EconomEtica

Centro interuniversitario per l'etica economica
e la responsabilità sociale di impresa
promosso dalla Fondazione Italiana Accenture

N.35 February 2012

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Family money, relational life and (class) relative wealth:an empirical analysis on life satisfaction of secondary school students

Working papers

Family money, relational life and (class) relative wealth:an empirical analysis on life satisfaction of secondary school students*

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Abstract

We investigate factors affecting happiness on a sample of Italian secondary school students. We find that money matters since family's house ownership, mortgages and (class) relative wealth significantly affect life satisfaction. Other crucial factors are geographical residence (those living in Milan are significantly less happy), mother's occupation, trust on family and friendships. Even though we cannot rule out inverse causality and other forms of endogeneity, the characteristics of many of the significant regressors such as family wealth, parental job and geographical residence (not under the decisional power of the student)suggest a direct causality nexus for these factors.

Keywords: life satisfaction, secondary school, wealth.

JEL Numbers:I31, E01.

*We wish to thank Gianpaolo Barbetta, Stefano Caiazza, Stefano Cima, Decio Coviello, Jerry Dwyer, Iftekhar Hasan, Tullio Jappelli, James Lothian, Chiara Monticone, Francesco Nucci, Mario Padula, Paul Wachtel and all participants at the XIXth Tor Vergata Financial Conference for useful comments and suggestions. Managerial support from Marco Bracaglia and the Osservatorio sul Credito, institutional support from the Ministry of Education and financial support from Unicredit, Fondazione Cariplo, Fondazione Carige and JP Morgan are gratefully acknowledged.

1.Introduction

Life satisfaction is an extremely synthetic subjective wellbeing indicator which is more and more investigated in the economic literature due to its peculiar characteristics. First, it is, by definition, the only "non paternalistic" wellbeing indicator through which individuals under scrutiny express an evaluation of their own situation instead of being evaluated from external experts. Second, when it diverges from traditional "objective" indicators it may indicate the emergence of new needs (or an increase in expectations) which are only imperfectly captured by the latter.[1]Third, the application of the compensating surplus approach on life satisfaction econometric findings produces original measures of the shadow value of non market goods.[2]

The burgeoning empirical literature on the determinants of life satisfaction[3] mainly focuses on satisfaction of adults while very limited research has been done on life satisfaction of teenagers and almost nothing, to our knowledge, on the narrower focus of life satisfaction of secondary school students. Among the very few contributions on the first issue van de Wetering, van Exel and Brouwer (2010) explore satisfaction in different life domains for a sample of Dutch adolescents and acknowledge that "what constitutes adolescent happiness can best be seen as a large, unsolved jigsaw puzzle". Pichler (2006) analyses a group of 15-29 year old Europeans and observes that it is more difficult to explain life satisfaction of adolescents than that of young adults. He also documents that social embeddedness plays an important role for the former. Dockery (2005) investigates the determinants of wellbeing among young Australians and finds that character traits (extrovert, easy going) are extremely important.

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[1] This is the story of the Easterlin paradox which documents a divergence in the share of those declaring themselves very happy and per capita income in the US after the second world war. For the debate on the Easterlin paradox see Easterlin (1995), Easterlin and Angelescu (2009) and Stevenson and Wolfers(2008).

[2]Relevant contributions in this field are those estimating the shadow value of air pollution (Welsch, 2002 and Luechinger, 2010), terrorist activity (Frey et al., 2009), noise nuisance (van Praag and Baarsma, 2005) and flood disasters (Luechinger and Raschky, 2009).

[3]For a survey of the life satisfaction literature see, among others, Frey and Stutzer (2002 and 2010) and Clark et al. (2008a and 2008b).

Our research aims to fill the gap in the existing literature by investigating the determinants of happiness on a large sample of secondary school students in Italy. A first original trait is that our sample is made by fourth year students. With respect to the scant existing evidence on life satisfaction of the young, we have the unique opportunity of working on a homogeneous sample which is therefore controlled for education years. Within this sample we have the unique chance of testing the relationship between school performance and students' life satisfaction using information which is not available in traditional happiness surveys. A third original element is the possibility of testing the impact of relative variables at class level by considering student class their reference group. Finally, working with students may help to solve some of the causality puzzles which typically arise in the life satisfaction literature. To take just a well known and widely debated example, the typically observed positive relationship between money and happiness may hide both a direct and an inverse causality nexus. Individuals may be happier since they earn more or they may earn more because of their time invariant psychological traits (optimism, extroversion, etc.) which make them happier and more enterprising at the same time. In our research we have the advantage of examining the impact of measures of financial affluence (such as family house ownership) which are beyond control of the individuals under investigation, thereby reducing endogeneity and reverse causality problems.

Our findings document that money and wealth matter for students. Given their age what matters is family financial wellbeing. More specifically, we observe the positive impact of house ownership and the negative impact of household mortgages. In addition to it, we find that relative comparisons of financial wellbeing matter as well since the average share of house ownership at class level impacts negatively on life satisfaction.

Beyond money we find several other variables significantly correlated with students life satisfaction such as geographical residence (*ceteris paribus* students living in Milan are less happy), mother job, school performance in literary subjects and variables proxying the importance of family and friends.

Finally, we try to correct for heterogeneity in life satisfaction scales (and differences in psychological traits) using as correction factors answers to a question on which all the respondents are asked to evaluate a common situation (a judgment on whether the domestic banking system is healthy or in crisis) which is assumed not to affect directly student satisfaction.[4] We find that our results are robust to the introduction of this control.

We discuss our findings and divide significant covariates in two categories. A first category is represented by variables not depending on students' will (family income and wealth, mother job, geographical residence). In these cases we argue that the observed correlation is more likely to capture a direct causality nexus from them to life satisfaction.

A second category is represented by variables depending on student's actions or beliefs (school performance in literary subjects, trust on family, importance of friendships). For such variables hypotheses of reverse causality, two-way causality and endogeneity are much more likely to hold.

The paper is divided into six sections (including introduction and conclusions). In the second section we describe our inquiry and the database. In the third section we illustrate econometric findings, while in the fourth section we provide some robustness checks. In the fifth section we further discuss our results while the sixth section concludes.

