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The value of completing a VET qualification

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About the research

The value of completing a VET qualification

Tom Karmel and Peter Fieger, NCVER

Completion rates are an obvious performance indicator for the vocational education and training (VET) sector. Previously published figures indicated overall completion rates as low as 27%. One response to this is the argument that there are many students who do not need to complete their qualification as they acquire the skills they need without going through the entire curriculum of a qualification. For them, completion is not an issue.

To throw further light on this issue this paper identifies groups of students for whom there is a clear benefit in completing their qualification. The authors use data from the 2009 Student Outcomes Survey to test whether completion is beneficial in relation to a number of predefined post-study outcomes. These are employment, further study, a combination of employment or further study, 'improved' employment, occupational status and salary. The authors find that completion has an overall strong positive effect on these pay-off variables. However, the extent of the pay-off varies greatly across different groups of students.

Key messages

- Completion of a VET qualification is beneficial, on average, across all of the outcome variables considered.
- The overall pay-off from completion is greatest for the 'further study' outcome, with the likelihood of a graduate engaging in further study more than double that of a non-completer.
- In relation to being employed after training, those students who were not in employment prior to training benefit greatly from the completion of their qualification.
- The two groups for whom there is a significant pay-off from completion in terms of wages are those undertaking diplomas and above and those who were not employed before training and who are undertaking a certificate III/IV.

Clearly completion matters, but not in all circumstances.

Tom Karmel
Managing Director, NCVER

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Introduction

Completion rates are an obvious performance indicator for the vocational education and training (VET) sector. It is only recently however that the National Centre for Vocational Education Research (NCVER 2011a, 2011b) has published qualification completion rates. The overall qualification estimated completion rate for the cohort commencing in 2005 was 27%, a figure that was greeted with some consternation. While this completion rate appears to be very low, the immediate response from some in the sector was that it did not take into account the fact that many students enrol in a VET course without intending to complete and leave the course before completion because they have obtained the skills they require. The purpose of this paper is to test this argument by looking at the return from completion and identifying those groups for whom completion matters. This will enable us to refine completion rates as performance indicators for the VET sector.

Our approach is based on the outcomes of completions. For each student we look at an outcome, such as the probability of being employed, conditional on, first, the student completing the course and, second, on not completing it. The ratio of the outcome to completion relative to non-completion then provides us with a pay-off function. The pay-off itself is unit-less. We can then identify groups for whom the pay-off from completion is the greatest. This approach is applied to a series of outcome variables; perhaps a particular group may have a high pay-off from completion in relation to one outcome variable but not another. The outcome variables we consider are all related to the labour market or further study: being employed after training (full- or part-time); improved employment circumstances after training;[1] further study after training; salary; and occupational status.

The basic methodology has two steps:

- modelling the dependent variable as a function of various predictors, specifically, sex, age group, location, field of education, qualification level, whether the study was full-time or part-time, socioeconomic status, employment status before training and prior education
- creating a classification tree that splits the population into groups at a number of levels. At each level the population is split into two groups such that the split maximises the difference in the prediction of the dependent variable between the groups (the technical name is Chi-squared automatic interaction detection).

Following this methodology, we can isolate the groups for whom completion matters, for each outcome variable.

We also have data on two dimensions of students' behaviour, which we can contrast with our pay-off calculations. First, from the Student Intentions Survey we know which groups of students intend to complete. We can thus compare our pay-off results with student intentions. This enables us to look at whether student intentions are related to the potential pay-off from completion. Second, from the Student Outcomes Survey we know which groups have the highest completion rates. If students were operating in a neoclassical economic world, then one would expect completion to be highest for the groups for whom completion has the highest pay-off (although, we do not observe the other factors that might impact on the completion decision, such as the enjoyment of the course or personal factors). As it turns out, there is little relationship between the pay-offs and completion rates.

[1] Improved employment circumstances after training encompasses: not employed before but employed after, employed in a higher skill level after training, or at least one job-related benefit of undertaking the training.

The structure of the paper is as follows. In the next section, we spell out the methodology. This section is followed by the analysis of pay-offs from completion. We find that there is a pay-off from completion for the vast majority of students, although some groups have particularly high pay-offs. We then look at the relationship between completion and the pay-off from completion. We end with some final comments.

Methodology

Modelling

Our initial approach involves looking at the pay-off from completion for the following outcome variables:

- probability of being employed after training
- probability of being in further study or employment after training
- probability of having improved employment circumstances after training
- occupational status (ausei06; see McMillan, Beavis & Jones 2009)
- probability of being in further study
- salary after training for full-time workers
- salary after training for part-time workers.

We run separate models with respect to each of these outcome variables for graduates (that is, those who have completed their qualification) and module completers (those who finished their training without completing a full qualification). Logistic regressions are used for the variables in the above list that are defined as a probability, and linear regressions are used for the other variables (occupational status and salary after training).[2] In each model the explanatory characteristics are as in table 1, and each model is fitted separately for completers (that is, graduates) and non-completers (which in the Student Outcomes Survey we call module completers).

Table 1 Explanatory characteristics for the various outcome models

Variable	Values
Prior education	Below Year 12, cert. I/II; Year 12; cert. III/IV; diploma and above
Field of education	Business; community services; other; other services; technical
Sex	Male; female
Age	<25 years; 25–34; 35–44; 55+
Qualification level	Cert. I/II; cert. III/IV; diploma and above
Study status	Full-time; part-time
Employment status before	Employed; not in labour force; unemployed
Location	City; regional; remote
Socioeconomic status (SEIFA)	Quintile 1 (most advantaged; quintile 2; quintile 3; quintile 4; quintile 5 (most disadvantaged)
Reason for training	Employment-related; further study-related; personal

Data source: Student Outcomes Survey, 2011.

The methodology for the second part of the paper is quite straightforward. We run logistic regressions on the explanatory characteristics and then predict the probability for each individual that they either intend to complete or not, and whether they do complete or not. Tables 2 and 3 contain the explanatory variables. The coefficient values are given in appendix A.

[2] The salary data are collected in ranges. In our modelling mid-points are used. We also modelled the data using log (salary) and the results were virtually identical.

Table 2 Explanatory characteristics for 'intend to complete'

Variable	Values
Prior education	Below Year 12, cert. I/II; Year 12; cert. III/IV; diploma and above
Field of education	Business; community services; other; other services; technical
Sex	Male; female
Age	<25 years; 25–34; 35–44; 55+
Qualification level	Cert. I/II; cert. III/IV; diploma and above
Study status	Full-time; part-time
Employment status at time of training	Employed; not employed
Location	City; regional; remote
Socioeconomic status (SEIFA)	Quintile 1 (most advantaged; quintile 2; quintile 3; quintile 4; quintile 5 (most disadvantaged)
Reason for training	Employment-related; further study-related; personal

Data source: Student Intentions Survey, 2011.

Table 3 Explanatory characteristics for being a graduate rather than a module completer

Variable	Values
Prior education	Below Year 12, cert. I/II; Year 12; cert. III/IV; diploma and above
Field of education	Business; community services; other; other services; technical
Sex	Male; female
Age	<25 years; 25–34; 35–44; 55+
Qualification level	Cert. I/II; cert. III/IV; diploma and above
Study status	Full-time; part-time
Employment status before training	Employed; not employed
Location	City; regional; remote
Socioeconomic status (SEIFA)	Quintile 1 (most advantaged); quintile 2; quintile 3; quintile 4; quintile 5 (most disadvantaged)
Reason for training	Employment-related; further study-related; personal

Data source: Student Outcomes Survey, 2011.

Defining the groups for whom completion matters

The pay-off variables allow us to analyse the pay-off from completion over the whole population, but our primary interest is in identifying the groups of people for which completion matters. This translates to identifying the groups with the highest pay-off values. The way we do this is through a splitting approach, whereby the population is divided into two groups; the first with the highest pay-off and the second with the lowest. With so many explanatory characteristics this is very difficult, so the technique we use is to split the population into the two groups using each explanatory characteristic by itself, and then adopting the split that gives us the greatest difference between the high pay-off and low pay-off groups.[3] The technical name for this procedure is Chi-squared automated interaction detection (CHAID; Kass 1980). In more simple terms, CHAID detects interaction between variables in the dataset. Using this technique it is possible to establish relationships between the pay-off and various explanatory variables such as employment status before training, qualification level etc. CHAID does this by identifying discrete groups of students and, by taking their responses to explanatory variables, seeks to predict what the impact will be on the pay-off.

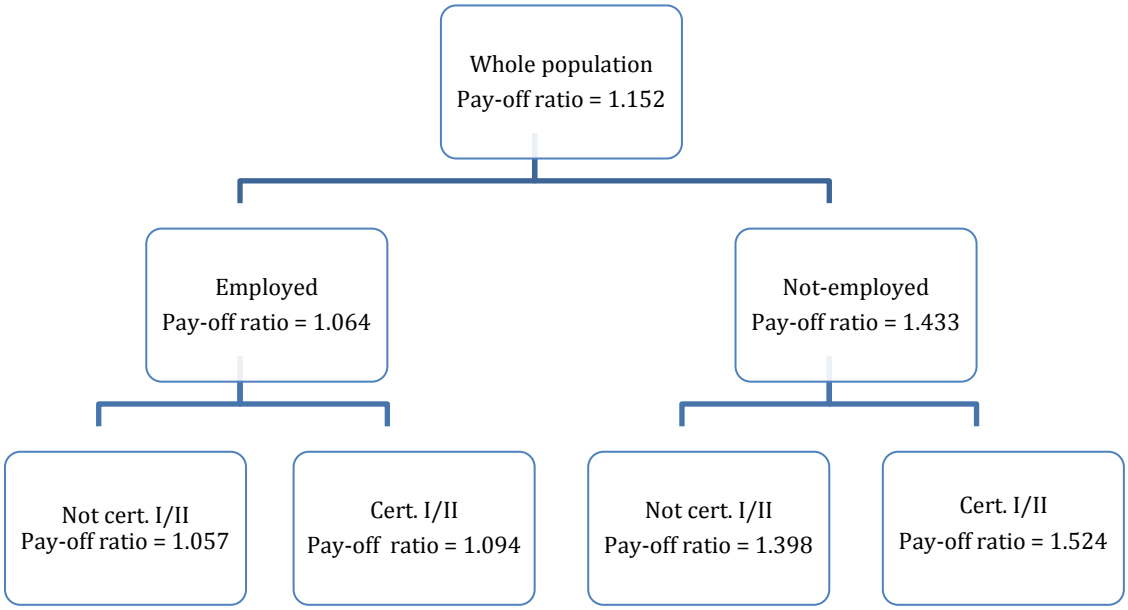
[3] In fact, it is a little more complicated than this for explanatory characteristics with more than two categories. The technique tries each possible split of categories to find the one which results in the greatest difference between the high pay-off and low pay-off groups.

Having found the optimal split we thus have two groups.[4] We can then apply the same technique to each of the two groups. We continue this process until it is no longer worth splitting for statistical reasons.[5]

To illustrate the method we show the first two splits for the pay-off from completion in terms of the probability of being employed after training.

