}_{j-1} < \boldsymbol{b}_0 + \boldsymbol{b}_1 x_i + \boldsymbol{e}_i \leq \boldsymbol{a}_j) \qquad (3) \\
&= \Pr(\boldsymbol{a}_{j-1} - (\boldsymbol{b}_0 + \boldsymbol{b}_1 x_i) < \boldsymbol{e}_i \leq \boldsymbol{a}_j - (\boldsymbol{b}_0 + \boldsymbol{b}_1 x_i)) \\
&= F(\boldsymbol{a}_j - (\boldsymbol{b}_0 + \boldsymbol{b}_1 x_i)) - F(\boldsymbol{a}_{j-1} - (\boldsymbol{b}_0 + \boldsymbol{b}_1 x_i)) \qquad \text{for } j = 2, 3, \ldots, \text{J-1}
\end{aligned}
$$

with F(.) denoting the cumulative distribution function of e_i. The conditional probabilities that category 1 or J is chosen are

$$
\Pr[Y_i = 1 \mid X_i] = F(\boldsymbol{a}_1 - (\boldsymbol{b}_0 + \boldsymbol{b}_1 x_i)) \qquad (4)
$$

and

$$
\Pr[Y_i = J \mid X_i] = 1 - F(\boldsymbol{a}_{J-1} - (\boldsymbol{b}_0 + \boldsymbol{b}_1 x_i)) \qquad (5)
$$

The threshold parameters a_1, a_2, $\ldots$, a_{J-1} and the intercept parameter ß_0 are not jointly identified. It is customary to set ß_0 equal to zero. The equations (3) to (5), with the imposed restriction that $\text{ß}_0 = 0$, jointly form the basic ordered regression model.

Finally, one has to decide upon a suitable distribution of the error term e_i. The focus in the remainder of this paper will be on the ordered logit model (OLM), that is, e_i is assumed to have a standardized logistic distribution.

Let X_i denote the set of K explanatory variables of individual i, with parameter vector ß. As the intercept is set to zero for identification purposes, this intercept is not included in X_i and ß. The ordered regression model in equations (3) to (5) can be summarized as

$$
\Pr[Y_i = j \mid X_i] = F(\boldsymbol{a}_j - X_i \boldsymbol{b}) - F(\boldsymbol{a}_{j-1} - X_i \boldsymbol{b}) \qquad (6)
$$

In addition to the K unknown parameters, there are (J – 1) threshold parameters to be estimated, hence the total number of unknown parameters is K + J –1. As the scale of F(.) is not identified, it is necessary to restrict the variance of the error term e_i. Assuming a standardized logistic distribution for these error terms, the OLM includes

$$F(\boldsymbol{a}_j - X_i\boldsymbol{b}) = \frac{\exp(\boldsymbol{a}_j - X_i\boldsymbol{b})}{1 + \exp(\boldsymbol{a}_j - X_i\boldsymbol{b})} \tag{7}$$

As the distribution is standardized, the variance of e_i is fixed to $\frac{1}{3}\boldsymbol{p}^2$. For more details, see Greene (1993) and Franses and Paap (2001), among others.

In this paper we will consider model (7) for all students in Rotterdam and Maastricht. We include the threshold parameters and the regressors when multiplied by city-specific dummy variables. This also allows us to test whether the thresholds are the same across cities, whether the β parameters are heterogeneous, or whether all parameters are equal across the two universities. To test these hypotheses, we consider likelihood ratio (LR) test statistics.

3.2   Results

It is important to note that the opinions on attributes are also ordinal variables. Additionally, as the respondents give opinions on 25 specific (and highly correlated) statements, it seems wise to summarize this information in fewer variables. We summarize the statements by type of attribute using principal component analysis (PCA). This PCA is done for Maastricht and Rotterdam, separately. It turns out for all cases that about 70% of the variance are covered by the first principal component. We denote these as FAC, CUR, TEA, EDU and ORG. Of course, we expect these variables to have a positive impact on the overall rating. The subscripts _R and _M are used to denote variables that relate only to students in Rotterdam and Maastricht, respectively.

