The Importance of Cultural and Economic Influences Behind the Decision to Attend Higher Education

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Abstract

This paper examines the relationship between economic and cultural variables and the decision to attend university. We find that a student is more likely to aspire to attend university if: they have the internet at home; are encouraged by their teachers; or attend a Catholic or independent school rather than a public school. Our analysis also suggests that the level of parent support is important (with a marginal effect larger than that for teacher encouragement) and this level of support may be linked to the parent's level of educational attainment. Importantly, we find that including cultural and economic variables in a model of students' aspirations significantly increases the power to predict when a student *does not* aspire to attend university.

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1. Introduction

Socio-economic status (SES) is seen as an important indicator of a secondary student's probability of participating in tertiary education. Specifically, students from high socio-economic backgrounds are more likely to enrol in a university degree. This leads to what is often referred to as social reproduction; a process whereby characteristics of a given social structure are sustained or perpetuated over time. The explanation of social inequalities in education, and the more general issue of whether SES is transmitted between generations, remains heavily debated within economics. While early evidence (see for example Becker (1988)) suggested that earning levels were not strongly transmitted from father to son, more recently Bowles and Gintis (2002) argue that measurement error depressed the estimated correlation which, once corrected, showed a stronger relationship between father and son earning levels. One well known mechanism for breaking this cycle is through the acquisition of higher education.

The aim of this paper is to examine whether a secondary student's aspiration to attend university is related to his or her socio-economic background. It should be noted that that some students may not be offered a place at university and this paper does not seek to examine any potential relationship between socio-economic status and enrolments in higher education. Nor does this paper attempt to understand the drivers of student achievement. Importantly, our data set contains information about students who choose not to apply to / enrol in university. A student's aspiration to attend university (or not) is one element of the broader issue of social and economic transmission.

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There are two parts to the analysis. The first is to investigate the importance of cultural and economic influences behind the decision to attend higher education. We estimate, using a binary logit model, the explanatory power of SES and ethnic background on students' aspirations to attend university in the absence of other economic and cultural variables; and again when these variables are introduced. In the second part of the analysis, we estimate the marginal effect of these variables on the probability of a student aspiring to attend university.

Socioeconomic background is not a uni-dimensional concept but is instead a combination of occupational status, education and wealth. An index of SES can thus comprise of one of these measures or a combination of them. For a discussion of the advantages and disadvantages of each of these approaches (including the composite index approach) see Marks et al., (2000). There is an argument that cultural factors, rather than wealth, are more important for understanding socioeconomic inequalities with support coming from Marks, Cresswell & Ainley (2006), Beblo and Lauer (2004) and Considine and Zappala (2002), who find that cultural resources play a more important role than material resources making occupational status and parental education useful measures of SES.

The SES of students in the Aspirations On-line survey is measured by the level of parental education. We make the simplifying assumption of using the highest level of education of either the mother or the father.[1] This is consistent with James (2002) who finds that parental education levels are perhaps the most reliable indicator of educational aspirations, and Considine and Zappala (2002) who note that the level of parental education was a key predictor of student academic achievement. Nevertheless, there is strong evidence of a relationship between occupational status and school attainment (for example see Andersen and Van De Werfhorst (2010) for recent evidence) and one area of further work would be to explore the relationship between status and educational aspirations. Ethnic background is captured in this study by splitting students into two groups according to whether they speak English at home. This captures the broad differences faced between those migrants that are from countries that speak English as a first language and those that are not.

The structure of the paper is as follows. Section two outlines the main economic and sociology theories. The third section sets out the methodology including a description of the independent variables used in the regression analysis. The fourth section presents and discusses results, while section five concludes with a summary of the key results and some implications for policy and further research.