The first branch splits the population into those employed before training and those not employed.

Figure 1 Illustrative tree diagram on the pay-off from completion with respect to the probability of being employed after training



So the pay-off from completion in terms of the probability of being employed after training is 15.2%. However, the pay-off to those undertaking a certificate I/II and who were not employed before training is 52.4%. By contrast, the pay-off to those employed before training and undertaking a qualification other than certificate I/II is a more modest 5.7%.

The prediction approach is slightly different for the last two sets of models compared with the first set. The last two sets of models are simple logit models and we simply predict the probability of either intending to complete or the probability of completion. Having obtained these predictions we employ the tree diagram methodology again.

[4] In some cases the program splits a group into three categories rather than two.

[5] The criteria used are: statistical significance at 0.05, or there are insufficient numbers of observations (<1000) or we have reached four levels.

Analysis

We first look at the distribution of pay-offs. Figures 2—8 show the distribution of pay-offs for the sample. The pay-off is calculated for each individual; the individuals are then ranked from the lowest pay-off to the highest. These pay-offs are based on the predicted value of each outcome, assuming first that the individual is a graduate and second that he or she is a module completer.

Figure 2 Pay-off from completion with respect to being in further training or employment after training (with respect to the student population)

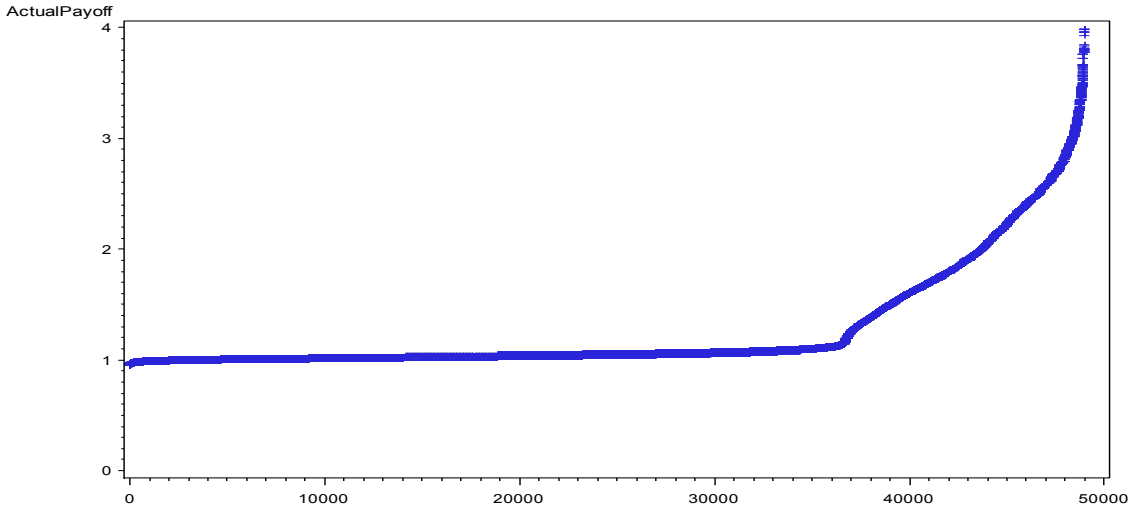


Figure 3 Pay-off from completion with respect to improved employment circumstances (with respect to the student population)

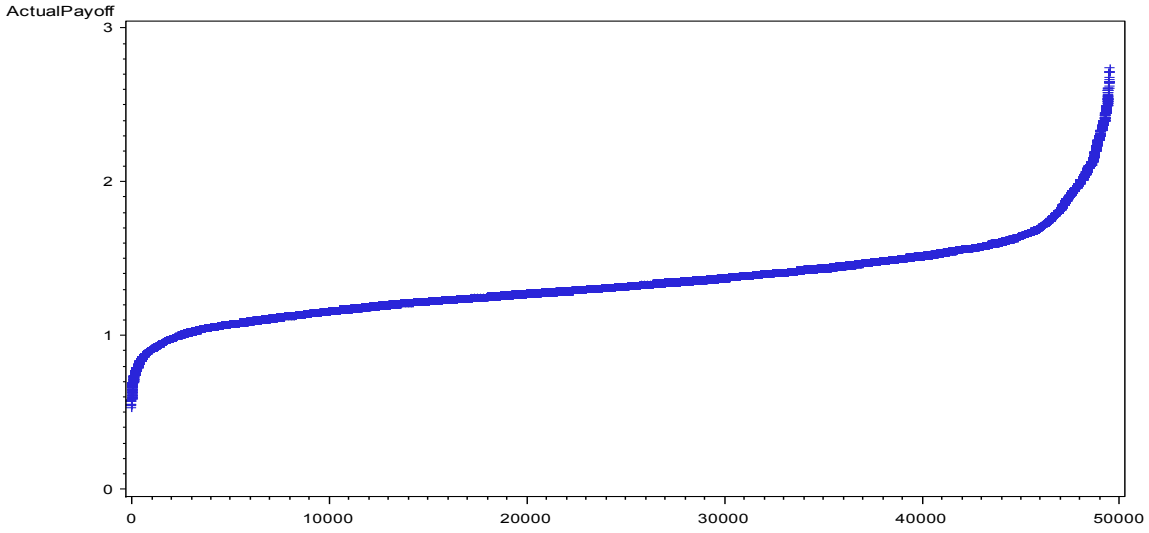


Figure 4 Pay-off from completion with respect to occupational status after training (with respect to the student population)

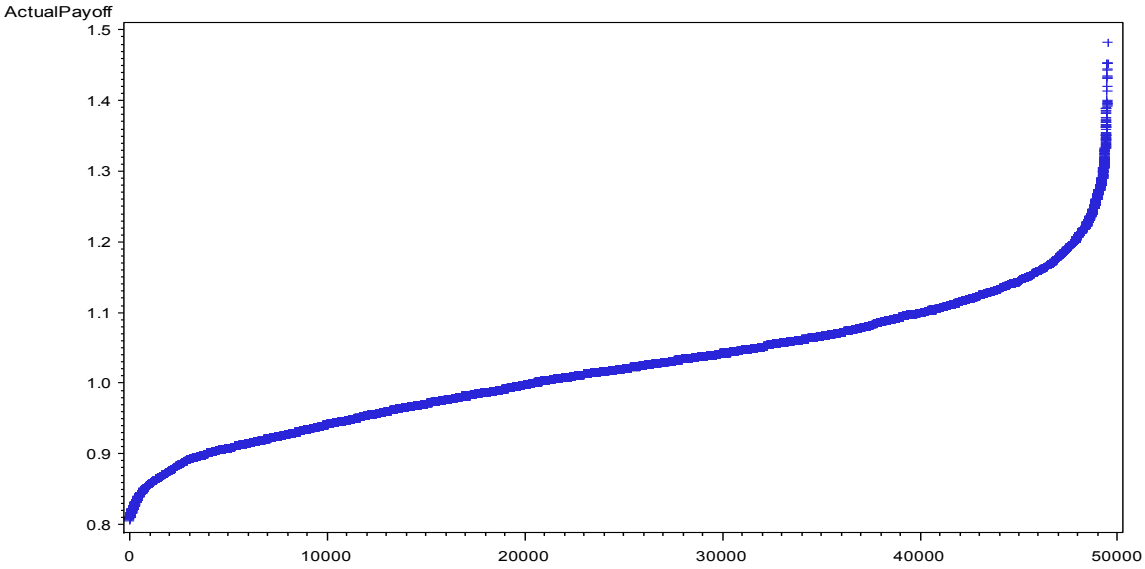


Figure 5 Pay-off from completion with respect to being in further study after training (with respect to the student population)

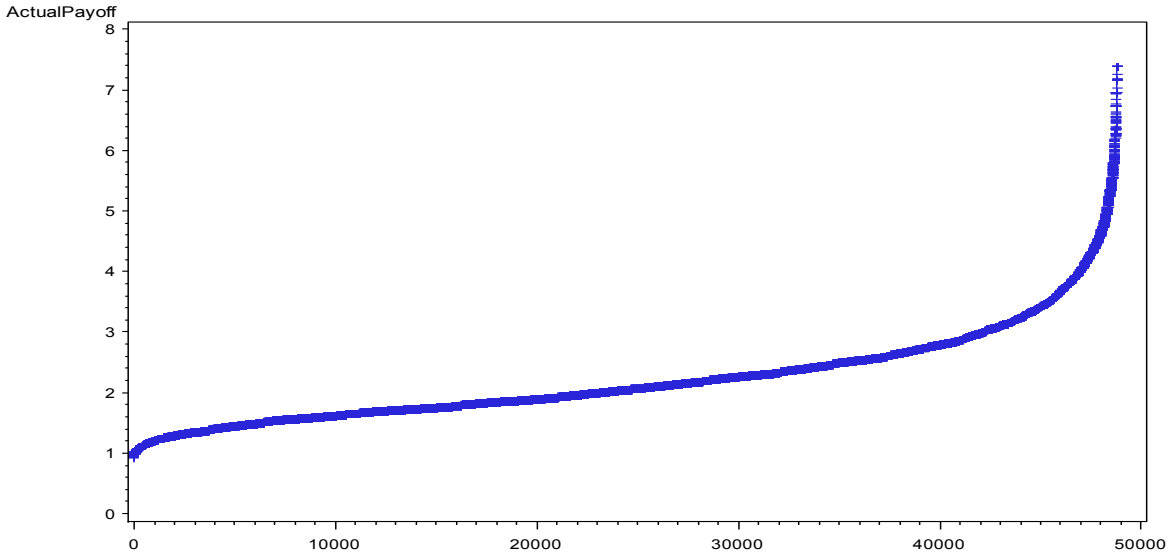


Figure 6 Pay-off from completion with respect to employment after training (with respect to the student population)

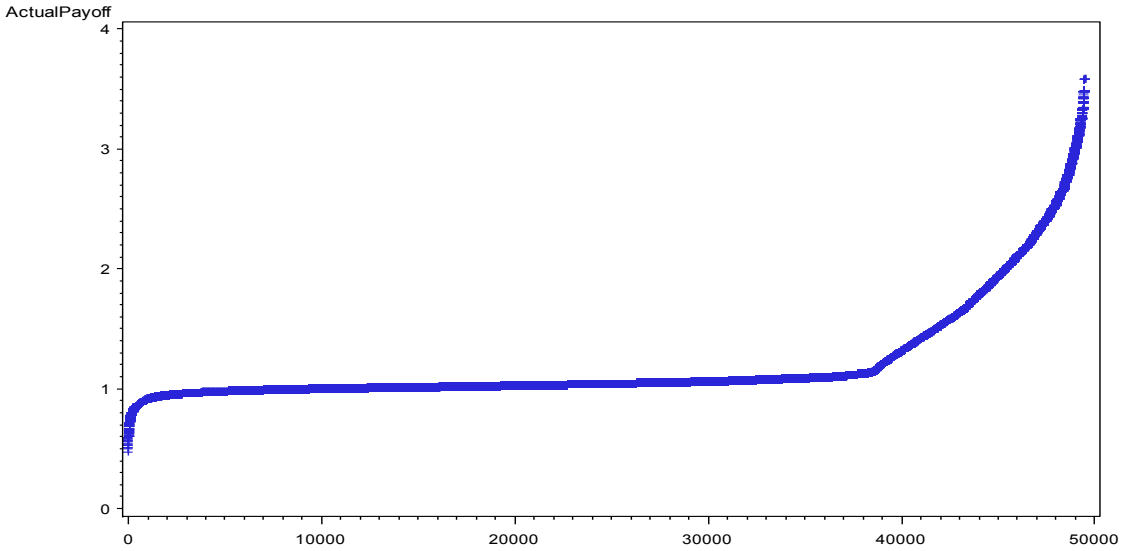


Figure 7 Pay-off from completion with respect to salary for full-time workers after training (with respect to the student population)