Next, we relate the overall perceived quality (as rated on a five-point scale, with 1 being very poor and 5 representing very good) to these five principal components using an ordered logit model. As there are five answer categories, there are four threshold parameters to be estimated. However, not a single respondent perceived the overall quality of his or her education as really poor (rating 1), so the first threshold parameter cannot be estimated. This means that three threshold parameters are estimated. Following the Eviews program, which is used to compute the estimates, these parameters are denoted as LIMIT2, LIMIT3 and LIMIT4. Hence, LIMIT2 represents the threshold parameter between alternative 2 and 3.

As mentioned, we consider four models, that is, we consider a standard OLM with assumption of homogeneity, an OLM with both heterogeneous parameters and thresholds, an

OLM with heterogeneous parameters and homogenous thresholds, and an OLM with homogeneous parameters and heterogeneous thresholds. Using LR tests, we formally select the model that is statistically most relevant. Taking the model with both heterogeneous thresholds and parameters as the baseline model, the other models are all nested in this model. The LR tests suggest that homogeneous parameters should be rejected, while the thresholds appear to be equal across universities. Next, we use LR tests to see if specific parameters can be set equal across the two universities, or whether parameters are equal to zero. The final model for the overall rating explained by the opinions on attributes is given in Table 3.

Dependent variable: overall rating of study				
	Coefficient	Std. Error	z-Statistic	Prob.
CUR_R	1.1600	0.2805	4.1361	0.0000
EDU_M	0.9995	0.2698	3.7043	0.0002
ORG_M	0.7943	0.2839	2.7980	0.0051
Limit Points				
LIMIT2	-2.7714	0.3529	-7.8526	0.0000
LIMIT3	-0.1489	0.1959	-0.7604	0.4470
LIMIT4	3.5458	0.4455	7.9586	0.0000
Number of coefficients	6			
Pseudo-R^2	0.1417			

Table 3: Estimation results of final model of opinions on sub-areas

This table shows that for students in Maastricht different attributes explain the level of overall satisfaction than for students in Rotterdam. All variables have the expected sign. In Rotterdam, the content of the curriculum is the only statistically significant explanatory variable. Students in Maastricht, however, attach importance to education and examination and to the organization and communication of the school. This might be attributed to the concept of PGO. As in a PGO environment no lectures are given, and students are expected to familiarize themselves with the course material by actively studying in small discussion groups, students haven chosen this learning method and attach importance to acquiring research skills. Students in Rotterdam might be viewed as more career-oriented, so they may be more interested in a coherent curriculum with sufficient possibilities for labor market orientation and traineeships.

Our second model concerns the relation between the overall rating and the individual-specific characteristics. We demean all variables for computational reasons. We use the following variables:

- AGE   age of respondent
- GENDER   gender of respondent
- YEAR   year in which respondent has started current economics study
- COLLEGE   respondent has enjoyed college or university education prior to current education (equals 1 if yes, otherwise 0)
- INFO   respondent has attended information meetings at other universities on economics studies (equals 1 if yes, otherwise 0)
- LIVING_OUT   respondent is living on his/her own, and not with parents (equals 1 if yes, otherwise 0)
- REGIONAL   respondent is a regional student, that is, the parents live in the province in which the university is located (equals 1 if yes, otherwise 0)

Once again, the subscripts _R and _M are used to denote variables that relate only to students in Rotterdam and Maastricht, respectively.

We use the same empirical strategy as before, and we end up with the baseline model with heterogeneous parameters and heterogeneous thresholds. This final model is given in Table 4.

Dependent variable: overall rating of study				
	Coefficient	Std. Error	z-Statistic	Prob.
INFO	-0.7368	0.4071	-1.8099	0.0703
AGE_M	1.0631	0.4908	2.1661	0.0303
YEAR_M	2.8239	0.9754	2.8950	0.0038
COLLEGE_M	-7.6593	3.2791	-2.3358	0.0195
Limit Points				
LIMIT2_R	-2.5048	0.4254	-5.8885	0.0000
LIMIT2_M	-4.9890	1.2053	-4.1393	0.0000
LIMIT3_R	-0.3615	0.2822	-1.2811	0.2002
LIMIT3_M	-1.9640	0.7825	-2.5099	0.0121
LIMIT4	2.7211	0.4464	6.0961	0.0000
Number of coefficients	9			
Pseudo-R^2	0.1219			

Table 4: Estimation results of final model of background variables

As is clear from Table 4, there is a single background variable that has a significant influence for both Rotterdam and Maastricht students, and this is the dummy variable indicating

whether the respondent has attended an information meeting at another university. Apparently, students who have attended such meetings tend to be less positive about their current education program than those who have not done so. Students who are more actively involved in selecting a university might thus be regarded as more critical consumers of education.