2.Descriptive findings

Our sample is represented by 2,123 students from 66 classes in three different cities (Rome, Milan and Genova) participating to an experiment of financial education in which a survey is administered before a financial education course.Geographical distribution is uneven in the sample as it depends on the schools who accepted to participate to the experiment. 49 percent of students are in Milan, 32

[4] As it will be shown in what follows we check whether this specific result persists when we remove from the sample students with parents working in the banking sector (see section 4).

percent in Rome and the rest in Genova. Students come from three types of schools: classical studies (*liceoclassico*), scientific studies (*liceoscientifico*) and vocational training (*istitutoprofessionale*).[5]

Life satisfaction is measured in the survey with a standard Cantril-ladder question of the type *All things considered, to what extent are you satisfied with your life on a scale from 0 to 10 (10 being the maximum and 0 the minimum)?*

Descriptive evidence on life satisfaction answers presents the typical distribution of most empirical analyses on life satisfaction (Figure 1). The distribution is right skewed and the share of low value responses is small (only 6.48 percent below 5). The modal value (8) is selected by more than one third of respondents and a non negligible share of students (10.82 per cent) declares the highest level of satisfaction. Differences among distributions in the three cities are not small. In Milan around ten percent more respondents declare a non-high (below 8) level of life satisfaction than in Genova and Rome (around 48 percent against 36 and 37 percent respectively). Kolmogorov-Smirnov tests document that these differences are significant rejecting the null of the equality of distributions between Rome and Milan, and Genova and Milan, while not rejecting it between Rome and Genova (Figure 1).

In Table 1 we provide descriptive statistics of the variables of interest in our empirical analysis. Note that 84 percent of students belong to a family who owns a house (a value which is close to the national average),[6] while 35 percent of them has a mortgage. Around 13 percent of students are

5*LiceoClassico* has been historically regarded as the most prestigious high school in Italy. The main subjects taught are humanities (Latin, Greek, Italian, and Philosophy), but the curriculum also includes Mathematics, Physics, Chemistry and Biology. *LiceoScientifico* is the most important alternative to *Classico* oriented toward scientific disciplines. *Istituto Professionale* is a technical/professional school in which the curriculum includes accounting and basic economic principles together with Italian, Mathematics, and Principles of Law.

[6] According to data from Agenzia del territorio (2011) 79.1 percent of households were house owners in Italy in 2009.

from *Classico*, 18 percent from *Scientifico* and the vast majority from technical schools. A considerable number of them (42 percent) has repeated at least a school year.

3. Econometric findings

Given the discrete qualitative nature of our dependent variable we perform the following ordered logit estimate

$$LS_{ijk} = \alpha_0 + \alpha_1 Rome + \alpha_2 Genova + \alpha_3 Male + \alpha_4 \text{Re}\, peat + \alpha_5 HouseOwn + \alpha_6 Mortgage + \alpha_7 CAccount + \alpha_8 LitGrade + \alpha_9 MathGrade + \alpha_{10} IntGrade + \alpha_{11} MothCivSer\, v + \alpha_{12} TrustFamil\, y + \alpha_{13} Friends + \eta_j + v_k + \varepsilon_{ijk} \quad (1)$$

Where LS_{ijk} is life satisfaction of the i-th student in the j-th class of the k-th school, *Rome* and *Genova* are two dummies measuring residence, *Male* is a gender dummy, *Repeat* is a dummy taking value one for students who repeated at least one year, [7]*Houseown*(*Mortgage)* is a dummy for students with a house-owning family (in a family with a mortgage), *CCaccount*is a dummy for students having a current account. *LitGrade, MathGrade* and *IntGrade*are students' average grades in Italian and Math in the previous year and final grade at Intermediate school respectively, *MothCivServ* is a dummy for students whose mother works as a civil servant, *Trustfamily* is a discrete qualitative variable measuring the level of trust in the family on a 1-3 scale and *Friends* is a variable where students are asked whether their friendship give them confidence about their future on a 1-3 scale, η_i are school effects and v_i are class effects.

[7] We control for age with this variable since the sample contains all students aged between 17 and 18 (the regular age for a fourth year student which attends the class for the first time) except for a group above eighteen who repeated at least a year in their school career.

We start with a more parsimonious estimate with a subset of the illustrated regressors and then add sequentially other groups of them. In a first specification we just introduce geographical residence, gender and a dummy taking value one if the student is repeating the year (Table 2, column 1). We find that all of the four variables are significant. Surprisingly males and not females are relatively happier, as it usually tends to be in standard findings of the non adolescent literature, but consistently with what found by van de Wetering, van Exel and Brouwer (2010) on Dutch adolescents. The significance of geographical residence documented with tests on the equality of distributions (Figure 2) is confirmed in econometric estimatessince living in Milan has a negative impact on life satisfaction vis-à-vis living in Rome or Genova. This result is consistent with a vast literature showing that areas where people live have relevant impact on subjective wellbeing (Cramm et al. 2011, Farrell et al. 2005, Deneulin and Townsend 2007). Repeating the year has a negative and significant effect on life satisfaction. We may reasonably presume that the finding is due to the event itself or to factors reducing satisfaction which led to it.

In a second specification we introduce the three variables measuring money and wealth: house ownership of the respondent family, existence of a mortgage relationship of the family with a bank and respondent's ownership of a current account (Table 2, column 2). All of the three variables are significant and demonstrate that personal and family money matter. More specifically, house ownership is positive, mortgage is negative, while ownership of current account also affects positively life satisfaction.

In our third specification we introduce three school performance measures: the final mark in Math and Italian in the previous year and the final mark in the Intermediate school exam (Table 2, column 3).[8] What is interesting here is that we do not find any significant relation between the latter and the

[8]Even though it is generally said that there are significant geographical differences in the severity of teachers in Italy, average grades are extremely similar across the three cities in our sample with differences below .2 and definitely not statistically significant.Evidence is omitted for reasons of space and available upon request.

(Intermediate and) Math grade,while we do find a positive and significant correspondence between life satisfaction and the Italian grade of the last year.

In a fourth specification we consider the most relevant variables measuring parental jobs (Table 2, column 4). We make a pre-selection for these variables by selecting only those who resulted to be significant in an estimate without the other regressors.[9] We find that none of the father jobs is significant, while we observe that a mother who works in the public sector correlates with a significantly higher student life satisfaction. A likely rationale may be that this occupation gives time flexibility which helps mothers to reconcile work and domestic time.