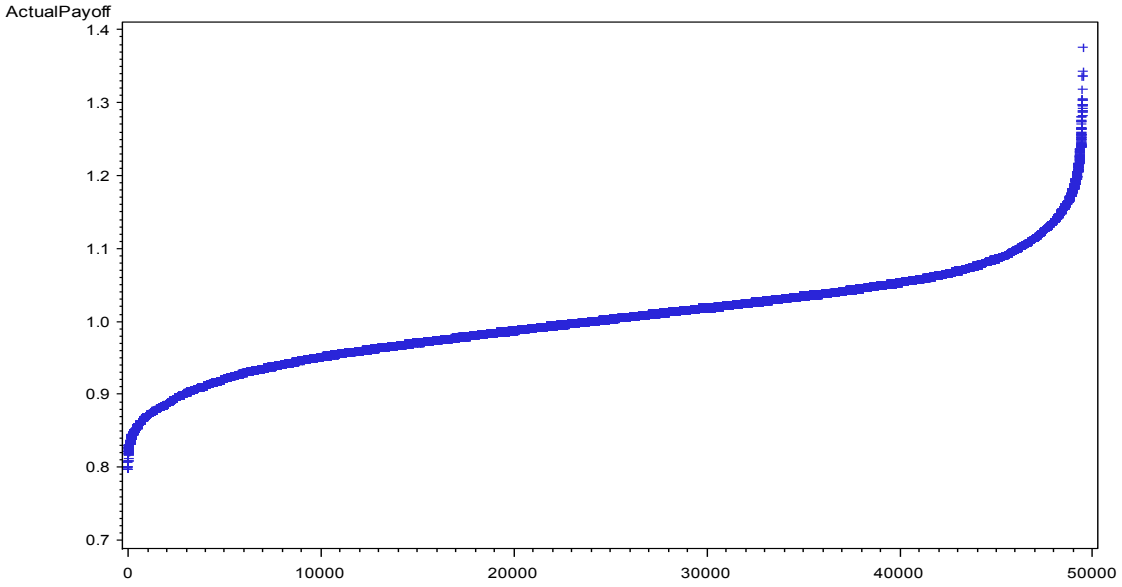
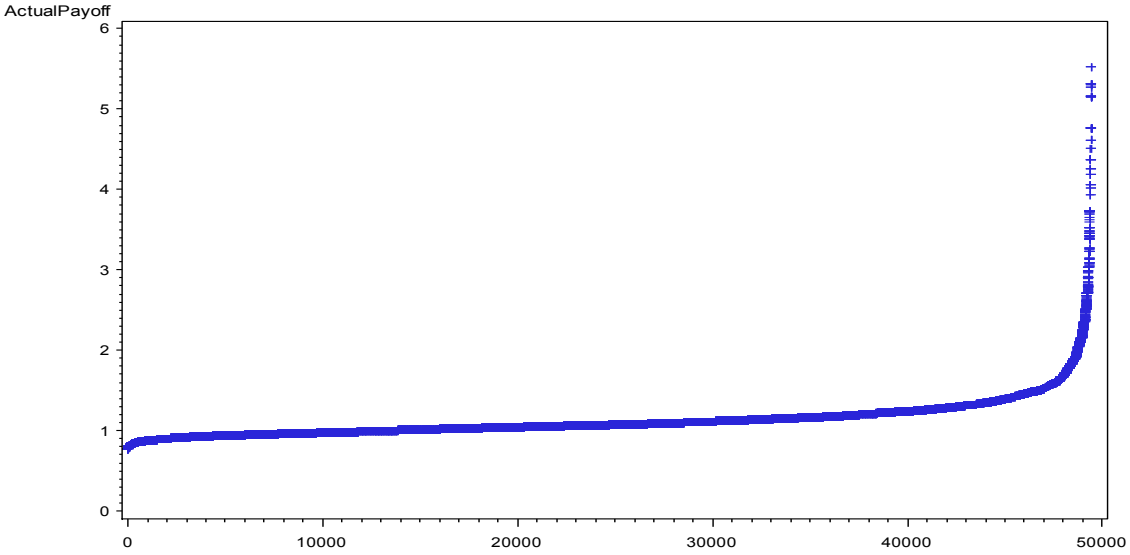


Figure 8 Pay-off from completion with respect to salary for part-time workers after training (with respect to the student population)



From the above figures we can see that for every outcome, on average, there is a pay-off from completion and that the clear majority of individuals also have a positive pay-off (table 4).

Table 4 Summary characteristics of pay-off, by outcome variable

Outcome	Average pay-off from completion (%)	Proportion with positive pay-off from completion (%)
Employed or in further study	28.2	95.6
Employed after training	21.7	80.8
Further study	122.7	99.9
Improved employment outcome	34.8	95.1
Salary (full-time employed)	0.3	60.7
Salary (part-time employed)	14.3	73.5
Occupational status	2.3	58.9

The outcome variables for which the pay-offs are lowest are the salaries for those who are in full-time employment and the occupational status of jobs. Completion is particularly important for the employment and further study outcomes, but less so when it comes to the quality of jobs in terms of wages and occupational status. That said, for a clear majority of the students, there is a pay-off from completion in terms of salary and the occupational status of the job.

While the overall picture is that completion has a positive pay-off, it is obvious from the earlier figures that the pay-off is much greater for some individuals than for others. We now use our tree diagram methodology to isolate those groups for whom completion matters the most. The complete set of trees is provided in appendix B.

One slight difficulty with our approach is coping with the sheer volume of the results. We have seven outcome variables and it would be very tedious to go through each outcome in turn. Therefore it is useful to group the outcomes together or, alternatively, choose outcomes that are representative of the range of experience. We choose the outcome variables to be grouped by inspecting the correlations between the seven pay-off variables (table 5).

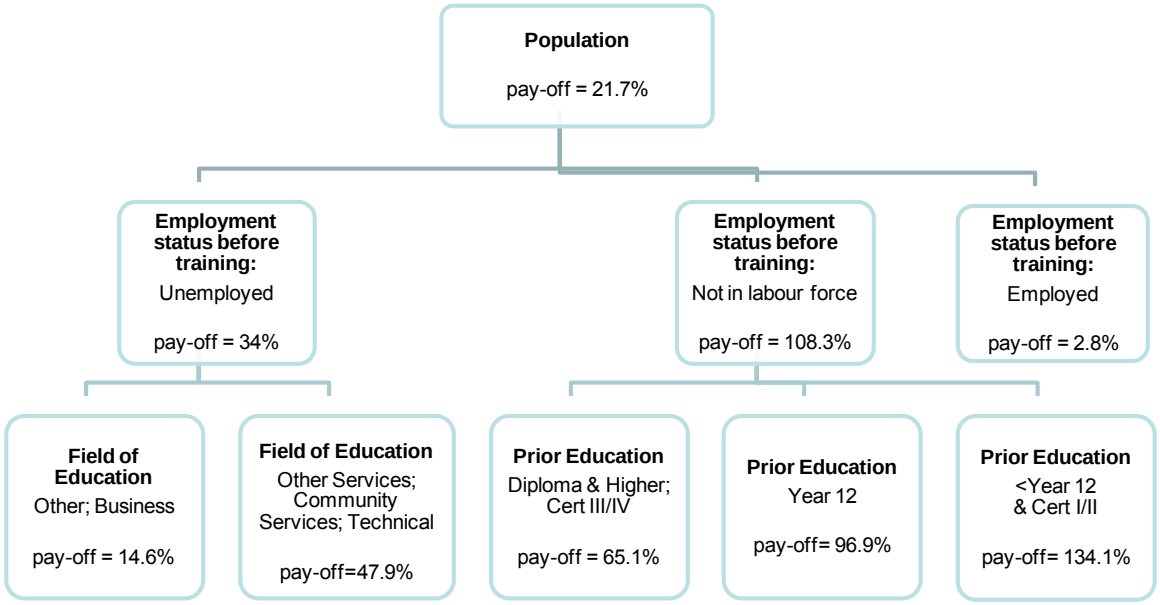
Table 5 Correlations between the seven 'pay-offs to completion' variables

	Emp. after training	FT salary	PT salary	Improved emp.	Occupation	Further study	Emp. or study
Emp. after training	1.00	0.35	0.22	0.68	0.28	0.43	0.90
FT salary	0.35	1.00	0.09	0.36	0.54	-0.18	0.23
PT salary	0.22	0.09	1.00	-0.11	0.42	0.05	0.20
Improved emp.	0.68	0.36	-0.11	1.00	0.18	0.11	0.47
Occupation	0.28	0.54	0.42	0.18	1.00	0.11	0.19
Further study	0.43	-0.18	0.05	0.11	0.11	1.00	0.66
Emp. or study	0.90	0.23	0.20	0.47	0.19	0.66	1.00
Average correlation with other variables	0.47	0.23	0.14	0.28	0.29	0.19	0.44

We see that the pay-off in terms of employment after study is the best summary variable (that is, it has the highest correlations with the other variables). The variables which are the most distinctive (that is, have the lowest correlations with the other variables) are the pay-offs from completion with respect to salaries of part-time workers, further study and the salaries of full-time workers. We suggest that the salary for part-time workers outcome should be dropped on the basis that the most important predictor of pay-off from completion is whether the student is full-time or not. This is a rather strange predictor and the results are likely to reflect that full-time students who complete are changing their job-seeking behaviour and thus are working longer hours. So we concentrate on three outcomes: employment after training; further study after training; and salary of full-time workers after training.

Consider first the pay-off in terms of the probability of being employed after training (figure 9).