For students at the university of Maastricht, there are a few more background variables with a significant influence on the overall perceived quality. College graduates and students who have already enjoyed other academic education tend to be more negative, while older students are more positive in Maastricht. The year in which the respondent has started the current education is also of significant importance in Maastricht.

In order to facilitate interpretation of the model and its parameter estimates, we consider a typical student, who is defined by a set of values for the background variables. All these background variables are set to their mean values. Variables, which do not have significant impact, are not included. Next to this typical student, some other hypothetical students are considered who differ from the first only with respect to one background variable. The idea is to calculate the estimated probabilities that these students will rate the overall quality of their education with 2 (poor), 3 (mediocre), 4 (good), or 5 (very good), using the model estimates in Table 4. As there are four significant background variables, an equal number of additional hypothetical students are constructed to illustrate the effects of these variables. In sum, we consider five hypothetical students, and their characteristics are summarized in Table 5.

	Student				
	1	2	3	4	5
AGE	22.5	*21*	22.5	22.5	22.5
YEAR	1997	1997	*1996*	1997	1997
COLLEGE	no	no	no	*yes*	no
INFO	no	no	no	no	*yes*

Table 5: Five hypothetical students

The estimated probabilities that these students perceive the quality of their education as poor, mediocre, good, or very good is then calculated for Maastricht and for Rotterdam students. The results can be found in Tables 6 and 7. Note that due to rounding, the numbers do not necessarily add to 100%.

Maastricht	Probability of rating			
	2	3	4	5
Student 1: benchmark	1.1%	17.1%	77.9%	4.0%
Student 2: younger student	5.5%	48.8%	44.9%	0.8%
Student 3: more senior student	15.3%	63.5%	20.9%	0.2%
Student 4: college-graduate	95.8%	4.0%	0.2%	0.0%
Student 5: has attended info at other univ.	2.2%	29.4%	66.4%	2.0%

Table 6: Estimated probabilities of overall ratings for hypothetical students in Maastricht

Rotterdam	Probability of rating			
	2	3	4	5
Student 1: benchmark	7.6%	33.5%	52.8%	6.2%
Student 2: younger student	7.6%	33.5%	52.8%	6.2%
Student 3: more senior student	7.6%	33.5%	52.8%	6.2%
Student 4: college-graduate	7.6%	33.5%	52.8%	6.2%
Student 5: has attended info at other univ.	14.6%	44.7%	37.7%	3.1%

Table 7: Estimated probabilities of overall ratings for hypothetical students in Rotterdam

Note that three of the four background variables are statistically significant only for the Maastricht students, and hence a change in their values does not alter the estimated probabilities for students in Rotterdam.

The results in Table 6 suggest that a type-4 Maastricht student, who has enjoyed college or academic education prior to the current education, is more negative than the "average" student. A younger student in Maastricht tends be more negative than the benchmark student, as can be seen from the estimated probabilities of student 2 versus 1. A more senior student (in terms of years actually spent studying economics, type 3) of the University of Maastricht also seems to be more negative in his/her overall judgment.

It is now interesting to compare the outcomes for Maastricht and Rotterdam. Comparing Tables 6 and 7 reveals that the typical student in Rotterdam has a higher probability of giving the highest rating, yet s/he is also more likely to give the lower ratings of 2 and 3. The expected rating in Maastricht is 3.85, while in Rotterdam this is 3.58. Hence, in Maastricht, the typical student seems to be more positive than in Rotterdam. Recall that in the Elsevier 2000 survey and in the present survey, the average overall rating of the perceived quality of the education is equal for Rotterdam and Maastricht (6.9 and 6.97 respectively, see Appendix A). In other words, the unconditional average overall rating is equal for students in

both cities, while we find that typical students of the University of Maastricht are more satisfied with their studies than their colleagues in Rotterdam.