In our fifth specification we introduce the two proxies of the importance of family and friends (Table 2, column 5). Both variables are strongly positive and significant.

Note that the positive contribution to life satisfaction from living in Rome and Genova vis-à-vis living in Milan remains significant across all specifications. This finding suggests that the geographical effect is not accounted for by differences in income, parental job and trust on family and friendships. In principle we have no elements to say whether the effect depends on environmental/weather amenities,culture or other kind of factors. The first rationale may however be consistent with recent research from Colombo, Michelangeli and Stanca (2010) measuring urban quality of life with the hedonic price approach in the 95 Italian provinces. Based on econometric findings on house prices and wage differentials the authors rank Milan at the 89th place, Rome at the 49th and Genova at the 29th according to environmental/weather amenities. Since in the same research Milan is not below Rome and Genova in the three alternative"society", "economy" and

[9]The occupations considered are Artisan, Barman/Waiter, House husband, Shopkeeper, Shop assistant, Civil servant, Manager, Journalist, Office clerk, Businessman, Teacher, Freelance, Manual worker, Bank clerk, Retired, Medical practitioner, Sales representative, Unemployed.

"quality of services" rankings, the argument that our geographical residence variable captures these differences in weather amenities is reasonable.[10]

In Tables 3, 4 (and 5) we re-estimate all specifications presented in Table 2 with school, class (and combined class and school) fixed effects. Such effects are aimed to capture common factors at class levels such as i) differences in school types (*Classico*, *Scientifico* and professional schools as described in footnote 5); ii) common factors of the area in which the school is located; iii) relational dynamics of the specific class; iv) day of the week effects and weather conditions[11] related to the hour and place of the survey.Note that the significance of geographical factors disappears once we introduce class or geographical area averages of the relevant variables. This does not mean that geographical effects at city level do not exist since class fixed effects are themselves fixed geographical variables at a more disaggregated level.

In order to evaluate not only the statistical but also the economic significance of our results we calculate magnitudes of our coefficients as effects of them on the probability of declaring the highest level of life satisfaction. Results indicate that the strongest effect is mother employment in the public sector (the factor raises the probability of declaring the highest life satisfaction level by 6 percent). Geographical effects are close to this magnitude. Living in Rome (Genova) leads to a 5.6 percent (5 percent) higher probability of declaring the highest level of life satisfaction vis-à vis living in Milan in estimates without class fixed effects. The impact of house ownership is around 4 percent after controlling for class fixed effects. Note that, if we compute magnitudes by considering the effect of the significant regressor on the probability of declaring a level of happiness above 7 (that is, in the ranges of those declaring a high level of satisfaction), the effects are much larger. Living in Rome and in Genova raises respectively such probability by around 13 and 14 percent in

[10]The urban area ofGenova is a tiny strip of land made by several hills which stretch on the sea. The sea may therefore mitigate the climate and the landscape also contribute directly to happiness of its citizens. Rome is also well known for its mild climate.

[11]Schwarz and Clore (1983) demonstrate that atmospheric conditions are a main factor among those related to the interview circumstances which tend to affect respondent life satisfaction evaluation.

estimates without class fixed effects, while a family property house raises the same probability by 12 percent.

4. Relative variables and robustness

As it is well known there is ample literature on the role of relative variables on life satisfaction. The first contributions on the role of relative income (Dorn, Fischer, Kirchgassner and Sousa-Poza, 2007; Ferrer-i-Carbonell, 2005) have been followed by further research documenting the importance of other relative factors different from income (Clark 2008a and b and 2009). Our database gives us an opportunity to check the role of relative factors by considering class level averages. In a first estimate we augment our best specification from Table 2(column 5) with class averages of all the significant regressors and find that only the average share of families owning a house is negative and significant (Table 6). This finding shows that the average level of wealth affects negatively individual life satisfaction and is broadly consistent with the negative effect of relative income in the literature.

Another crucial issue in life satisfaction estimates is scale heterogeneity and interpersonal comparability of discrete qualitative answers on life satisfaction.This problem may cast doubts especially on our geographical residence results. Are students in Milan really less happy vis-à-vis those in Rome and Genova or do they report relatively lower life satisfaction due, say, to a "cultural difference" by which they are more demanding or more severe (less easy going) in their evaluation scores? In order to check whether there is a problem of heterogeneity in life satisfaction scales some authors propose the solution of vignettes (Beegle et al., 2009): respondents observe a similar situation (of happiness/sorrow) in a picture and have to evaluate the level of life satisfaction of the individual in the picture. The answer is further used as a control for heterogeneity of life satisfaction

scales in the estimates. Since many surveys (i.e. census surveys) are done with computer assisted telephone interviews (CATI) it is interesting to consider the alternative of a "virtual vignette", that is, not a picture observed by respondents but a question asking them to provide a subjective evaluation on a situation which is the same for all. The question is the following: *choose one of the three alternatives. Today, the banking system is: i) growing; ii) stable; iii) in crisis.*[12]

Note that,in order to control effectively for scale heterogeneity, the " virtual vignette" question is required to have the property of not affecting directly life satisfaction of respondents. In the specific case of our question (the situation of the banking system) we reasonably assume that this is not a factor affecting significantly the wellbeing of school students. In order to be more confident in this assumption we perform a robustness check in which we remove from the sample students who have parents working in the banking sector (Table 6, columns 4 and 5).

We use the variable as further control in our best estimate and find that it is highly significant. Those who regard the same national situation of the banking system as more critical also report significantly lower life satisfaction.[13] The significance of the variable persists when we introduce class and school fixed effects while documenting robustness of our previous findings to scale heterogeneity (Table 7).

[12]Since we want to capture a sensation affected by the respondent's optimism/pessimisma vague statement (without specification of a given time period or indicator)is preferred to a precise question for which it would be only possible a right or wrong answer.

[13]Note as well that the heterogeneity in answers to such variable is not accounted for neither by geographical location nor by parental job in the banking industry since averages are extremely close for subgroups in different cities and with/without parents working in the banking system.