Figure 9 Pay-off from completion, employed after training (overall average pay-off = 21.7%)[6]



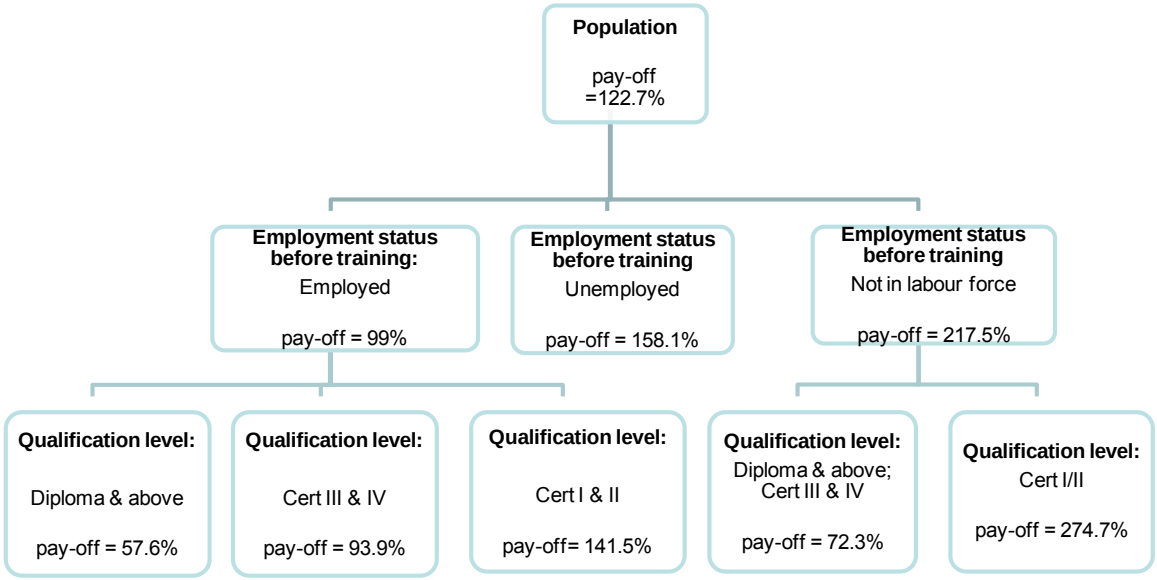
For this outcome variable, labour force status before training is key to the pay-off from completion. On average, those who were not in the labour force prior to training had the highest pay-off, followed by those who had been unemployed. Not surprisingly, those who were employed before training had a low pay-off from completion (presumably because they already had a job).

While being not in the labour force or unemployed before training is the key characteristic of an above-average pay-off from completion, two other characteristics also play a part: prior education and field of study. The role prior education plays differs, depending on field of study (or vice versa).

It would have been a convenient result to find that labour force status before training is the key characteristic for all the outcome variables, but this is not the case. For example, as can be seen from figure 10, a number of branches involving being employed before training have above-average completion pay-offs with respect to further study.

[6] This can be interpreted as in terms of the whole student population, for example, there is a 21.7% higher likelihood of being employed after training for those who completed over those who didn't complete. For those who were not in the labour force before training the likelihood is 108.3% higher for completers. For those who were not in the labour force before training *and* whose prior education is cert. I or II or < Y12 the likelihood of being employed after training is 134.1% higher if they are completers.

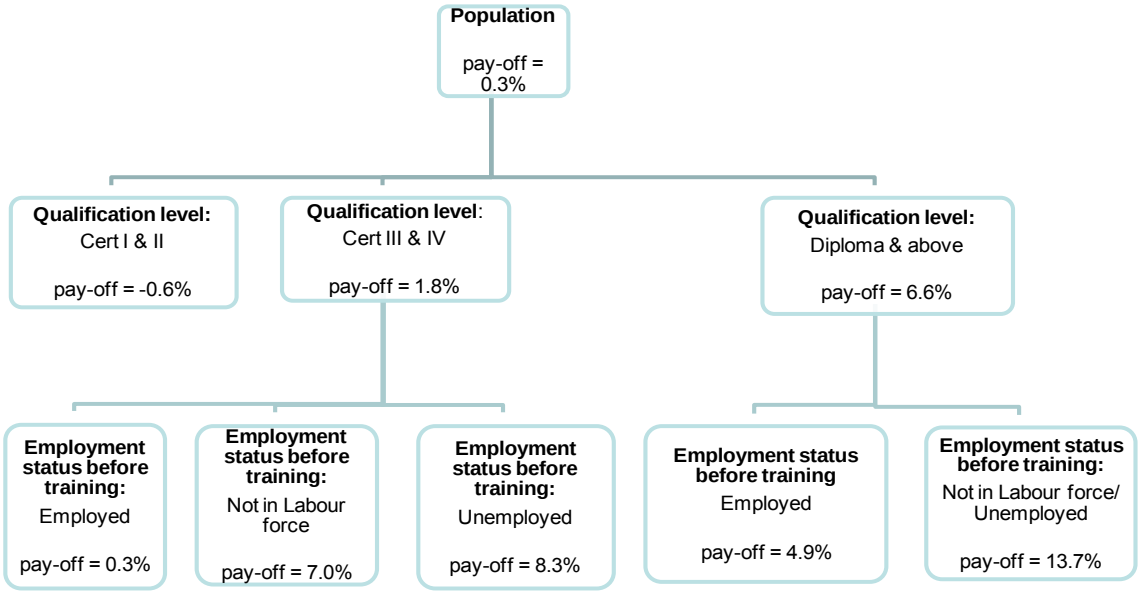
Figure 10 Pay-off from completion, further study after training (overall average pay-off = 122.7%)



So with the further study outcome, all three groups that make up the labour force status before training figure in the groups have the highest pay-offs to completion. Thus any notion that we only need to consider those who are either unemployed or not in the labour force before training or not is quickly dismissed.

This lack of uniformity is further underlined by the results in relation to our third variable: the salary of full-time workers (after training), as can be seen from figure 11.

Figure 11 Pay-off from completion, salary of full-time workers after training (overall average pay-off = 0.3%)



These four groups have pay-offs from completion of some substance, in terms of impact on salaries. The quick summary of this tree is that there is a pay-off in salary terms if the student is undertaking a diploma or above, or a certificate III/IV if the person is not already employed. The other group of some note comprises those who are undertaking a certificate I/II. For these students, the pay-off from training is negative (-6.0%).

In an attempt to try to draw some overall conclusions we extract the characteristics that feature in the trees, covering the three outcome variables we are concentrating on (table 6).

Table 6 Characteristics defining groups for whom there is an above-average pay-off from completion, by outcome variable

Outcome	Characteristics in first split	Characteristics in second split	Characteristics in third split
Employed after training	Employment status before training	Field of education Prior education	Prior education Field of education Qualification level
Salary (f-t workers)	Qualification level	Employment status before training	
Further study	Employment status before training	Qualification level Field of education	Prior education Field of education Qualification level

Thus, the two key characteristics are employment status before training and qualification level, with field of education and prior education also playing a role.

Pulling this all together our broad conclusions are:

- There is a pay-off from completion in terms of employment or further study for the large majority (over 95%) of students.
- The pay-off from completion in terms of employment outcomes is highest, in general, for those not employed before training.
- The pay-off from completion in terms of further study is highest for various combinations of labour force status before training and undertaking a certificate I/II.
- There are a substantial numbers of students for whom completion of training does not lead to higher wages if in a full-time job (around 40%).
- The two groups for whom there is a significant pay-off from completion in terms of wages are those undertaking diplomas and above, and those who are not employed before training and who are undertaking a certificate III/IV.

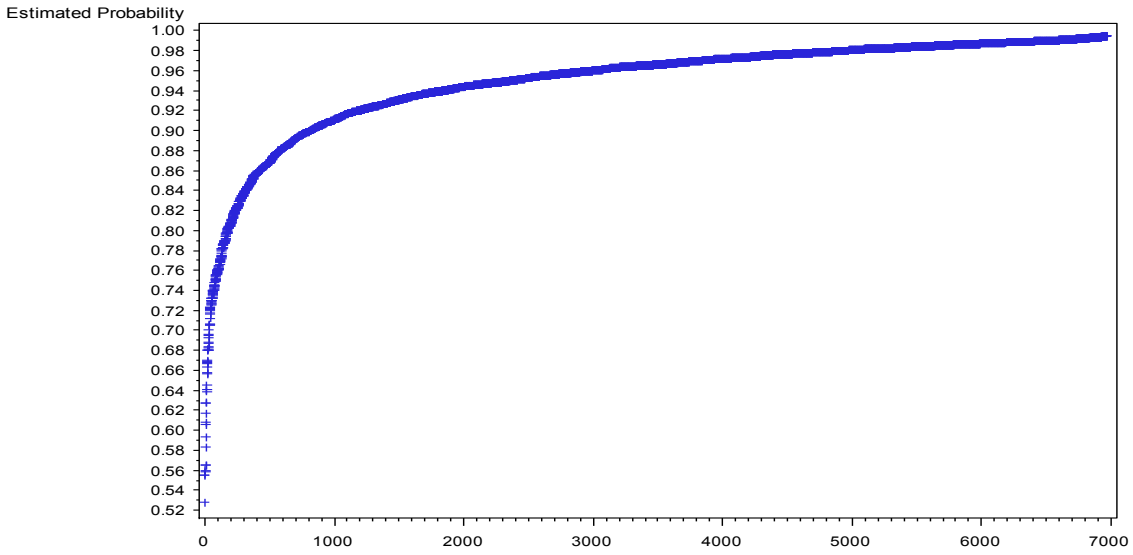
Thus the overall conclusion is that completion matters, if not for every individual. It is particularly important for those not employed before training (for employment after training and wages), for certificates I/II if the objective is further study, and for diplomas and above for wages.

The link between pay-off from completion and completion

To this point we have been looking at the pay-off from completion. We now wish to investigate the extent to which individuals appear to be taking into account the pay-off from completion in their decisions regarding their training.