2. The impact of socio-economic status, ethnic background and the school environment on aspirations to attend university

2.1 Socio-economic Considerations

James (2002), Foley (2007), Bowden and Doughney (2010) and other Australian studies find that students from high socio-economic backgrounds are more likely to aspire to attend university, while those with a lower background tend to enrol in TAFE College (a lower-level qualification gained at a vocational training institution) or enter the workforce after completing their final year of secondary school. A useful starting point in explaining these findings is human capital theory (Becker, 1975) whereby education is chosen to maximise the

[1] Some authors use a finer analysis that uses both parents' educational level and distinguishes between higher education enrolments of boys and girls; see for example Boumahdi and Lemistre (2007).

present value of future costs and benefits (which includes pecuniary benefits such as increased income streams as well as non-pecuniary benefits). Within this framework, students with lower discount rates (and hence valuing future income streams more highly) will prefer more education to less. Increased direct and indirect costs will lower net benefits, while increased probability of employment will increase the expected net benefits of education.

Within the context of this paper there are three potential sources of differentiation between high and low SES students. Firstly, highly educated parents may have stronger tastes for schooling (or equivalently a lower discount rate). If their children inherit these stronger tastes then they will prefer more to less schooling. The reverse is true for low SES students (Harmon et al., 2003).[2] Secondly, if education is used by employers as a signal then students may prefer more schooling to less. Employers may well be willing to pay a premium for well socialised workers (Bowles et al., 2001), that is workers that can conform to the social norms necessary to pass higher education. A third possibility is that the cost of acquiring higher education is lower, or the expected benefit is higher, for high SES students.

The work of Bourdieu (1973) on the impact of cultural factors can also provide some useful insight. Central to Bourdieu's approach is the concept of cognitive 'habitus', which can be thought of as habits arising from customs, traditions or rules of a society. These habits are, in turn, heavily influenced by the social class structure (Nash, 2005). It may be argued that high SES students are better able to conform to the social norms expected within higher education, which in turn lowers the opportunity costs of education. At the same time, low SES students have a negative disposition towards school, which results in their self-elimination from higher education. This is based upon the unconscious estimation of their objective probabilities of success (Bourdieu, 1973). As a result, low SES students would have reduced expected benefits. Lang and Ruud (1986), in an analysis of returns to schooling, find that the majority of the differences in educational achievement between low and high SES students " *... is due to the effects of family background on the ability to get through school*" (1986; p.47).

Another potential factor is that the (opportunity) cost associated with losing status is higher than the benefits associated with increasing status. According to Rational Choice Theory, students with a high SES perceive high costs associated with not obtaining a degree (due to a loss in status), combined with higher benefits associated with university qualifications (perhaps due to better information). However, for students with low socio-economic backgrounds the benefit of going to university, that is the benefit of increasing their status, is not considered as large. There are strong parallels with prospect theory, which have been explored within an experimental economic setting by Page, Garboua & Montmarquette (2007). Students with low socio-economic backgrounds may also consider costs such as losing touch with friends when considering whether to attend university or not. Irrespective of levels of SES parents also influence the expected net benefits of education by providing information as well as persuasion to students.

[2] On the other hand, Chiswick Chiswick, B.R., 1988. Differences in education and earnings across racial and ethnic groups: tastes, discrimination, and investments in child quality. Quarterly Journal of Economics 103, 571-597.suggests that such ad-hoc explanations (such as differences in time preference or tastes for schooling) are unnecessary and that a relatively simple model of group differences in relative prices of quantity and quality of children may explain human capital investment and labour market outcomes. For example, parents from highly urbanised areas where there is a high cost of space and women are educated, are more likely to have fewer children but will invest more in each child.

2.2 Ethnic Considerations

According to Bowles and Gintis (2002) race appears to play a significant role in intergenerational transmission of economic success. Such group effects are common in economics and could arise from discrimination, conformist behaviour, social learning or social interaction and/or norms. Lang and Ruud (1986) find that blacks, ceteris paribus, get more education than do whites due to the combined effect of a lower discount rate and a higher return to schooling. Turning to the narrower field of student aspirations, Bowden and Doughney (2010) find based on data from the 'Aspirations Online' project that preference for higher education is significantly stronger in households in which English is not the main language spoken at home.