5. Discussion on causality links

As it is well known correlations found in econometric estimates may hide: i) direct causality from significant regressors to life satisfaction; ii) inverse causality from life satisfaction to the significant regressors; iii) a form of endogeneity generated by a third driver which is correlated with both and produces a spurious correlation.

Some of our significant variables are more suspected of lack of direct causality or other forms of endogeneity. Higher life satisfaction of the student may contribute to the creation of a favourable family environment which produces positive answers to the trust question or may directly produce such answers. Alternatively, the correlation between trust on family and life satisfaction may easily hide a third factor such as a time invariant "positive" psychological trait of the student or of the whole family which produces the correlation between observables. In spite of these two alternative rationales a direct causality link cannot be excluded. A serene and positive family environment may lead students to give high values to both the trust on family and life satisfaction questions.

On the other hand, a direct causality between money and students' happiness seems difficult to be ruled out. Some of the four relevant variables in this respect are not related to direct student choices. Hence, life satisfaction of students can hardly be though asaffecting past family economic conditions which led to house ownership or to a mortgage. Therefore the inverse causality nexus is highly unlikely in this specific case. The possibility of a genetically inherited psychological trait which causes both family affluence and student's life satisfaction cannot in principle be completely ruled out but seems quite difficult to support. This is also because we control for heterogeneity of scales and students psychological traits with the "vignette" question and we have a significant relative wealth effect where the above reasoning cannot apply. We therefore conclude that, based on

our findings, it is quite likely that household financial wellbeing positively affect students' life satisfaction.

Again, reverse causality and endogeneity are quite hard to support for the mother civil servant effect. A plausible interpretation is that this variable affects student's life satisfaction in terms of more time available for the family and lower parental stress related to job instability.

A puzzling result is the correlation of life satisfaction with Italian but not with Math school performance. Suspicion of reverse causality and endogeneity here is stronger since the assumption that a good grades in Italian (but not in Math) in the previous year causes life satisfaction in the current year (also by being correlated with current school performance) is not the only plausible explanation. It is possible here that psychological traits of the student affect both variables or that a character more inclined to happiness has positive impact on the development of literary expressivity and skills.

6.Conclusions

Our empirical analysis provides for the first time evidence on the restricted focus of the determinants of life satisfaction on a selected group of secondary school students. It therefore fits in the empirical life satisfaction literature and, more specifically, in that investigating the determinants of life satisfaction of the young. In the few existing contributions on this issue a mix of students and workers is usually considered. The specificity of our work is in the analysis of a sample of fourth year students which is homogeneous in terms of education background. Another distinctive feature

of our work is that it allows us to verify the role of factors not explored in previous research in the subfield such as relative family wealth and school performance.

Even though we are the first to acknowledge the limit of our data we think that the empirical analysis produces some original results for the life satisfaction literature.

Our findings document that family money matters and that also (class) relative wealth plays an important role. The higher the share of students with families owning a house, the lower the life satisfaction which is individually reported. As expected the quality of relational life (with family and friends) also playsan important role.[14] In addition to it we observe that geographical residence matters if we do not correct for the finer class fixed effects, with students living in Milan being relatively less happy than those living in Rome or Genova. The result is consistent with the hedonic price evidence which ranks Milan much lower than Rome and Genova in terms of environmental/weather amenities. The magnitude of the effect is quite relevant since living in Milan reduces by around 13-14 percent the probability of declaring a level of life satisfaction above 7.

Our research also provides a contribution to the money-happiness literature and the related debate on the causality puzzle since it shows that individuals are positively affected by economic affluence they did not create directly. The positive impact of parental wealth and, even more so, the negative effect of average class parental wealth are two elements in favour of a direct causality nexus between money and happiness which, given the original characteristics of our sample, can be hardly suspected of reverse causality and endogeneity.

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[14] Among empirical findings documenting the positive nexus between relational goods and life satisfaction see (Becchetti, Pelloni and Rossetti, 2008 and Becchetti, Giachin and Pelloni, 2011) .

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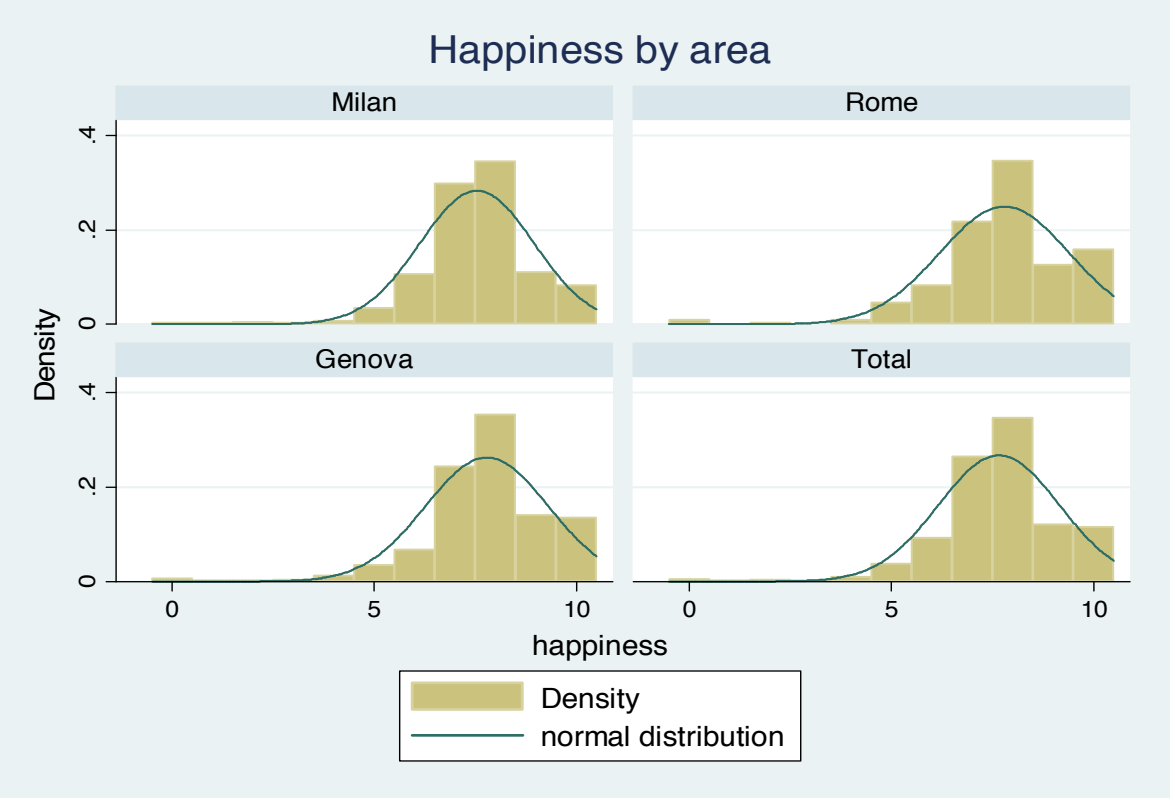
Figure 1 Distribution of life satisfaction answers – Overall sample and geographical breakdown