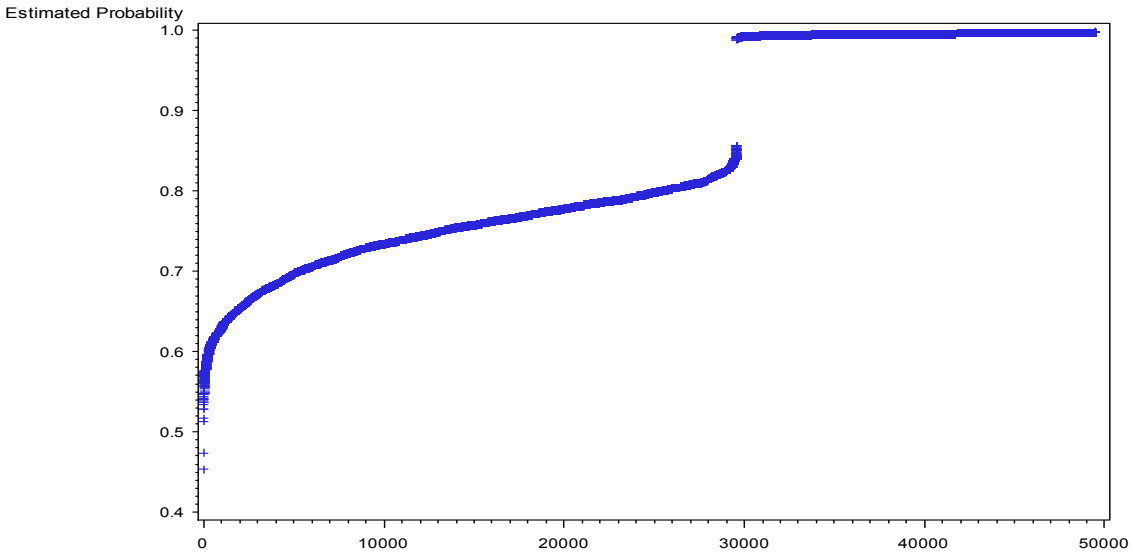
In figures 12 and 13 we plot the predicted probabilities for each individual in our sample (Student Intentions Survey and Student Outcomes Survey, respectively) based on the characteristics outlined earlier in tables 2 and 3. We see that, although the probabilities of intending to complete and completion are high, there is considerable variation across individuals.[7]

Figure 12 The probability that an individual student intends to complete (with respect to the student population)



[7] We were a little puzzled when we first estimated the probability of completion because the probabilities are very much greater than the completion rates developed by Karmel and Marks (2010) and later published by NCVER (2011a, 2011b). This difference is attributed to two factors. First, the Student Outcomes Survey excludes students who exit their training without passing a single module. Second, experience with non-response biases suggests that the successful individuals are more likely to complete the survey than unsuccessful individuals, so that the ratio of graduates to module completers in the Student Outcomes Survey is much higher than the true ratio. Whether this non-response bias affects our analysis is a moot point, remembering that our analysis conditions on whether an individual is a module completer or a graduate and therefore the relative numbers do not matter a great deal. If there is a bias, we are probably underestimating the pay-off from completion because non-responding module completers would be expected to have poorer outcomes than the ones we observe.

Figure 13 The probability that an individual completes



Given this variation, it is worth looking at how characteristics are related to these predicted probabilities. As before, we examine the branches of the trees to isolate the characteristics of the groups with above-average intentions to complete or completion probability (figures 14 and 15). (The full trees are in the appendix.)

Figure 14 Probability of intending to complete

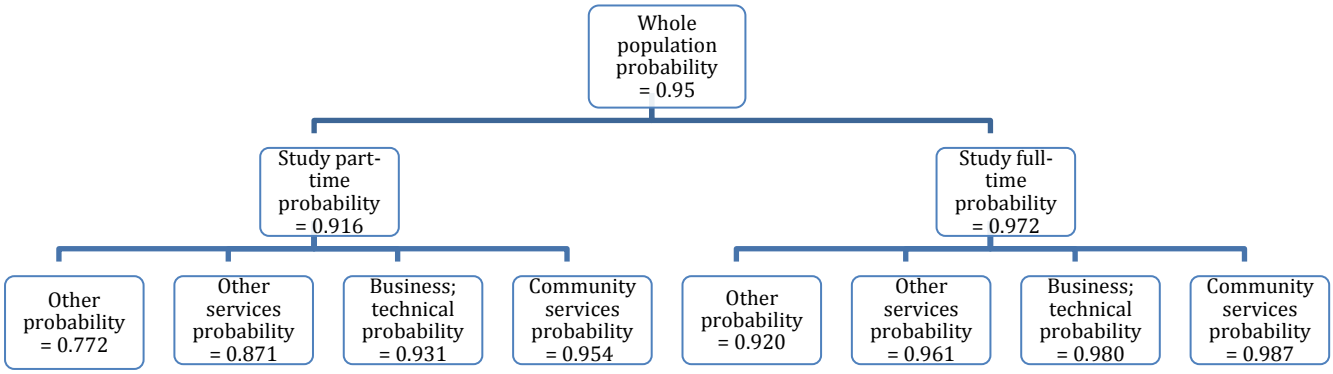
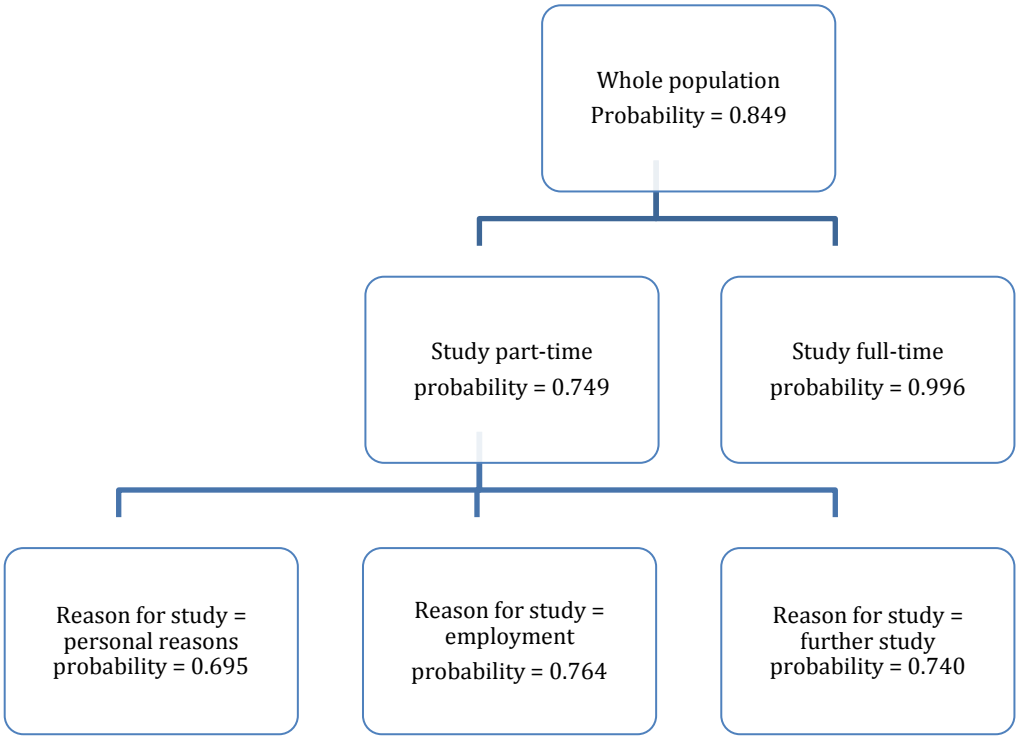


Figure 15 Probability of completion



Study status dominates for both the intention to complete and actual completion. Full-time students on the whole appear to have a greater engagement with their study, and both are more likely to report that they intend to complete and do complete at a higher rate than part-time students. If there is any internalising of the pay-off from completion, it occurs in the decision to study full-time or not — noting that full-time students are in the minority in the VET system, with the latest data showing 14.6% of VET students studying full-time (NCVER 2011c).

Finally, we look more directly at the relationship between the probability of completion, the probability of intending to complete and the pay-off variables. Table 7 shows the simple correlations with the probability of completion.

Table 7 Correlations of various variables with the predicted probability of completion

Predicted probability of intending to complete	*0.58*
Pay-off from completion, probability of employment after training	*-0.08*
Pay-off from completion, salary if in full-time employment after training	*-0.18*
Pay-off from completion, salary if in part-time employment after training	*0.37*
Pay-off from completion, probability of improved employment after training	*-0.31*
Pay-off from completion, occupational status of job after training	*0.05*
Pay-off from completion, probability of being in further study after training	*-0.23*
Pay-off from completion, probability of employment or further study after training	*-0.14*

We see high correlations between the predicted probability of completing training and the predicted probability of intending to complete. The other correlations are all over the place. So it seems that the pay-offs from completion do not play an obvious or immediate role in affecting completion. Rather, the intention of completing is relevant, as is the decision to undertake full-time study.

While the correlations between the pay-off variables and the probability of completion are inconsistent, it might be argued that the pay-off from completion is more likely to have an immediate impact on the intention to complete. To look at this possibility we consider the correlations between the pay-off variables and the predicted probability of intending to complete (table 8).[8]

Table 8 Correlations of various variables with the predicted probability of intending to complete

Pay-off from completion, probability of employment after training	*0.04*
Pay-off from completion, salary if in full-time employment after training	*0.14*
Pay-off from completion, salary if in part-time employment after training	*0.29*
Pay-off from completion, probability of improved employment after training	*0.13*
Pay-off from completion, occupational status of job after training	*0.25*
Pay-off from completion, probability of being in further study after training	*-0.33*
Pay-off from completion, probability of employment or further study after training	*-0.13*

The correlations do not provide any solid evidence that the intention to complete is closely related to the pay-offs from completion.[9]

The lack of congruence between the pay-off from completion and student behaviour suggests that we cannot rely on the pay-off from completion to drive high completion rates. In a sense that was obvious from the start, given the low completion rates estimated by NCVER. What can be done therefore to improve completion rates? The very high proportion of students who say they intend to complete suggests that initial attitudes are not the issue. The one thing that we have observed is that those who complete are more satisfied with their training. In fact, a simple model in which we explain the probability of completion in terms of intention to complete and satisfaction fits the data quite well (table 9).

Table 9 Modelling the probability of completion

Variable	Estimate	Standard error	t Value
Intercept	-0.1597	0.0071	-22.6
Probability that student intends to complete	1.0299	0.0072	143.4
Satisfaction with training	0.0080	0.0005	14.6

Note: Model statistics: F=1082.7; Pr>|F| < 0.0001; R-square(adj) = 0.308.

While this model indicates that satisfaction does influence the probability of completion, the size of the coefficient is very small — an increase in the satisfaction score of 1 (it is a 5-point Likert scale) increases the probability of completion by around one percentage point.[10] Thus there is some evidence that the issue lies with the delivery of training, but it is quite weak. Nevertheless, the gap between the probability of intending to complete and the completion rate suggests that there is a real opportunity to improve completion rates.

[8] We cannot look at the correlation between the pay-off variables and the intention to complete directly because we have intention to complete in the Student Intentions Survey but the pay-off from completion from the Student Outcomes Survey. We thus are forced to look at the relationship between the various predictions.

[9] A formal regression confirms the ambiguous findings, with a number of the pay-off variables having a negative sign.

[10] In the model, we are essentially assuming that satisfaction leads to higher completion, rather than completers reporting that they are more satisfied because the completion gives them a more benign view of their training.

Final comments

The motivation behind this paper was twofold: to test the proposition that the low completion rates in VET are not such an issue because individuals who leave do so because they have learnt the skills they require; and to identify those groups for whom completion matters.

On the first proposition, the answer is very clear. Completion matters and therefore the overall low completion rate for the sector is a serious matter of concern. But we acknowledge that completion does not have a pay-off for every student; it depends on why the student is studying. If the student wishes to be employed after training, then completion pays off for around 98% of students. If the students wish to go on to further study, then completion pays off for 99.9% of students. However, if the student is not so worried about getting a job but is concerned about a better job (higher wages or higher occupational status), then the pay-off from completion is positive for a lower proportion of students (but at around 60% it is still a clear majority of students).