Another possible explanation is that ethnic cultural groups are more likely to encourage success at school, as well as participation in higher education. Empirical support comes from a number of studies. For example, Marjoribanks (1991) finds that Greek and southern Italians had a more supportive family context than Anglo/Australians. In a British study, Allen (1997) finds that a larger proportion of ethnic minority students believe that higher education was greatly valued by their family when compared to whites. If this is interpreted as ethnic groups having a stronger taste for schooling, then this will lead to a lower discount rate consistent with the finding of Lang and Ruud (1986).

2.3 School Considerations

Bowles, Gintis & Osborne (2001; p:1147) note that there is little doubt that those with more schooling have higher earnings largely because they are educated, and not simply because schooling covaries with ability, parental social status, and other traits. They also find that a substantial portion of the returns to school are generated by effects unrelated to cognitive abilities. The question is whether different school types have a different impact on expected future earnings of students. Schools could also shape the perceived views of the costs and benefits associated with higher education. Within the cultural theory of Bourdieu, schooling has its own power to shape consciousness over and above the power of the family. It has an active role in the legitimating of family acquired habits (Nash, 1990). Tramonte and Willms (2010) also suggest that schools play a prominent role in shaping education and occupational outcomes over and above the role played by peers and parents.

3. Data and Methodology

The 'Aspirations Online' project surveyed secondary schools in the western region of Melbourne during 2006-7. Eighty secondary schools in the area were given the opportunity to participate. Thirty-six schools, comprising a cross-section of 23 Government, six independent and seven Catholic schools in the seven municipalities, took up the offer. A total of 2189 students aged 14 to 18 years of age (grades 9 to 12) responded to the survey.[3] It asked grade 11 and 12 students approximately 140 demographic and attitudinal questions, on paper and online.[4] Students from grades 9 and 10 students answered a shorter version of the survey in both formats. Project information was multilingual, in 16 languages.

[3] There were 3 students aged 13, 8 students aged 19 and 2 students aged 20.
[4] Aspirations Online gave participating students entry to a draw for prizes of electronic goods.

The western corridor of Melbourne is diverse in character and contains many of the suburbs with the lowest average level of SES in Melbourne. Only 13.4 per cent of people with higher education (university-level) qualifications live in this area, in comparison with the metropolitan-Melbourne average of 19.6 per cent. However, there has recently been a positive net migration trend to the inner-suburbs of Melbourne (at the expense of the outer suburbs), which has raised the levels of educational attainment in the innermost western areas. The recent influx of residents with higher SES into the western suburbs thus provides an appropriate sample from which to investigate the relationship between SES and secondary school students' post-secondary aspirations.

A binary logit is used to model the influences on aspirations to attend university, which has the standard form:

$$P(y_i = j) = \frac{e^{-\chi_i'\beta}}{1+e^{-\chi_i'\beta}}$$

where *i* represents the individual student in the sample and *j* his or her aspirations for higher education. Specifically, if a student aspires to attend university, then *j* equals one otherwise it is set to zero. $\chi_i'\beta$ is a vector containing the independent variables including the constant. Marginal effects are calculated and discussed in Section 5 below. The independent variables used in this study are shown in Table 1.

Table 1: List of independent variables

1. There are three broad 'types' of schools in Australia; Catholic, independent and public schools (the latter are funded and managed by the State governments and often considered 'working class' relative to the other schools).

The descriptive statistics of the sample are presented in Table 2 below. The sample of this study comprised of 1008 male and 1181 female respondents. Out of the 2189 respondents in the sample 1444 spoke English at home while 736 spoke a language other than English.[5] The sample is biased towards students with neither parent completing a university degree (1401) compared to 446 students with one or both parents with a degree. Finally the distribution of students between grades 9 and 12 is roughly equal.

Table 2: Descriptive Statistics

Note: Total observations for each class of variable do not add to 2189 due to missing answers.