Two-sample Kolmogorov-Smirnov test for equality of distribution functions at city level.
H_{0A}:happiness in Genova=happiness in Rome (p-value 0.99);
H_{0B}: happiness in Genova=happiness in Milan (p-value 0.000);
H_{0C}: happiness in Rome=happiness in Milan (p-value 0.000).

Table 1. Descriptive satistics

Variable	N. obs.	Mean	Std. Dev.	Min.	Max
Lifesatisfaction	1743	7.627	1.556	0	10
Genova	2124	0.184	0.008	0	1
Milan	2124	0.494	0.011	0	1
Rome	2124	0.322	0.010	0	1
Male	1983	0.470	0.499	0	1
Repeat	2124	0.427	0.011	0	1
HouseOwn	1913	0.837	0.369	0	1
Mortgage	1739	0.347	0.476	0	1
CAccount	1960	0.300	0.458	0	1
LitGrade	1889	6.701	0.880	2	10
MatGrade	1881	6.633	1.153	2	10
IntGrade	1855	8.087	1.318	5	10
TrustFamily	2010	2.632	0.617	0	3
Friends	2018	1.860	0.860	0	3
MothCivSer	1996	0.024	0.155	0	1
ScaleTune	1923	0.842	0.010	.45	1
RelativeHouse	2124	2.647	0.591	0	3

Life satisfaction is measured in the survey with a standard Cantril-ladder question of the type *All things considered, to what extent are you satisfied with your life on a scale from 0 to 10 (10 being the maximum and 0 the minimum)?Genova, Milan and Rome* are three (0/1) dummies measuring residence, *Male* is a gender dummy, *Repeat* is a dummy taking value one for students who repeated at least one year, *Houseown* (*Mortgage)* is a dummy for students with a house-owning family (in a family with a mortgage), *CCaccount*is a dummy for students having a current account. *LitGrade, MathGrade* and*IntGrade*are students' average grades in Italian and Math in the previous year and final grade at Intermediate school respectively, *MothCivServ* is a dummy for students whose mother works as a civil servant, *Trustfamily* is a discrete qualitative variable measuring the level of trust in the family on a 1-3 scale and *Friends* is a variable where students are asked whether their friendship give them confidence about their future on a 1-3 scale.*ScaleTune* is a discrete qualitative variable evaluating the situation of the banking system ("*choose one of the three alternatives. Today, the banking system: i) is growing; ii) is stable; iii) is in crisis"). RelativeHouse* is the share of house-owning households in the student class.

Table 2 The determinants of life satisfaction of secondary school students

VARIABLES	(1)	(2)	(3)	(4)	(5)
Rome	0.512***	0.559***	0.593***	0.604***	0.609***
	(0.103)	(0.114)	(0.118)	(0.119)	(0.120)
Genova	0.433***	0.520***	0.414***	0.457***	0.481***
	(0.122)	(0.134)	(0.139)	(0.141)	(0.143)
Male	0.197**	0.177*	0.234**	0.241**	0.250**
	(0.089)	(0.100)	(0.104)	(0.104)	(0.105)
Repeat	-0.247***	-0.232**	-0.224**	-0.231**	-0.204*
	(0.091)	(0.102)	(0.106)	(0.107)	(0.109)
HouseOwn		0.391***	0.360**	0.373***	0.341**
		(0.138)	(0.141)	(0.142)	(0.143)
Mortgage		-0.324***	-0.301***	-0.302***	-0.270**
		(0.106)	(0.109)	(0.110)	(0.110)
CAccount		0.181*	0.175	0.156	0.178
		(0.107)	(0.110)	(0.110)	(0.111)
LitGrade			0.231***	0.230***	0.232***
			(0.065)	(0.066)	(0.067)
MatGrade			0.035	0.031	0.036
			(0.048)	(0.048)	(0.048)
IntGrade			-0.015	-0.013	-0.001
			(0.042)	(0.043)	(0.043)
MothCivSer				0.586*	0.568*
				(0.308)	(0.310)
TrustFamily					0.380***
					(0.094)
Friends					0.307***
					(0.066)
School FE	No	No	No	No	No
Cut1	-4.901***	-4.648***	-3.080***	-3.053***	-1.379**
	(0.324)	(0.379)	(0.605)	(0.608)	(0.662)
Cut2	-4.562***	-4.327***	-2.721***	-2.694***	-1.016
	(0.276)	(0.331)	(0.568)	(0.571)	(0.629)
Cut3	-4.253***	-3.948***	-2.311***	-2.354***	-0.671
	(0.240)	(0.285)	(0.538)	(0.546)	(0.607)
Cut4	-4.060***	-3.774***	-2.126***	-2.157***	-0.473
	(0.220)	(0.267)	(0.528)	(0.534)	(0.597)
Cut5	-3.495***	-3.342***	-1.712***	-1.723***	-0.036
	(0.173)	(0.230)	(0.510)	(0.515)	(0.580)
Cut6	-2.518***	-2.311***	-0.674	-0.675	1.021*
	(0.121)	(0.178)	(0.487)	(0.491)	(0.560)
Cut7	-1.464***	-1.238***	0.406	0.407	2.104***
	(0.093)	(0.155)	(0.480)	(0.484)	(0.555)
Cut8	-0.110	0.144	1.786***	1.808***	3.555***
	(0.083)	(0.149)	(0.481)	(0.485)	(0.561)
Cut9	1.459***	1.797***	3.459***	3.480***	5.265***
	(0.091)	(0.157)	(0.490)	(0.494)	(0.573)
Cut10	2.291***	2.623***	4.298***	4.312***	6.105***
	(0.106)	(0.168)	(0.494)	(0.498)	(0.578)
Observations	1632	1344	1274	1254	1239
Pseudo R-squared	0.0295	0.0295	0.0295	0.0295	0.0295

Standard errors in parentheses, *** p<0.01, ** p<0.05, * p<0.1. Variable definitions: see Table 1 legend.