Before we discuss our findings, we should mention one consequence of our approach. Note that the percentage of respondents that has attended information meetings at other universities is much higher for students at the University of Maastricht (67.7 percent) than for the students at the Erasmus University Rotterdam (35.7 percent). As the attendance of such meetings has a negative effect on the rating of the overall quality, the average rating of each sample may be equal, despite the fact that a student in Maastricht is likely to be more positive than a student with the same characteristics in Rotterdam. The negative influence of the dummy variable COLLEGE, which is only significant for Maastricht, adds to this effect. This implies that a typical student in Maastricht is likely to rate the quality of his/her education higher than his identical counterpart (in terms of background variables) in Rotterdam. The average overall rating is nonetheless equal for both universities, due to the influence of some background variables.

Consequently, the reported unconditional average ratings, as reported each year by Elsevier, should be treated with caution. The samples that are used to construct these ratings may differ in terms of background variables that may have a significant influence on this rating. Even if the background variables of these samples are comparable across samples, the influence of these variables may differ across the samples.

4.   DISCUSSION

Our survey results lead to the following two general conclusions. The first is that students in Maastricht value different attributes in their overall judgment than Rotterdam students. For Maastricht it is the type of education and the organization of the school, while for Rotterdam it is the educational program. This implies that when school administrators aim to improve the overall ratings, they should emphasize and improve these attributes. Note, however, that part of this finding might be due to self-selection effects, that is, students who favor the PGO method in Maastricht choose for Maastricht.

Our second result is that a typical student in Maastricht gives higher overall ratings than the same type of student in Rotterdam. Naturally, this can have two causes. The first is that students in Maastricht generally have a more positive attitude, and hence also to the evaluation of their academic program. The second is that the economics study in Maastricht is truly better. Our results cannot disentangle these two causes, and further research is needed.

The final conclusion to be drawn for our empirical analysis is that it is too bad that Elsevier and NIPO destroy their databases. Simply comparing numbers is not very informative, and statistical models convey many more insights. Indeed, our study shows that there is much to learn from the individual data. For example, it turns out that there are identifiable students in Maastricht who tend to be very unhappy with the study. To improve the overall rating, one can make an effort to see what the concerns are of these students.

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Appendix A

Dutch:

Instructie

Hieronder staan zowel een aantal stellingen als een aantal vragen. Geef aub bij elke stelling aan in hoeverre je het met deze stelling eens bent op een schaal van 1 tot 5, waarbij 1 staat voor zeer mee oneens en 5 voor zeer mee eens. Bij een vraag kan je eveneens kiezen uit een schaal van 1 tot 5, waarbij 1 staat voor zeer slecht en 5 staat voor zeer goed. Je kunt je keuze aangeven door het corresponderende nummer te omcirkelen.

Algemeen

- Hoe beoordeel je de kwaliteit van de universitaire opleiding die je momenteel volgt?

      1   2   3   4   5
     Zeer slecht   Zeer goed

- Als iemand mij vraagt aan welke universiteit ik het beste economie kan studeren, dan raad ik diegene de Erasmus Universiteit Rotterdam aan.

      1   2   3   4   5
     Zeer mee oneens   Zeer mee eens

Faciliteiten

Hoe beoordeel je de onderstaande studiefaciliteiten voor de opleiding economie aan de Erasmus Universiteit Rotterdam?

- Zitplaatsen, beschikbaarheid computers   1   2   3   4   5
- Beschikbaarheid syllabi   1   2   3   4   5
- Lokatie tentamen   1   2   3   4   5

     Zeer slecht   Zeer goed

Inrichting opleiding

- De propedeuse geeft een goed beeld van het vakgebied

      1   2   3   4   5
     Zeer mee oneens   Zeer mee eens

- Het doctoraal-programma vormt een coherente afspiegeling van mijn vakgebied

      1   2   3   4   5
     Zeer mee oneens   Zeer mee eens

- Het vaste programma van de doctoraalfase en de keuzemogelijkheden sluiten inhoudelijk goed op elkaar aan