4. Results and Discussion

Bowden and Doughney (2010) find, using Chi-squared test of contingency tables, that there is a relationship between a student's socio-economic and ethnic background and his or her post secondary aspirations. In this paper we extend the analysis by estimating the explanatory power of socio-economic and ethnic background using a binary logit model. In a second model we add the cultural and economic variables identified in section three. The results are presented in Table 2.

Table 3: Determinants of students' aspirations to attend university

Notes: Model One: The goodness of fit tests H-L Statistic and the Andrews Statistic, are $\chi 2 = 5.6109$ (p =0.6907) and $\chi 2 = 5.9058$ (p =0.8231); Mean and Std Deviation of standard residuals are -0.00062 and 1.002.

[5] The survey also asked the students' place of birth and 62 different countries where nominated.

Model Two: The goodness of fit tests, H-L Statistic and the Andrews Statistic, are $\chi^2 = 8.3799$ ($p = 0.3973$) and $\chi^2 = 8.9085$ ($p = 0.5408$); Mean and Std Deviation of standard residuals are 0.00053 and 1.003.
Standard errors are in brackets.

4.1 Base Model

In the absence of cultural and economic effects (model one) all variables are significant and have the correct sign. Firstly, students are more likely to aspire to attend university if they are from a high socio-economic background and/or do not speak English at home. These results are consistent with the existing literature. For example, using the National Education Longitudinal Study, Rumberger (2010) find a large gap in expectations of high school students in the US with twice as many high SES expecting to complete college compared to low SES students. Croll (2008), finds (using the British Household Panel Survey) that children from occupationally advantaged families are more ambitious than other children. Hernandez-Martinez, Black, Williams, Davis, Pampaka & Wake (2008), find (based on a small sample of students from five different sixth form/Further Education colleges around the UK) that aspirations are linked to socio-cultural experiences.

The positive and significant relationship found between ethnic background and aspirations is consistent with Taylor and Krahn (2005) and Kao and Tienda (1998). The former study find that visible minority immigrant youths in Canada are more likely to aspire to go to university than Canadian born non-visible minority counterparts. Kao and Tienda (1998) find that Asian, Black and Hispanic youth in America report higher aspirations than would be expected based on SES status alone.[6]

Secondly, we find that females are also more likely to aspire to enrol in university than males. There has been a significant change in the rate of female participation in education. In Australia, females are now more likely to participate in school and continue to their final year of secondary education than males. They are also more likely to continue on to tertiary studies than males (Le and Miller, 2002). This development has also been experienced in many other countries including France (Deer, 2005; Jaoul-Grammare, 2007), Netherlands (Dekkers et al., 2000) and Ireland (Smyth and Hannan, 2007).

4.2 Adding economic and cultural variables

When cultural and economic variables are added to the regression equation (model two) SES, ethnic background and gender continue to have the expected sign. However, the magnitude of the effect as well as the statistical significance of SES is now significantly reduced.[7] We also find that the cultural and economic variables in model two are all significant and have the expected sign indicating that these influences are important in understanding the decisions of secondary students to attend (or not) university.

Views of Parents: We find that students are more likely to aspire to enrol in university if their parents would like them to undertake a degree. However, when the parents' views are

[6] Parent's level of education and income were included as control variables for SES with the former the most significant in terms of magnitude of impact.

[7] Nevertheless, SES remains an important structural determinant of aspirations. To show this a third regression model was run without SES as a variable and it was found that the goodness of fit tests, the H-L Statistic and the Andrews Statistic, were $\chi^2 = 13.8326$ ($p = 0.0862$) and $\chi^2 = 16.1460$ ($p = 0.0955$). Therefore, at the 10% level, the null hypothesis 'that the model is correctly specified' is rejected and we conclude that the socio-economic status variable should not be removed.

removed from model two the coefficient and significance of SES rises.[8] Therefore, we tentatively conclude that the education level of the parent is, in part, driving their views on education, which in turn effects the aspirations of the student. This would be consistent with Duru-Bellat (1996) who shows that when the student is academically strong then, on average, the family wants the student to continue in their education. However, when the student is not as strong, then high SES families would prefer that the student repeat a year, while low SES families are more accepting of a lower qualification.