Table 3 The determinants of life satisfaction of secondary schoolstudents – school fixed effects

VARIABLES	(1)	(2)	(3)	(4)	(5)
Rome	0.972*	-0.872	0.284	0.199	1.186*
	(0.551)	(1.594)	(0.642)	(0.644)	(0.620)
Genova	1.386**	-1.037	-0.010	-0.057	1.017
	(0.588)	(1.624)	(0.660)	(0.661)	(0.715)
Male	0.252***	0.277**	0.350***	0.347***	0.365***
	(0.096)	(0.108)	(0.113)	(0.114)	(0.115)
Repeat	-0.206**	-0.201*	-0.196*	-0.207*	-0.175
	(0.097)	(0.107)	(0.111)	(0.112)	(0.114)
HouseOwn		0.519***	0.537***	0.545***	0.509***
		(0.143)	(0.148)	(0.148)	(0.150)
Mortgage		-0.345***	-0.339***	-0.340***	-0.298***
		(0.108)	(0.111)	(0.112)	(0.113)
CAccount		0.196*	0.191*	0.167	0.198*
		(0.110)	(0.113)	(0.113)	(0.114)
LitGrade			0.212***	0.199***	0.205***
			(0.069)	(0.070)	(0.071)
MatGrade			0.038	0.035	0.039
			(0.050)	(0.050)	(0.050)
IntGrade			-0.006	0.004	0.009
			(0.050)	(0.050)	(0.050)
MothCivSer				0.642**	0.608*
				(0.317)	(0.320)
TrustFamily					0.411***
					(0.096)
Friends					0.270***
					(0.068)
School FE	Yes	Yes	Yes	Yes	Yes
Cut1	-4.089***	-5.724***	-3.144***	-3.174***	-0.573
	(0.542)	(1.597)	(0.837)	(0.840)	(0.839)
Cut2	-3.750***	-5.404***	-2.785***	-2.815***	-0.210
	(0.515)	(1.587)	(0.811)	(0.814)	(0.814)
Cut3	-3.442***	-5.026***	-2.375***	-2.475***	0.135
	(0.497)	(1.578)	(0.791)	(0.796)	(0.797)
Cut4	-3.248***	-4.852***	-2.190***	-2.278***	0.334
	(0.487)	(1.575)	(0.784)	(0.788)	(0.789)
Cut5	-2.684***	-4.420***	-1.776**	-1.844**	0.770
	(0.468)	(1.569)	(0.772)	(0.775)	(0.777)
Cut6	-1.704***	-3.386**	-0.736	-0.793	1.829**
	(0.452)	(1.562)	(0.757)	(0.760)	(0.762)
Cut7	-0.637	-2.299	0.357	0.302	2.922***
	(0.446)	(1.559)	(0.752)	(0.755)	(0.759)
cut8	0.749*	-0.880	1.773**	1.739**	4.405***
	(0.446)	(1.558)	(0.753)	(0.756)	(0.764)
cut9	2.356***	0.827	3.500***	3.464***	6.168***
	(0.449)	(1.558)	(0.759)	(0.761)	(0.774)
cut10	3.205***	1.676	4.364***	4.321***	7.032***
	(0.453)	(1.559)	(0.761)	(0.764)	(0.778)
Observations	1632	1344	1274	1254	1239
Pseudo R-squared	0.0430	0.0430	0.0430	0.0430	0.0430

Standard errors in parentheses, *** p<0.01, ** p<0.05, * p<0.1. Variable definitions: see Table 1 legend.

Table 4 The determinants of life satisfaction of secondary school students – class fixed effects

VARIABLES	(1)	(2)	(3)	(4)	(5)
Rome	-0.467	-1.269	-2.689**	0.785	-2.733**
	(0.732)	(1.617)	(1.333)	(0.878)	(1.331)
Genova	0.112	-1.135	-2.303	0.712	-2.120
	(0.930)	(1.708)	(1.458)	(1.035)	(1.496)
Male	0.246**	0.278**	0.355***	0.352***	0.374***
	(0.098)	(0.110)	(0.115)	(0.116)	(0.117)
Repeat	-0.191*	-0.192*	-0.171	-0.186	-0.157
	(0.099)	(0.110)	(0.114)	(0.115)	(0.117)
HouseOwn		0.499***	0.513***	0.527***	0.494***
		(0.145)	(0.151)	(0.151)	(0.154)
Mortgage		-0.347***	-0.333***	-0.333***	-0.288**
		(0.110)	(0.113)	(0.114)	(0.115)
CAccount		0.207*	0.205*	0.183	0.206*
		(0.111)	(0.114)	(0.115)	(0.115)
LitGrade			0.232***	0.209***	0.221***
			(0.072)	(0.073)	(0.074)
MatGrade			0.033	0.030	0.032
			(0.051)	(0.052)	(0.052)
IntGrade			-0.007	0.005	0.011
			(0.051)	(0.051)	(0.051)
MothCivSer				0.682**	0.634*
				(0.323)	(0.327)
Family					0.403***
					(0.097)
Friends					0.264***
					(0.068)
Class FE	Yes	Yes	Yes	Yes	Yes
Cut1	-5.295***	-5.782***	-5.645***	-2.123**	-4.016***
	(0.698)	(1.604)	(1.424)	(0.983)	(1.449)
Cut2	-4.956***	-5.461***	-5.286***	-1.764*	-3.653**
	(0.677)	(1.593)	(1.409)	(0.961)	(1.434)
Cut3	-4.647***	-5.083***	-4.876***	-1.424	-3.308**
	(0.663)	(1.584)	(1.397)	(0.946)	(1.425)
Cut4	-4.454***	-4.909***	-4.691***	-1.227	-3.109**
	(0.656)	(1.581)	(1.393)	(0.939)	(1.421)
Cut5	-3.888***	-4.477***	-4.277***	-0.792	-2.671*
	(0.642)	(1.575)	(1.386)	(0.929)	(1.414)
Cut6	-2.904***	-3.439**	-3.231**	0.264	-1.608
	(0.630)	(1.568)	(1.378)	(0.916)	(1.406)
Cut7	-1.833***	-2.347	-2.131	1.366	-0.507
	(0.625)	(1.566)	(1.376)	(0.914)	(1.404)
Cut8	-0.436	-0.912	-0.701	2.818***	0.991
	(0.624)	(1.564)	(1.376)	(0.916)	(1.406)
Cut9	1.196*	0.832	1.061	4.580***	2.789**
	(0.625)	(1.564)	(1.377)	(0.922)	(1.408)
Cut10	2.056***	1.703	1.944	5.456***	3.672***
	(0.627)	(1.565)	(1.377)	(0.925)	(1.409)
Observations	1632	1344	1274	1254	1239
Pseudo R-squared	0.0505	0.0505	0.0505	0.0505	0.0505