      1   2   3   4   5
     Zeer mee oneens   Zeer mee eens

- De doctoraalfase bevat voldoende keuzemogelijkheden na de basisopleiding

      1   2   3   4   5
     Zeer mee oneens   Zeer mee eens

- Er zijn voldoende mogelijkheden voor stages of een andere vorm van kennismaking met de arbeidsmarkt

      1   2   3   4   5
     Zeer mee oneens   Zeer mee eens

- De onderdelen van het studieprogramma zijn relevant voor de opleiding

      1   2   3   4   5
     Zeer mee oneens   Zeer mee eens

Docenten

Hoe beoordeel je je universitaire docenten op de volgende punten?

- Vakdeskundigheid   1   2   3   4   5
- Didactische kwaliteiten   1   2   3   4   5
- Inzet en enthousiasme   1   2   3   4   5
- Bereikbaarheid   1   2   3   4   5

                        Zeer slecht   Zeer goed

Onderwijs en toetsing

- De propedeuse is te halen in de daarvoor gestelde tijd

                        1   2   3   4   5

                        Zeer mee oneens   Zeer mee eens

- Het doctoraal is te halen in de daarvoor gestelde tijd

                        1   2   3   4   5

                        Zeer mee oneens   Zeer mee eens

- Deze opleiding leert je op een wetenschappelijke manier te denken

                        1   2   3   4   5

                        Zeer mee oneens   Zeer mee eens

- Deze opleiding besteed voldoende aandacht aan het bijbrengen van onderzoeksvaardigheden

                        1   2   3   4   5

                        Zeer mee oneens   Zeer mee eens

- Deze opleiding besteed voldoende aandacht aan het bijbrengen van communicatieve vaardigheden

                        1   2   3   4   5

                        Zeer mee oneens   Zeer mee eens

Hoe beoordeel je de kwaliteit van het onderstaande?

- Colleges   1   2   3   4   5
- Syllabi   1   2   3   4   5
- Aansluiting studiemateriaal – tentamen   1   2   3   4   5
- Aansluiting college – tentamen   1   2   3   4   5

                        Zeer slecht   Zeer goed

Organisatie & Communicatie

Hoe beoordeel je de onderstaande aspecten van de Erasmus Universiteit Rotterdam?

- Communicatie tussen faculteit en student   1   2   3   4   5
- College- en tentamenroosters   1   2   3   4   5
- Termijn tentamenuitslagen   1   2   3   4   5

                        Zeer slecht   Zeer goed

Tot slot volgen nog een paar achtergrondvragen:

- Hoe oud ben je?   ……………jaar

- Wat is je geslacht?   Man / Vrouw

- In welk jaar ben je begonnen met je economie-studie?   ……………

- Heb je hiervoor reeds een andere HBO- of WO-opleiding gedaan?   Ja / Nee

- Ben je, naast de Eramsus Universiteit Rotterdam, nog bij andere universiteiten langsgeweest om je te oriënteren op de mogelijkheid om daar economie te studeren? Zo ja, bij hoeveel (excl. EUR)?

                                                 Ja, bij………… / Nee

- Woon je nog bij je ouders of op kamers?   Bij ouders / op kamers

- Wonen je ouders in Zuid-Holland?   Ja / Nee

English

Below are both some questions and some statements. Please indicate, for each statement, to which extent you agree. Category 1 indicates that you strongly **dis**agree, while category 5 indicates that you strongly agree. When facing a question, you also have the choice of 1 to 5, 1 indicating very bad, 5 indicating very good. Please choose by circling the corresponding number.

General
- How do you assess the quality of your current education?

           1   2   3   4   5
      Very bad   Very good

- If someone asks me advice about in which city he/she should go studying economics, I will recommend the University of Maastricht.

           1   2   3   4   5
      Strongly disagree   Strongly agree

Facilities
How would you rate the following study-facilities for the study economics at the University of Maastricht?
- Seats, availability of computers   1   2   3   4   5
- Availability of readers / syllabi   1   2   3   4   5
- Location of examination   1   2   3   4   5

      Very bad   Very good

Educational organization
- The *propedeuse* (first year) provides a good overview of the field of study

           1   2   3   4   5
      Strongly disagree   Strongly agree

- The *doctoraal* (2nd through 4th year) is a coherent reflection of the field of study

           1   2   3   4   5
      Strongly disagree   Strongly agree

- The obligatory part of the *doctoraal* en the optional subjects are well attuned to each other.