It is also known that parents in ethnic cultural groups are more likely to encourage participation in higher education. Nonetheless, the positive influence of parents is significant despite the inclusion of ethnic background as an independent variable. This supports the suspicions first raised in Bowden and Doughney (2010) which find that students from non English speaking background were more likely to perceive stronger levels of support from parents. However, it also finds that greater than 90 per cent of all students believe they receive some encouragement from their parents to do well at school. This result, along with the significance of ethnic background after accounting for the views of parents, points to the need for more research into the underlying cause of higher aspirations among ethnic students.

School effect: We find that if a student attended either an independent or a Catholic school then they are more likely to aspire to attend university. This effect is independent of the level of teacher encouragement and SES (noting that students attending Catholic and independent schools are more likely to come from higher socio-economic backgrounds (Bowden & Doughney, 2010). It may also be that students at Catholic and independent schools are obtaining higher results and this encourages them to apply to undertake a degree, possibly because they have a higher perception of their ability or a higher expected rate of acceptance (thereby increasing the benefit of application). As data on the results of students are not available we are unable to test this hypothesis. Altonji et al. (2005) find that students at Catholic high schools in the United States are more likely to graduate from high school and attend college (although the latter result is more tentative). However they find little evidence that attending a Catholic school affects test scores.

Views of Teachers: Consistent with the philosophy that teachers are the gate keepers to further education (which could be due to cultural factors, a lack of appropriate incentives or other reasons) we include a variable that captures teachers' influence on aspirations. We find that aspirations to attend university increase as teacher encouragement increases.

It may be that teacher encouragement is positively related to a student's self belief or confidence and this in turn provides part of the explanation for the positive relationship between teacher encouragement and aspirations. Further exploration of this relationship provides a possible avenue of future research. A second basis for the relationship is the role that teacher guidance plays in college application. For example, Smyth and Hannan (2007) find that guidance facilities in schools in the Republic of Ireland appear to be crucial in encouraging college application.

University is only for the wealthy and losing friends: These two variables attempt to account for the strong social norms within the education system and the opportunity cost associated with losing friends (a cost proposed by Boudon (1974)). As expected, those students that

[8] The coefficient and Prob value of SES are 0.30 and (0.0461) respectively when parents views are removed from model two.

agreed with these statements were less likely to aspire to attend university. While the magnitudes of both effects are not strong they are both significant. It is possible that these variables are also important in helping to understand why students choose not to aspire to attend university. It potentially raises an "us versus them" problem, with low SES students more likely to agree with both of these statements. However, we find that while SES and agreeing with the statement "university is only for the wealthy" were related ($p = 0.078$), SES and losing touch with friends were not ($p = 0.286$).

Internet: Our analysis suggests that having access to the internet at home is a strong determinant of aspirations. Having access to the internet at home could potentially be an economic or a cultural variable. For example, it is a good source of information and could lead to a better assessment of the costs and benefits of attending university. It could also be cultural as it gives students the opportunity to broaden their cultural exposure. Recent research has sought to link children's cognitive and non-cognitive skills to computer use (as opposed to access to the internet). Using Australian data Fiorini (2010) finds that computer use had a positive impact of computer usage on cognitive skills. Malamud and Pop-Eleches (2010) also find that providing home computers increases cognitive skills but lowers academic achievement of low income children in Romania. More work is needed to better understand the link between aspirations and internet use.

4.3 Model specification

To better understand the role of economic and cultural variables we compare the power of models one and two to predict whether a student aspires to attend university. The results are presented in Table 3. We find that not only are economic and cultural variables important to understanding students' decisions, it is very important in identifying those students who are not intending to go to university.