Standard errors in parentheses, *** p<0.01, ** p<0.05, * p<0.1. Variable definitions: see Table 1 legend.

Table 5 The determinants of life satisfaction of secondary school students – class and school fixed effects

VARIABLES	(1)	(2)	(3)	(4)	(5)
Rome	0.730	-1.269	0.723	-0.263	-0.188
	(0.586)	(1.617)	(0.650)	(0.681)	(0.694)
Genova	0.621	-1.158	1.033	0.100	0.425
	(0.742)	(1.703)	(0.714)	(0.738)	(0.966)
Male	0.246**	0.278**	0.355***	0.352***	0.374***
	(0.098)	(0.110)	(0.115)	(0.116)	(0.117)
Repeat	-0.191*	-0.192*	-0.171	-0.186	-0.157
	(0.099)	(0.110)	(0.114)	(0.115)	(0.117)
HouseOwn		0.499***	0.513***	0.527***	0.494***
		(0.145)	(0.151)	(0.151)	(0.154)
Mortgage		-0.347***	-0.333***	-0.333***	-0.288**
		(0.110)	(0.113)	(0.114)	(0.115)
CAccount		0.207*	0.205*	0.183	0.206*
		(0.111)	(0.114)	(0.115)	(0.115)
LitGrade			0.232***	0.209***	0.221***
			(0.072)	(0.073)	(0.074)
MatGrade			0.033	0.030	0.032
			(0.051)	(0.052)	(0.052)
IntGrade			-0.007	0.005	0.011
			(0.051)	(0.051)	(0.051)
MothCivSer				0.682**	0.634*
				(0.323)	(0.327)
TrustFamily					0.403***
					(0.097)
Friends					0.264***
					(0.068)
School FE	Yes	Yes	Yes	Yes	Yes
Class FE	Yes	Yes	Yes	Yes	Yes
Cut1	-4.098***	-5.782***	-2.233***	-3.171***	-1.471
	(0.543)	(1.604)	(0.793)	(0.855)	(0.909)
Cut2	-3.759***	-5.461***	-1.874**	-2.811***	-1.107
	(0.516)	(1.593)	(0.766)	(0.830)	(0.885)
Cut3	-3.450***	-5.083***	-1.464**	-2.471***	-0.762
	(0.498)	(1.584)	(0.744)	(0.812)	(0.870)
Cut4	-3.257***	-4.909***	-1.279*	-2.275***	-0.563
	(0.488)	(1.581)	(0.736)	(0.804)	(0.863)
Cut5	-2.691***	-4.477***	-0.865	-1.840**	-0.126
	(0.469)	(1.575)	(0.724)	(0.792)	(0.851)
Cut6	-1.707***	-3.439**	0.181	-0.784	0.938
	(0.453)	(1.568)	(0.708)	(0.777)	(0.838)
Cut7	-0.635	-2.347	1.281*	0.319	2.038**
	(0.447)	(1.566)	(0.703)	(0.772)	(0.835)
Cut8	0.762*	-0.912	2.710***	1.770**	3.536***
	(0.447)	(1.564)	(0.706)	(0.773)	(0.839)
Cut9	2.393***	0.832	4.473***	3.532***	5.334***
	(0.450)	(1.564)	(0.713)	(0.778)	(0.847)
Cut10	3.253***	1.703	5.356***	4.408***	6.217***
	(0.454)	(1.565)	(0.717)	(0.781)	(0.850)
Observations	1632	1344	1274	1254	1239
Pseudo R-squared	0.0505	0.0505	0.0505	0.0505	0.0505

Standard errors in parentheses, *** p<0.01, ** p<0.05, * p<0.1. Variable definitions: see Table 1 legend.

Table 6 The determinants of life satisfaction of secondary school students – (class) relative wealth effect and heterogeneity of scale correction