           1   2   3   4   5
      Strongly disagree   Strongly agree

- There is enough room for optional subject in the *doctoraal*, after the obligatory part

           1   2   3   4   5
      Strongly disagree   Strongly agree

- There are sufficient possibilities for orientation on the labor market through means of traineeships, etc.

           1   2   3   4   5
      Strongly disagree   Strongly agree

- The parts of the curriculum are relevant to the study of economics

           1   2   3   4   5
      Strongly disagree   Strongly agree

Tutors, lecturers, etc.

How do you assess the quality of your tutors (teachers) on the following criteria?

- Professional expertise   1   2   3   4   5
- Didactic qualities   1   2   3   4   5
- Devotion and enthusiasm   1   2   3   4   5
- Accessibility   1   2   3   4   5

                                                Very bad   Very good

Education and examination

- It is possible to pass the *propedeuse* in the set time of one year

                                     1   2   3   4   5

                                Strongly disagree   Strongly agree

- It is possible to pass the *doctoraal* in the set time of three years

                                     1   2   3   4   5

                                Strongly disagree   Strongly agree

- Through the curriculum, students are taught a scientific way of thinking

                                     1   2   3   4   5

                                Strongly disagree   Strongly agree

- This education pays enough attention to teach research skills

                                     1   2   3   4   5

                                Strongly disagree   Strongly agree

- This education pays enough attention to teach communicative skills

                                     1   2   3   4   5

                                Strongly disagree   Strongly agree

How do you assess the quality of the following?

- Lectures, tutorials   1   2   3   4   5
- Readers and syllabi   1   2   3   4   5
- Attunement study material – exams   1   2   3   4   5
- Attunement lectures – exams   1   2   3   4   5

                                          Very bad   Very good

Organization & Communication

How do you rate the quality of the following?

- Communication between faculty and student   1   2   3   4   5
- Timetables for exams and classes   1   2   3   4   5
- Term of examination results   1   2   3   4   5

                                     Very bad   Very good

Finally, please answer the following background-questions:

- How old are you?   ……………years

- What is your gender?   Male / Female

- In which year did you start with your academic economics-education?   ……………

- Have you already enjoyed university or college education, prior to this one?   Ja / Nee

- Have you visited information meetings of other universities offering the study of economics? If yes, at how many (excl. the University of Maastricht)   Yes, at………… / No

- Are you living with you parents or own your own?   With parents / On my own

- Are your parents living in Limburg?   Yes / No

Appendix B

Overview of data, concerning individual-specific variables.

	Rotterdam	Maastricht	Total
19		2	2
20	14		14
21	16	16	32
22	14	16	30
23	9	10	19
24	7	10	17
25	3	4	7
26	5	4	9
31	1		1
32	1		1
Total	70	62	132

Table B1: Age of respondents

	Rotterdam	Maastricht	Total
Female	21	13	34
Male	49	49	98
Total	70	62	132

Table B2: Gender of respondents

	Rotterdam	Maastricht	Total
1994	1		1
1995	3	8	11
1996	4	6	10
1997	10	28	38
1998	38	10	48
1999	4	8	12
2000	10	2	12
Total	70	62	132

Table B3: Year in which respondent has started academic economics study

	Rotterdam	Maastricht	Total
Prior college or academic education	19	10	29
No prior college or academic education	51	52	103
Total	70	62	132

Table B4: Did the respondent enjoy other college (HBO) or academic education, prior to the current economics studies?

	Rotterdam	Maastricht	Total
Did go to info. meeting at other univ.	25	42	67
Did not go to info. meeting at other univ.	45	20	65
Total	70	62	132

Table B5: Did the respondent attend information meeting on economics study at different university than the one currently studying?