Table 4: Expectation-Prediction Evaluation for Binary Specification

As shown above, model one is an inadequate representation of student aspirations because of its inability to predict when a student does not aspire to attend university. This compares to the second model which is able to predict when a student will choose not to aspire to attend university 40 percent of the time. While this is still very low it is a significant improvement over model one. Nevertheless, concerns remain that the model may be under specified. An implication of this is that the marginal effects of the model give an indication of the size of the effect but may change when other significant variables are introduced.

We suspect that one of the variables that need to be included in the model is the student's academic record. In particular, we suspect that the higher the student's grades, the more likely they are to aspire to attend university. There are a number of potential mechanisms for this relationship. Poor previous results may directly decrease the expected net benefits (by increasing the opportunity costs of completing a degree) or the student may adjust (increase) their discount rate by changing their tastes for education. This latter impact could well be psychological rather than a strictly rational response to poor marks. Irrespective of the mechanism, we suspect that introducing the effect of previous results into the analysis will raise issues about cause and effect. Low marks may lower the probability of aspiring to university but the reverse is also true, those students who do not wish to go to university may be less likely to strive for higher results in exams.

5. Marginal Effects for Model Two

In this paper the marginal effect of continuous variables (or variables where the underlying concept is continuous such as the Likert Scale) is calculated as the partial derivative; while for dummy variables the marginal effect is measured as the difference in the height of the cumulative distribution function when the variable is one and when it is zero. Marginal effects have been calculated separately for each of the different groups of students, depending on their socio-economic and ethnic background, gender, school type and whether they had access to the internet at home. The average marginal effect for each variable is set out in Table 4.[9] Sub group results for key variables have been placed in the Appendix. A full list is available from the Author upon request.

Table 5: Average marginal effects of independent variables model 2

5.1 Ethnic background, gender and socio-economic status

Ethnic background

Ethnic background has a significant impact on the probability of aspiring to attend university with an average marginal effect of 11.8 percent. The average marginal effect for males (approximately 14 percent) was found to be more significant than that for females (at around 10 percent). So a male student who did not speak English at home was 14 percent more likely to aspire to attend university than a male whose family did speak English at home. There was also a significant difference in the marginal effect between those students that attended either an independent or Catholic school compared to public school at 11 percent against 14 percent.

Gender

Gender also has a significant impact on the probability of aspiring to attend university with an average marginal effect of 9.8 percent. The biggest single differentiator is found to be the internet. If the student did not have the internet at home then a female student is on average 11 percent more likely to aspire to attend university compared to a male student. However, when the student has access to the internet then females are only 8 percent more likely to aspire to attend university than males. So having the internet reduces the difference between males and females. In terms of individual subgroups, if the student spoke English at home, went to a public school and did not have access to the internet then a female is 13.5 percent more likely to aspire to attend university than a male. However, if the student did not speak English at home and attended either an independent or Catholic school then the marginal effect of gender is only 5 percent.

Socio-economic status

Unlike ethnic background and gender, the average marginal effect of SES is found to be low at 2.9 percent. We also find very little deviation from the average for all groups.

In a recent British study, Chevalier et al.,(2009) estimate the marginal effects of a number of variables on expectations of 15 year old students to attend university using OLS. They find

[9] The marginal effect of the individual groups can be obtained from the author upon request.

that non-native and first generation immigrant females (males) were 16 percent (13.8 percent) more likely to aspire to attend university compared to native females (males). These results are consistent (but slightly higher) than the results obtained using the Aspirations on-line survey.

Turning to socio-economic background (based on parent's occupation) the authors find that high SES students are more likely to aspire to attend university. For females the marginal effect of students where the parents are 'managers' was 10.5 percent , for 'professionals' 10 percent, for 'associate Professionals' 8.9 percent and for 'skilled' manual 3.8%. The marginal effects of each occupation type are compared to other occupations (described as the lowest social class). The equivalent marginal effects for boys are 9.3, 8.5, 4.6 and -1.8 percent respectively. Therefore, females are more likely to aspire to attend university, and this effect is stronger for low SES students. This compares to our findings that the impact of gender is stronger for those students that do not have access to the internet at home and attend a public school.