VARIABLES	(1)	(2)	(3)	(4)	(5)
Rome	0.417***	0.396***	1.184*	0.467***	-0.119
	(0.130)	(0.131)	(0.625)	(0.153)	(0.746)
Genova	0.447***	0.424***	0.877	0.431***	0.680
	(0.143)	(0.145)	(0.660)	(0.165)	(0.831)
Male	0.313***	0.296***	0.338***	0.311**	0.364***
	(0.107)	(0.108)	(0.116)	(0.126)	(0.137)
Repeat	-0.228**	-0.259**	-0.204*	-0.209	-0.165
	(0.109)	(0.110)	(0.115)	(0.128)	(0.135)
HouseOwn	0.491***	0.493***	0.512***	0.557***	0.561***
	(0.148)	(0.150)	(0.153)	(0.185)	(0.189)
CAccount	0.167	0.158	0.199*	0.094	0.136
	(0.111)	(0.113)	(0.116)	(0.130)	(0.134)
Mortgage	-0.312***	-0.299***	-0.283**	-0.320**	-0.312**
	(0.111)	(0.113)	(0.114)	(0.131)	(0.134)
LitGrade	0.211***	0.200***	0.195***	0.138*	0.127
	(0.067)	(0.068)	(0.072)	(0.079)	(0.084)
MatGrade	0.031	0.026	0.035	0.017	0.025
	(0.048)	(0.049)	(0.051)	(0.057)	(0.059)
IntGrade	0.053	0.050	0.012	0.049	0.008
	(0.045)	(0.046)	(0.051)	(0.054)	(0.060)
MothCivServ	0.584*	0.580*	0.591*	0.348	0.400
	(0.311)	(0.313)	(0.322)	(0.366)	(0.380)
TrustFamily	0.389***	0.377***	0.398***	0.338***	0.365***
	(0.094)	(0.096)	(0.098)	(0.112)	(0.115)
Friends	0.286***	0.305***	0.291***	0.230***	0.225***
	(0.066)	(0.068)	(0.069)	(0.077)	(0.079)
ScaleTune		-0.183**	-0.230**	-0.187*	-0.212**
		(0.089)	(0.092)	(0.104)	(0.107)
RelativeHouse	-2.481***	-2.487***		-2.469***	
	(0.638)	(0.640)		(0.744)	
School FE	Not	Not	Yes	Not	Yes
Cut1	-3.191***	-3.947***	-1.395	-4.631***	-2.893***
	(0.811)	(0.864)	(0.895)	(1.024)	(1.097)
Cut2	-2.828***	-3.535***	-0.985	-4.063***	-2.326**
	(0.784)	(0.832)	(0.864)	(0.970)	(1.047)
Cut3	-2.482***	-3.160***	-0.610	-3.805***	-2.069**
	(0.766)	(0.811)	(0.844)	(0.954)	(1.032)
Cut4	-2.283***	-2.948***	-0.398	-3.600***	-1.864*
	(0.758)	(0.802)	(0.836)	(0.944)	(1.023)
Cut5	-1.845**	-2.489***	0.059	-3.352***	-1.617
	(0.745)	(0.788)	(0.823)	(0.934)	(1.014)
Cut6	-0.788	-1.421*	1.129	-2.205**	-0.469
	(0.729)	(0.773)	(0.808)	(0.909)	(0.991)
Cut7	0.296	-0.330	2.232***	-1.061	0.681
	(0.725)	(0.769)	(0.805)	(0.902)	(0.984)
Cut8	1.753**	1.130	3.721***	0.453	2.226**
	(0.728)	(0.771)	(0.809)	(0.904)	(0.988)
Cut9	3.479***	2.856***	5.487***	2.174**	4.002***
	(0.734)	(0.775)	(0.818)	(0.907)	(0.995)
Cut10	4.329***	3.695***	6.343***	2.974***	4.825***
	(0.736)	(0.776)	(0.821)	(0.908)	(0.997)
Observations	1239	1205	1205	887	887
Pseudo R-squared	0.0428	0.0428	0.0428	0.0428	0.0428

Standard errors in parentheses, *** p<0.01, ** p<0.05, * p<0.1. Variable definitions: see Table 1 legend. Columns (4) and (5): students with parents working in bank are excluded from the sample

Table 7**The determinants of life satisfaction of fourth-year students – (class) relative wealth effect and heterogeneity of scale correction (robustness check)**

VARIABLES	(1)	(2)	(3)	(4)
Rome	0.941	-3.021**	-0.170	-0.530
	(0.852)	(1.352)	(0.696)	(0.780)
Genova	0.838	-2.825*	0.192	0.977
	(1.005)	(1.489)	(0.791)	(1.161)
Male	0.348***	0.351**	0.348***	0.351**
	(0.119)	(0.141)	(0.119)	(0.141)
Repeat	-0.183	-0.168	-0.183	-0.168
	(0.119)	(0.139)	(0.119)	(0.139)
HouseOwn	0.510***	0.569***	0.510***	0.569***
	(0.156)	(0.194)	(0.156)	(0.194)
CAccount	0.213*	0.157	0.213*	0.157
	(0.117)	(0.136)	(0.117)	(0.136)
Mortgage	-0.279**	-0.322**	-0.279**	-0.322**
	(0.116)	(0.136)	(0.116)	(0.136)
LitGrade	0.210***	0.126	0.210***	0.126
	(0.075)	(0.088)	(0.075)	(0.088)
MatGrade	0.022	0.004	0.022	0.004
	(0.053)	(0.061)	(0.053)	(0.061)
IntGrade	0.018	0.005	0.018	0.005
	(0.052)	(0.061)	(0.052)	(0.061)
MothCivSer	0.607*	0.357	0.607*	0.357
	(0.330)	(0.391)	(0.330)	(0.391)
TrustFamily	0.394***	0.370***	0.394***	0.370***
	(0.099)	(0.117)	(0.099)	(0.117)
Friends	0.285***	0.228***	0.285***	0.228***
	(0.069)	(0.079)	(0.069)	(0.079)
ScaleTune	-0.226**	-0.199*	-0.226**	-0.199*
	(0.093)	(0.109)	(0.093)	(0.109)
School FE			Yes	Yes
Class FE	Yes	Yes	Yes	Yes
Cut1	-1.142	-5.587***	-2.253**	-3.096***
	(1.044)	(1.568)	(0.958)	(1.122)
Cut2	-0.731	-5.019***	-1.842**	-2.528**
	(1.017)	(1.534)	(0.929)	(1.074)
Cut3	-0.357	-4.762***	-1.468	-2.271**
	(1.001)	(1.524)	(0.910)	(1.060)
Cut4	-0.145	-4.557***	-1.256	-2.066**
	(0.994)	(1.518)	(0.903)	(1.050)
Cut5	0.313	-4.309***	-0.798	-1.818*
	(0.983)	(1.511)	(0.891)	(1.041)
Cut6	1.387	-3.156**	0.277	-0.665
	(0.972)	(1.496)	(0.877)	(1.019)
Cut7	2.498**	-1.998	1.387	0.493
	(0.971)	(1.492)	(0.874)	(1.013)
cut8	4.003***	-0.432	2.892***	2.059**
	(0.976)	(1.494)	(0.878)	(1.016)
Cut9	5.802***	1.392	4.691***	3.883***
	(0.983)	(1.495)	(0.884)	(1.023)
Cut10	6.675***	2.240	5.564***	4.731***
	(0.986)	(1.495)	(0.887)	(1.025)
Observations	1205	887	1205	887
Pseudo R-squared	0.0529	0.0529	0.0529	0.0529

Standard errors in parentheses, *** p<0.01, ** p<0.05, * p<0.1. Variable definitions: see Table 1 legend.