	Rotterdam	Maastricht	Total
1	11	22	33
2	12	13	24
3	2	3	6
4		3	2
5		1	2
Total	25	42	67

Table B5a: The number of universities (other than the one where currently is being studied), where respondent has attended information meeting on the study of economics

	Rotterdam	Maastricht	Total
Living away from home	44	42	86
Living with parents	26	20	46
Total	70	62	132

Table B6: Living arrangement of respondents: with parents or out on his / her own

	Rotterdam	Maastricht	Total
Regional student	39	36	75
Non-regional student	31	26	57
Total	70	62	132

Table B7: Overview of number of regional students (i.e. parents live in same province as the university is located in) among respondents

TABLES

Table 1: Summary of own survey and of the Elsevier (2000) survey.

Average scores on overall quality and assessment of attributes. Numbers in parentheses denote variances. For the Elsevier survey, the attribute totals are not the average scores on each attribute. Due to the fact that some questions have been added or omitted, these totals may not be in complete correspondence with the numbers in the tables.

	Results own survey				Results Elsevier 2000 survey	
	Rotterdam		Maastricht		Rotterdam	Maastricht
Overall judgement						
Overall quality of education	6.97	(1.13)	6.97	(1.02)	6.9	6.9
Recommend to friend or family member	7.37	(1.97)	7.68	(1.17)		
Facilities					7.4	6.8
Seats, availability of computers	4.86	(1.23)	4.26	(1.77)	7.1	6.9
Readers and syllabi	7.49	(1.47)	6.45	(1.51)	7.4	6.9
Location of examinations	8.43	(1.31)	7.68	(0.66)	8.3	6.8
Educational organization					6.8	7
Propedeuse provides good overview	6.11	(1.71)	6.77	(1.25)	6	6.8
Doctoraal coherently covers field of study	6.83	(1.34)	7.35	(1.21)	7	7.5
Good attunement of obligatory and optional part	6.74	(1.15)	7.61	(1.09)	6.7	7.3
Sufficient optional courses	7.97	(1.29)	7.94	(1.22)	7.5	7.7
Orientation labor market	6.74	(2.30)	5.55	(2.41)	7.2	6.6
Relevance of all parts of curriculum to study	6.66	(1.18)	7.42	(0.54)	6.1	6.4
Tutors, lecturers, teachers, etc.					6.9	6.9
Professional expertise	7.77	(0.77)	7.55	(1.12)	7.1	7.1
Didactic qualities	6.00	(0.80)	6.32	(1.17)		
Enthusiasm	6.46	(0.98)	6.77	(0.86)		
Accessability	6.29	(1.39)	6.13	(1.80)		
Education and examination					6.8	7.2
Propedeuse can be done in 1 year	8.29	(2.07)	8.39	(1.73)	8.1	8
Doctoraal can be done in 3 years	6.17	(2.10)	6.39	(3.54)	6.3	6.6
Scientific way of thinking	6.74	(1.32)	6.90	(1.27)	6.1	6.6
Research skills	5.66	(1.48)	6.00	(1.68)	6.7	7.6
Communicative skills	6.09	(1.51)	8.13	(1.28)	6.4	8.1
Quality of classes	6.11	(0.85)	5.35	(2.11)	6.9	6.5
Quality of readers and syllabi	6.94	(0.90)	6.65	(1.34)	7.2	7.2
Attunement study material - exams	6.91	(1.24)	7.16	(1.13)	7.1	7.4
Attunement classes - exams	7.09	(0.95)	5.48	(1.80)	7.2	6.3
Organisation and Communication					7.1	6.9
Communication faculty and student	5.20	(1.68)	4.90	(1.40)	5.8	5.4
Timetables classes and exams	7.26	(1.90)	6.90	(1.27)	6.9	6.9
Term of examination results	5.57	(1.94)	4.71	(2.39)	5.7	5.1

Table 2: Average scores on background variables, for both groups of respondents

Background variables	Rotterdam	Maastricht
Age	22.4	22.6
Percentage of males	70.0%	79.0%
Year of start current economics-studies	1997.9	1997.2
Percentage of resp. that have already enjoyed college or other university education	27.1%	16.1%
Percentage of resp. that has attended information meeting at other university	35.7%	67.7%
Percentage of resp. living at home	37.1%	32.3%
Percentage of regional students	55.7%	58.1%
Number of respondents	70	62