While the overwhelming message is that completion matters, it matters for some groups of students more than others. Recapping our results:

- The pay-off from completion in terms of employment outcomes is highest, in general, for those not employed before training, irrespective of whether they were unemployed or not in the labour force.
- The pay-off from completion in terms of further study is highest for those not employed before training. In addition, the pay-off is higher for those undertaking a certificate I/II (that is, very few of those who drop out from a certificate I/II continue in other accredited training).
- The two groups for whom there is a significant pay-off from completion in terms of wages are those undertaking diplomas and above and those who are not employed before training and who are undertaking a certificate III/IV.

These findings are relevant to policy in a number of ways. First, they give a guide to performance indicators by suggesting the specific groups for whom we should be calculating completion rates. Obvious groups for whom completion rates are a particularly good indicator include:

- those not in the labour force or unemployed before training
- those undertaking a diploma
- all those undertaking training with the intention of going on to further study (especially those undertaking a certificate I/II).

Second, the findings suggest that limited public funds could be better distributed. For example, those who are not currently employed should be targeted for special attention, as should those who are doing a qualification as a pathway to further study.

The final point to be made is that the issue of low completion rates is one that needs to be addressed. We cannot assume that students do not complete because they have got what they wanted out of the training. Our finding that the completion rates are not related to pay-offs from completion, together with some evidence that satisfaction with training is related to completion, suggests that providers need to pay better attention to their students. We cannot leave it to students to understand the benefit from completion. An obvious incentive to improve completion rates would be to fund providers partly on completions rather than enrolments, as is currently the case.

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Appendix A: Model results

Employed after training							
Graduates				Module completers			
Parameter		*Estimate*	*P>ChiSq*	*Parameter*		*Estimate*	*P>ChiSq*
Intercept		0.59	<.0001	Intercept		0.32	0.1156
AgeGroup	25–34y	-0.06	0.0268	AgeGroup	25–34y	-0.14	0.0023
AgeGroup	35–45y	0.06	0.0259	AgeGroup	35–45y	0.30	<.0001
AgeGroup	<25y	0.02	0.4323	AgeGroup	<25y	-0.05	0.1815
AgeGroup	>45	0		AgeGroup	>45	0	
Sex_	Female	-0.06	0.0001	Sex_	Female	-0.04	0.1093
Sex_	Male	0		Sex_	Male	0	
Quallevel	Cert I & II	-0.28	<.0001	Quallevel	Cert I & II	-0.20	<.0001
Quallevel	Cert III & IV	0.18	<.0001	Quallevel	Cert III & IV	-0.12	0.0064
Quallevel	Diploma & above	0		Quallevel	Diploma & above	0.02	0.8168
				Quallevel	Other	0	
PriorEduc	<Y12 & Cert I/II	-0.06	0.0105	PriorEduc	<Y12 & Cert I/II	-0.34	<.0001
PriorEduc	Cert III/IV	0.04	0.1565	PriorEduc	Cert III/IV	0.15	0.0006
PriorEduc	Dipl & higher	-0.04	0.2098	PriorEduc	Dipl & higher	0.17	<.0001
PriorEduc	Y12	0		PriorEduc	Y12	0	
EmplStatusB4	Employed	1.52	<.0001	EmplStatusB4	Employed	1.89	<.0001
EmplStatusB4	Not in Labor force	-0.93	<.0001	EmplStatusB4	Not in Labor force	-1.36	<.0001
EmplStatusB4	Unemployed	0		EmplStatusB4	Unemployed	0	
Location	City	-0.26	<.0001	Location	City	-0.24	<.0001
Location	Regional	0.06	0.0407	Location	Regional	0.06	0.1501
Location	Remote	0		Location	Remote	0	
FieldOfEduc	Business	0.05	0.0657	FieldOfEduc	Business	0.12	0.017
FieldOfEduc	Community Services	0.37	<.0001	FieldOfEduc	Community Services	0.07	0.145
FieldOfEduc	Other	-0.68	<.0001	FieldOfEduc	Other	-0.18	<.0001
FieldOfEduc	Other Services	-0.05	0.1013	FieldOfEduc	Other Services	-0.08	0.0773
FieldOfEduc	Technical	0		FieldOfEduc	Technical	0	
SES	least disadvantaged	0.18	<.0001	SES	least disadvantaged	0.25	<.0001
SES	midpoint disadvantaged	0.03	0.2934	SES	midpoint disadvantaged	-0.06	0.197
SES	most disadvantaged	-0.27	<.0001	SES	most disadvantaged	-0.17	0.001
SES	somewhat disadvantaged	0.10	<.0001	SES	somewhat disadvantaged	0.04	0.3173
SES	very disadvantaged	0		SES	very disadvantaged	0	
StudyStatus	FullTime	-0.04	0.0034	StudyStatus	FullTime	0.01	0.977
StudyStatus	PartTime	0		StudyStatus	PartTime	0	
Model: Rescaled R-square: 0.328				Model: Rescaled R-square: 0.435			
Wald ChiSq: 8450.1 Pr>ChiSq:<0.000				Wald ChiSq: 4656.8 Pr>ChiSq:<0.000			

Further study

Graduates				Module completers			
Parameter		*Estimate*	*P>ChiSq*	*Parameter*		*Estimate*	*P>ChiSq*
Intercept		-0.56	<.0001	Intercept		-1.68	<.0001
AgeGroup	25–34y	0.05	0.0202	AgeGroup	25–34y	-0.07	0.1159
AgeGroup	35–45y	-0.13	<.0001	AgeGroup	35–45y	-0.07	0.0992
AgeGroup	<25y	0.44	<.0001	AgeGroup	<25y	0.51	<.0001
AgeGroup	>45	0		AgeGroup	>45	0	
Sex_	Female	0.06	<.0001	Sex_	Female	0.05	0.0292
Sex_	Male	0.00		Sex_	Male	0	
Quallevel	Cert I & II	0.18	<.0001	Quallevel	Cert I & II	-0.10	0.0775
Quallevel	Cert III & IV	-0.14	<.0001	Quallevel	Cert III & IV	-0.10	0.0236
Quallevel	Diploma & above	0		Quallevel	Diploma & above	0	
				Quallevel	Other	0.19	0.003
PriorEduc	<Y12 & Cert I/II	-0.13	<.0001	PriorEduc	<Y12 & Cert I/II	-0.34	<.0001
PriorEduc	Cert III/IV	0.06	0.0031	PriorEduc	Cert III/IV	-0.05	0.2563
PriorEduc	Dipl & higher	-0.03	0.1654	PriorEduc	Dipl & higher	0.21	<.0001
PriorEduc	Y12	0		PriorEduc	Y12	0	
EmplStatusB4	Employed	-0.17	<.0001	EmplStatusB4	Employed	0.08	0.0436
EmplStatusB4	Not in Labor force	0.10	<.0001	EmplStatusB4	Not in Labor force	-0.14	0.0057
EmplStatusB4	Unemployed	0		EmplStatusB4	Unemployed	0	
Location	City	0.04	0.0311	Location	City	0.02	0.6912
Location	Regional	0.03	0.1422	Location	Regional	0.04	0.3002
Location	Remote	0		Location	Remote	0	
FieldOfEduc	Business	-0.05	0.0117	FieldOfEduc	Business	-0.11	0.0369
FieldOfEduc	Community Services	0.09	<.0001	FieldOfEduc	Community Services	0.00	0.9609
FieldOfEduc	Other	0.45	<.0001	FieldOfEduc	Other	-0.01	0.8746
FieldOfEduc	Other Services	-0.19	<.0001	FieldOfEduc	Other Services	0.10	0.0402
FieldOfEduc	Technical	0		FieldOfEduc	Technical	0	
SES	least disadvantaged	0.04	0.0616	SES	least disadvantaged	0.06	0.1933
SES	midpoint disadvantaged	0.00	0.9118	SES	midpoint disadvantaged	-0.09	0.0337
SES	most disadvantaged	-0.02	0.3792	SES	most disadvantaged	0.07	0.1953
SES	somewhat disadvantaged	-0.01	0.4615	SES	somewhat disadvantaged	0.00	0.9441
SES	very disadvantaged	0		SES	very disadvantaged	0	
StudyStatus	FullTime	0.13	<.0001	StudyStatus	FullTime	0.16	0.2994
StudyStatus	PartTime	0		StudyStatus	PartTime	0	
Model: Rescaled R-square: 0.062				Model: Rescaled R-square: 0.036			
Wald ChiSq: 1804.5 Pr>ChiSq:<0.000				Wald ChiSq: 356.8 Pr>ChiSq:<0.000			

Employed or further study

Graduates				Module completers			
Parameter		*Estimate*	*P>ChiSq*	*Parameter*		*Estimate*	*P>ChiSq*
Intercept		1.54	<.0001	Intercept		0.76	0.0005
AgeGroup	25–34y	-0.06	0.1041	AgeGroup	25–34y	-0.15	0.0013
AgeGroup	35–45y	0.02	0.5458	AgeGroup	35–45y	0.23	<.0001
AgeGroup	<25y	0.21	<.0001	AgeGroup	<25y	0.15	0.0008
AgeGroup	>45	0		AgeGroup	>45	0	
Sex_	Female	-0.06	0.0023	Sex_	Female	-0.05	0.0541
Sex_	Male	0.00		Sex_	Male	0	
Quallevel	Cert I & II	-0.29	<.0001	Quallevel	Cert I & II	-0.24	<.0001
Quallevel	Cert III & IV	0.18	<.0001	Quallevel	Cert III & IV	-0.14	0.0019
Quallevel	Diploma & above	0		Quallevel	Diploma & above	0.11	0.1447
				Quallevel	Other	0	
PriorEduc	<Y12 & Cert I/II	-0.14	<.0001	PriorEduc	<Y12 & Cert I/II	-0.40	<.0001
PriorEduc	Cert III/IV	0.08	0.0157	PriorEduc	Cert III/IV	0.13	0.0062
PriorEduc	Dipl & higher	-0.04	0.2086	PriorEduc	Dipl & higher	0.14	0.0022
PriorEduc	Y12	0		PriorEduc	Y12	0	
EmplStatusB4	Employed	1.26	<.0001	EmplStatusB4	Employed	1.80	<.0001
EmplStatusB4	Not in Labor force	-0.74	<.0001	EmplStatusB4	Not in Labor force	-1.25	<.0001
EmplStatusB4	Unemployed	0		EmplStatusB4	Unemployed	0	
Location	City	-0.16	<.0001	Location	City	-0.18	<.0001
Location	Regional	0.12	0.0001	Location	Regional	0.08	0.0647
Location	Remote	0		Location	Remote	0	
FieldOfEduc	Business	-0.03	0.3107	FieldOfEduc	Business	0.06	0.2522
FieldOfEduc	Community Services	0.22	<.0001	FieldOfEduc	Community Services	0.06	0.1997
FieldOfEduc	Other	-0.04	0.4219	FieldOfEduc	Other	-0.11	0.0152
FieldOfEduc	Other Services	-0.18	<.0001	FieldOfEduc	Other Services	-0.07	0.1544
FieldOfEduc	Technical	0		FieldOfEduc	Technical	0	
SES	least disadvantaged	0.17	<.0001	SES	least disadvantaged	0.30	<.0001
SES	midpoint disadvantaged	0.04	0.159	SES	midpoint disadvantaged	-0.06	0.2134
SES	most disadvantaged	-0.25	<.0001	SES	most disadvantaged	-0.15	0.0042
SES	somewhat disadvantaged	0.06	0.0452	SES	somewhat disadvantaged	0.01	0.9107
SES	very disadvantaged	0		SES	very disadvantaged	0	
StudyStatus	FullTime	0.08	<.0001	StudyStatus	FullTime	0.09	0.6919
StudyStatus	PartTime	0		StudyStatus	PartTime	0	
Model: Rescaled R-square: 0.202				Model: Rescaled R-square: 0.398			
Wald ChiSq: 4284.3 Pr>ChiSq:<0.000				Wald ChiSq: 4100.6 Pr>ChiSq:<0.000			