5.2 Economic and cultural variables

Type of school attended

The average marginal effect of attending an independent school (compared to attending a Catholic or public school) and the marginal effect of attending a Catholic school (when compared to an independent or public school) are approximately the same at around 9 percent. The school effect is significantly lower for female students who come from a non English speaking background, with the marginal effect around 5 percent. The effect is highest for those students (male or female) that do not have access to the internet with values between 10 and 14 percent.

University is only for the wealthy

The marginal effect associated with each incremental step towards 5 was estimated on average to result in a 3.7 percent decrease in the probability to aspire to attend university. While this is the expected sign and the variable is statistically significant, the magnitude of the effect is smaller than for gender and ethnic background. If the student was female, from a non English speaking background, attending a Catholic or independent school and had access to the internet then the marginal effect of agreeing with "*only for the wealthy*" was lower, at around negative 1.5 percent (the male equivalent was negative 2.4 percent).

Opportunity costs of losing friends

Each incremental step towards 5 was estimated on average to result in a 3.6 percent decrease in the probability to aspire to attend university. Given that the coefficient for this variable was of the same order as for "*university is only for the wealthy*" the marginal effects for each grouping are very close.

The role of parents and teachers

The marginal effect of parents wanting the student to undertake a degree (10 percent) was stronger, than that for teacher encouragement (7 percent). Male students are more heavily influenced by both their teachers and parents than females, particularly those males that came

from a non English speaking background. We also find that the marginal effect of support from parents and teachers increases if the student did not have access to the internet.

Internet Access at home

Having access to the internet increased the probability of aspiring to attend university by over 7 percent for all groups and 12.5 percent on average. The effect was stronger for males than females; students from English speaking backgrounds and for students that attended public schools (rather than independent and Catholic schools). It can be drawn from this that it is important for males attending public school to have access to the internet at home if increased aspirations to attend university is considered important.

6. Conclusion

Using a logit model of choice the results show that socio-economic background, ethnic background and gender impact on aspirations. In particular, students are more likely to aspire to university if they are female and have a high socio-economic and/or ethnic background. However, when the model only contained these three variables it is not able to predict when a student does not aspire to university. Economic and cultural variables are then added to the model. All of these variables are significant and the extended model is better able to predict when a student does not aspire to attend university.

By estimating marginal effects we find that the views of parents and teachers, the type of school attended (Catholic and independent versus public) as well as concerns about 'losing touch with friends' are important determinants of whether a student aspires to attend university (or not). We also find that social norms may still play a part in student aspirations, as those students who believed that university is only for the wealthy, are less likely to aspire to attend university. Finally, we find that having access to the internet at home has a strong impact on aspirations. We are not able to determine if having access to the internet at home is an economic or a cultural variable. However, it may be that it can be viewed as one of the three types of cultural capital (these being 'incorporated capital', 'cultural assets' and 'institutionalised capital') by Bourdieu (1979).[10]

Turning to potential policy prescriptions and further research, we make a few observations. Given the importance of the internet, knowing whether cultural or economic factors underpin this relationship may be important in any policy prescription to increase the level of low SES students enrolled in universities. Secondly, we tentatively conclude that the education level of the parent is driving their views on education, which in turn effects the aspirations of the student. Finally, the impact of the type of school attended by the student is also strong, independent of the level of teacher encouragement and SES and warrants further investigation.

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[10] According to Robbins (2010) 'incoprated capital' seemed to be indistinguishable from the habitus and, hence, intrinsically modernist; cultural assets (such as books, painting and machines, seem to be a fluid state in which cultural goods acquired value in an exchange market and, hence, postmodernist; and the third, institutionalised capital such as academic qualifications, seemed to anticipate a post-postmodernity in which market values would be consolidated through institutionalization. We am grateful to an anonymous referee for pointing out this important link.

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Appendix. A: Sub group results for key variables.

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