Improved employment circumstances*

Graduates				Module completers			
Parameter		*Estimate*	*P>ChiSq*	*Parameter*		*Estimate*	*P>ChiSq*
Intercept		1.54	<.0001	Intercept		0.76	0.0005
AgeGroup	25–34y	-0.06	0.1041	AgeGroup	25–34y	-0.15	0.0013
AgeGroup	35–45y	0.02	0.5458	AgeGroup	35–45y	0.23	<.0001
AgeGroup	<25y	0.21	<.0001	AgeGroup	<25y	0.15	0.0008
AgeGroup	>45	0		AgeGroup	>45	0	
Sex_	Female	-0.06	0.0023	Sex_	Female	-0.05	0.0541
Sex_	Male	0		Sex_	Male	0	
Quallevel	Cert I & II	-0.29	<.0001	Quallevel	Cert I & II	-0.24	<.0001
Quallevel	Cert III & IV	0.18	<.0001	Quallevel	Cert III & IV	-0.14	0.0019
Quallevel	Diploma & above	0		Quallevel	Diploma & above	0.11	0.1447
				Quallevel	Other	0	
PriorEduc	<Y12 & Cert I/II	-0.14	<.0001	PriorEduc	<Y12 & Cert I/II	-0.40	<.0001
PriorEduc	Cert III/IV	0.08	0.0157	PriorEduc	Cert III/IV	0.13	0.0062
PriorEduc	Dipl & higher	-0.04	0.2086	PriorEduc	Dipl & higher	0.14	0.0022
PriorEduc	Y12	0		PriorEduc	Y12	0	
EmplStatusB4	Employed	1.26	<.0001	EmplStatusB4	Employed	1.80	<.0001
EmplStatusB4	Not in Labor force	-0.74	<.0001	EmplStatusB4	Not in Labor force	-1.25	<.0001
EmplStatusB4	Unemployed	0		EmplStatusB4	Unemployed	0	
Location	City	-0.16	<.0001	Location	City	-0.18	<.0001
Location	Regional	0.12	0.0001	Location	Regional	0.08	0.0647
Location	Remote	0		Location	Remote	0	
FieldOfEduc	Business	-0.03	0.3107	FieldOfEduc	Business	0.06	0.2522
FieldOfEduc	Community Services	0.22	<.0001	FieldOfEduc	Community Services	0.06	0.1997
FieldOfEduc	Other	-0.04	0.4219	FieldOfEduc	Other	-0.11	0.0152
FieldOfEduc	Other Services	-0.18	<.0001	FieldOfEduc	Other Services	-0.07	0.1544
FieldOfEduc	Technical	0		FieldOfEduc	Technical	0	
SES	least disadvantaged	0.17	<.0001	SES	least disadvantaged	0.30	<.0001
SES	midpoint disadvantaged	0.04	0.159	SES	midpoint disadvantaged	-0.06	0.2134
SES	most disadvantaged	-0.25	<.0001	SES	most disadvantaged	-0.15	0.0042
SES	somewhat disadvantaged	0.06	0.0452	SES	somewhat disadvantaged	0.01	0.9107
SES	very disadvantaged	0		SES	very disadvantaged	0	
StudyStatus	FullTime	0.08	<.0001	StudyStatus	FullTime	0.09	0.6919
StudyStatus	PartTime	0		StudyStatus	PartTime	0	
Model: Rescaled R-square: 0.098				Model: Rescaled R-square: 0.066			
Wald ChiSq: 2885.9 Pr>ChiSq:<0.000				Wald ChiSq: 817.3 Pr>ChiSq:<0.000			

* Definition 'improved': (Not employed before but employed after) OR (Employed in a higher skill level after training) OR (At least one job-related benefit of undertaking the training)

Salary full-time

Graduates				Module completers			
Parameter		*Estimate*	*P>|t|*	*Parameter*		*Estimate*	*P>|t|*
Intercept		58868	<.0001	Intercept		51111	<.0001
AgeGroup	25–34y	-2763	<.0001	AgeGroup	25–34y	-1647	0.0009
AgeGroup	35–45y	217	0.5286	AgeGroup	35–45y	548	0.2307
AgeGroup	<25y	-12809	<.0001	AgeGroup	<25y	-11578	<.0001
AgeGroup	>45	0	.	AgeGroup	>45	0	.
Sex_	Female	-7336	<.0001	Sex_	Female	-7051	<.0001
Sex_	Male	0	.	Sex_	Male	0	.
Quallevel	Cert I & II	-8033	<.0001	Quallevel	Cert I & II	-3395	<.0001
Quallevel	Cert III & IV	-3821	<.0001	Quallevel	Cert III & IV	-3094	<.0001
Quallevel	Diploma & above	0	.	Quallevel	Diploma & above	-2058	0.0111
				Quallevel	Other	0	.
PriorEduc	<Y12 & Cert I/II	-1897	<.0001	PriorEduc	<Y12 & Cert I/II	-1838	0.0089
PriorEduc	Cert III/IV	2611	<.0001	PriorEduc	Cert III/IV	3304	<.0001
PriorEduc	Dipl & higher	7092	<.0001	PriorEduc	Dipl & higher	9372	<.0001
PriorEduc	Y12	0	.	PriorEduc	Y12	0	.
EmplStatusB4	Employed	6736	<.0001	EmplStatusB4	Employed	9310	<.0001
EmplStatusB4	Not in Labor force	1069	0.1548	EmplStatusB4	Not in Labor force	1350	0.421
EmplStatusB4	Unemployed	0	.	EmplStatusB4	Unemployed	0	.
Location	City	-7384	<.0001	Location	City	-6170	<.0001
Location	Regional	-6708	<.0001	Location	Regional	-6146	<.0001
Location	Remote	0	.	Location	Remote	0	.
FieldOfEduc	Business	-1746	<.0001	FieldOfEduc	Business	-689	0.2655
FieldOfEduc	Community Services	-1524	<.0001	FieldOfEduc	Community Services	704	0.1994
FieldOfEduc	Other	-4628	<.0001	FieldOfEduc	Other	-2257	<.0001
FieldOfEduc	Other Services	-5625	<.0001	FieldOfEduc	Other Services	-4948	<.0001
FieldOfEduc	Technical	0	.	FieldOfEduc	Technical	0	.
SES	least disadvantaged	3258	<.0001	SES	least disadvantaged	4416	<.0001
SES	midpoint disadvantaged	1333	<.0001	SES	midpoint disadvantaged	1905	0.0002
SES	most disadvantaged	-144	0.7203	SES	most disadvantaged	-718	0.2464
SES	somewhat disadvantaged	2084	<.0001	SES	somewhat disadvantaged	2523	<.0001
SES	very disadvantaged	0	.	SES	very disadvantaged	0	.
StudyStatus	FullTime	-257	0.2738	StudyStatus	FullTime	684	0.8598
StudyStatus	PartTime	0	.	StudyStatus	PartTime	0	.
Model: Adjusted R-square: 0.291				Model: Adjusted R-square: 0.242			
F: 353.9 Pr>|F|:<0.000				F: 116.5 Pr>|F|:<0.000			

Salary part-time

Graduates				Module completers			
Parameter		*Estimate*	*P>|t|*	*Parameter*		*Estimate*	*P>|t|*
Intercept		25477	<.0001	Intercept		23716	<.0001
AgeGroup	25–34y	-3084	<.0001	AgeGroup	25–34y	-3406	<.0001
AgeGroup	35–45y	-1086	0.0028	AgeGroup	35–45y	361	0.5599
AgeGroup	<25y	-9625	<.0001	AgeGroup	<25y	-10427	<.0001
AgeGroup	>45	0	.	AgeGroup	>45	0	.
Sex_	Female	-2971	<.0001	Sex_	Female	-2226	<.0001
Sex_	Male	0	.	Sex_	Male	0	.
Quallevel	Cert I & II	-3668	<.0001	Quallevel	Cert I & II	-3495	<.0001
Quallevel	Cert III & IV	-1215	0.0006	Quallevel	Cert III & IV	-1693	0.0043
Quallevel	Diploma & above	0	.	Quallevel	Diploma & above	-966	0.2813
				Quallevel	Other	0	.
PriorEduc	<Y12 & Cert I/II	-1587	<.0001	PriorEduc	<Y12 & Cert I/II	-1173	0.0808
PriorEduc	Cert III/IV	1481	0.0003	PriorEduc	Cert III/IV	324	0.6844
PriorEduc	Dipl & higher	3748	<.0001	PriorEduc	Dipl & higher	5335	<.0001
PriorEduc	Y12	0	.	PriorEduc	Y12	0	.
EmplStatusB4	Employed	3694	<.0001	EmplStatusB4	Employed	5659	<.0001
EmplStatusB4	Not in Labor force	-319	0.5529	EmplStatusB4	Not in Labor force	933	0.4085
EmplStatusB4	Unemployed	0	.	EmplStatusB4	Unemployed	0	.
Location	City	-1079	0.0829	Location	City	468	0.6678
Location	Regional	-766	0.2157	Location	Regional	-776	0.4706
Location	Remote	0	.	Location	Remote	0	.
FieldOfEduc	Business	488	0.2489	FieldOfEduc	Business	-1479	0.0722
FieldOfEduc	Community Services	2277	<.0001	FieldOfEduc	Community Services	171	0.8265
FieldOfEduc	Other	-1834	0.0036	FieldOfEduc	Other	-2197	0.0043
FieldOfEduc	Other Services	-1264	0.0041	FieldOfEduc	Other Services	-2557	0.0011
FieldOfEduc	Technical	0	.	FieldOfEduc	Technical	0	.
SES	least disadvantaged	481	0.2162	SES	least disadvantaged	-51	0.9436
SES	midpoint disadvantaged	-142	0.6851	SES	midpoint disadvantaged	-771	0.239
SES	most disadvantaged	-138	0.7441	SES	most disadvantaged	-140	0.8566
SES	somewhat disadvantaged	473	0.1795	SES	somewhat disadvantaged	684	0.2917
SES	very disadvantaged	0	.	SES	very disadvantaged	0	.
StudyStatus	FullTime	-277	0.2496	StudyStatus	FullTime	-2655	0.4111
StudyStatus	PartTime	0	.	StudyStatus	PartTime	0	.
Model: Adjusted R-square: 0.202				Model: Adjusted R-square: 0.204			
F: 146.9 Pr>|F|:<0.000				F: 49.6 Pr>|F|:<0.000			

Occupational status

Graduates				Module completers			
Parameter		*Estimate*	*P>|t|*	*Parameter*		*Estimate*	*P>|t|*
Intercept		42.3	<.0001	Intercept		36.2	<.0001
AgeGroup	25–34y	-1.6	<.0001	AgeGroup	25–34y	-2.4	<.0001
AgeGroup	35–45y	-0.9	0.0013	AgeGroup	35–45y	-1.8	<.0001
AgeGroup	<25y	-4.8	<.0001	AgeGroup	<25y	-6.5	<.0001
AgeGroup	>45	0	.	AgeGroup	>45	0	.
Sex_	Female	-0.3	0.2052	Sex_	Female	3.2	<.0001
Sex_	Male	0	.	Sex_	Male	0	.
Quallevel	Cert I & II	-8.4	<.0001	Quallevel	Cert I & II	-2.5	<.0001
Quallevel	Cert III & IV	-5.7	<.0001	Quallevel	Cert III & IV	-1.6	0.0003
Quallevel	Diploma & above	0	.	Quallevel	Diploma & above	0.3	0.6725
				Quallevel	Other	0	.
PriorEduc	<Y12 & Cert I/II	-2.2	<.0001	PriorEduc	<Y12 & Cert I/II	-3.7	<.0001
PriorEduc	Cert III/IV	2.1	<.0001	PriorEduc	Cert III/IV	0.5	0.3836
PriorEduc	Dipl & higher	13.9	<.0001	PriorEduc	Dipl & higher	18.9	<.0001
PriorEduc	Y12	0	.	PriorEduc	Y12	0	.
EmplStatusB4	Employed	3.2	<.0001	EmplStatusB4	Employed	6.5	<.0001
EmplStatusB4	Not in Labor force	1.6	0.0022	EmplStatusB4	Not in Labor force	3.4	0.0017
EmplStatusB4	Unemployed	0	.	EmplStatusB4	Unemployed	0	.
Location	City	-1.7	<.0001	Location	City	-1.5	0.0269
Location	Regional	-1.1	0.0071	Location	Regional	-2.1	0.0012
Location	Remote	0	.	Location	Remote	0	.
FieldOfEduc	Business	5.3	<.0001	FieldOfEduc	Business	2.3	<.0001
FieldOfEduc	Community Services	8.2	<.0001	FieldOfEduc	Community Services	4.1	<.0001
FieldOfEduc	Other	1.0	0.0854	FieldOfEduc	Other	0.3	0.4741
FieldOfEduc	Other Services	-1.5	<.0001	FieldOfEduc	Other Services	-2.3	<.0001
FieldOfEduc	Technical	0	.	FieldOfEduc	Technical	0	.
SES	least disadvantaged	2.3	<.0001	SES	least disadvantaged	3.0	<.0001
SES	midpoint disadvantaged	0.7	0.0093	SES	midpoint disadvantaged	0.6	0.1601
SES	most disadvantaged	0.0	0.9171	SES	most disadvantaged	-0.4	0.4974
SES	somewhat disadvantaged	1.4	<.0001	SES	somewhat disadvantaged	1.7	0.0003
SES	very disadvantaged	0	.	SES	very disadvantaged	0	.
StudyStatus	FullTime	0.1	0.6807	StudyStatus	FullTime	0.2	0.9339
StudyStatus	PartTime	0	.	StudyStatus	PartTime	0	.
Model: Adjusted R-square: 0.264				Model: Adjusted R-square: 0.302			
F: 530.7 Pr>|F|:<0.000				F: 253.4 Pr>|F|:<0.000			

Models of completion: intent vs reality

Variable		Student Intentions Survey		Student Outcomes Survey	
		Estimate	P > ChiSq	Estimate	P > ChiSq
Intercept		2.00	0.0048	0.31	0.0086
Prior Education	Cert III/IV	-0.15	0.5432	0.00	0.9339
Prior Education	Dip or above	-0.27	0.2987	0.02	0.7822
Prior Education	Y12	-0.02	0.9121	-0.14	0.0199
Prior Education	below Y12, Cert I/II	0	.	0	.
Field of Education	Business	0.00	0.9988	-0.18	0.0002
Field of Education	Community	0.37	0.1996	0.21	0.0002
Field of Education	Other	-1.29	<.0001	-0.45	<.0001
Field of Education	Other Services	-0.73	0.0011	-0.10	0.0459
Field of Education	Technical	0	.	0	.
Sex	Female	0.24	0.1640	0.09	0.0153
Sex	Male	0	.	0	.
Age Group	25–34	0.39	0.1521	0.06	0.2206
Age Group	35–45	-0.04	0.8664	0.12	0.0159
Age Group	<25y	0.56	0.0262	0.14	0.0039
Age Group	>45	0	.	0	.
Qualification Level	Cert I & II	-0.29	0.2403	0.53	<.0001
Qualification Level	Cert III & IV	0.26	0.2056	0.40	<.0001
Qualification Level	Diploma & above	0	.	0	.
Study Status	FullTime	1.12	<.0001	4.48	<.0001
Study Status	PartTime	0	.	0	.
Empl. status*	Employed	0.03	0.8594	0.26	<.0001
Empl. status*	Not employed	0.00	.	0	.
Location	City	0.32	0.6231	0.12	0.1081
Location	Region	0.30	0.6509	0.09	0.2296
Location	Remote	0	.	0	.
SES	least disadvantaged	0.06	0.8268	0.08	0.1762
SES	midpoint disadvantaged	0.15	0.5884	-0.02	0.7312
SES	most disadvantaged	-0.12	0.6690	0.04	0.4671
SES	somewhat disadvantaged	-0.42	0.1152	0.12	0.0242
SES	very disadvantaged	0	.	0	.

Analysis of effects

		Student Intentions Survey		Student Outcomes Survey	
		Wald ChiSq	*P > ChiSq*	*Wald ChiSq*	*P > ChiSq*
Prior Education	3	1.37	0.7128	11.29	0.0102
Field of Education	4	36.64	<.0001	100.99	<.0001
Sex	1	1.94	0.164	5.88	0.0153
Age Group	3	8.10	0.0439	9.75	0.0208
Qualification Level	2	6.88	0.032	87.51	<.0001
Study Status	1	38.08	<.0001	407.88	<.0001
Empl. status*	1	0.03	0.8594	42.62	<.0001
Location	2	0.25	0.8841	2.81	0.2445
SES	4	7.16	0.1278	8.58	0.0725
		Rescaled R-square: 0.56		Rescaled R-square: 0.77	
		Wald ChiSq: 151.5		Wald ChiSq: 965.7	
		Pr>ChiSq:<0.000		Pr>ChiSq:<0.000	

Note: * Employment status indicates status before training in the Student Outcomes Survey model, and during training in the Student Intentions Survey model.

Models of completion: intent vs reality including reasons for studying

Variable		Student Intentions Survey		Student Outcomes Survey	
		Estimate	P > ChiSq	Estimate	P > ChiSq
Intercept		1.72	0.0153	0.09	0.4595
Prior Education	Cert III/IV	-0.14	0.5611	0.01	0.9105
Prior Education	Dip or above	-0.19	0.4590	0.01	0.8677
Prior Education	Y12	0.01	0.9779	-0.13	0.0251
Prior Education	below Y12, Cert I/II	0	.	0	.
Field of Education	Business	-0.03	0.9074	-0.16	0.0021
Field of Education	Community	0.39	0.1834	0.22	<.0001
Field of Education	Other	-1.10	0.0001	-0.39	<.0001
Field of Education	Other Services	-0.72	0.0016	-0.09	0.0778
Field of Education	Technical	0	.	0	.
Sex	Female	0.27	0.1214	0.08	0.0340
Sex	Male	0	.	0	.
Age Group	25–34	0.34	0.2125	0.02	0.6717
Age Group	35–45	-0.06	0.8115	0.10	0.0689
Age Group	<25y	0.59	0.0201	0.12	0.0190
Age Group	>45	0	.	0	.
Qualification Level	Cert I & II	-0.31	0.1969	0.56	<.0001
Qualification Level	Cert III & IV	0.25	0.2158	0.40	<.0001
Qualification Level	Diploma & above	0	.	0	.
Study Status	FullTime	1.12	<.0001	4.50	<.0001
Study Status	PartTime	0	.	0	.
Empl. status*	Employed	0.00	0.9985	0.22	<.0001
Empl. status*	Not employed	0	.	0	.
Location	City	0.24	0.7189	0.14	0.0801
Location	Region	0.27	0.6887	0.11	0.1928
Location	Remote	0	.	0	.
SES	least disadvantaged	0.06	0.8182	0.10	0.0960
SES	midpoint disadvantaged	0.16	0.5639	-0.01	0.8534
SES	most disadvantaged	-0.13	0.6399	0.03	0.6376
SES	somewhat disadvantaged	-0.38	0.1572	0.12	0.0185
SES	very disadvantaged	0	.	0	.
Reason for training	Employment related	0.48	0.0105	0.31	<.0001
Reason for training	Further Study related	-0.28	0.3150	0.27	0.0035
Reason for training	Personal related	0	.	0	.

Analysis of effects

		Student Intentions Survey		Student Outcomes Survey	
		Wald ChiSq	*P > ChiSq*	*Wald ChiSq*	*P > ChiSq*
Prior Education	3	0.94	0.8157	10.24	0.0166
Field of Education	4	32.53	<.0001	88.07	<.0001
Sex	1	2.40	0.1214	4.49	0.034
Age Group	3	8.84	0.0314	7.18	0.0664
Qualification Level	2	7.68	0.0215	90.68	<.0001
Study Status	1	36.74	<.0001	374.54	<.0001
Empl. status*	1	0.00	0.9985	27.10	<.0001
Location	2	0.17	0.9193	3.33	0.189
SES	4	6.18	0.1864	9.26	0.055
Reason	2	12.32	0.0021	46.50	<.0001
		Rescaled R-square: 0.59		Rescaled R-square: 0.77	
		Wald ChiSq: 161.8		Wald ChiSq: 847	
		Pr>ChiSq: < 0.000		Pr>ChiSq: < 0.000	

Note: * Employment status indicates status before training in the Student Outcomes Survey model, and during training in the Student Intention Survey model.

Payoff means by category

		Employed after training	Further study	Employed or further study	Improved working circum-stances	Salary full-time	Salary part-time	Occupation status
Sex	Female	1.21	2.32	1.31	1.34	1.00	1.15	0.99
	Male	1.22	2.11	1.25	1.36	1.01	1.12	1.06
Age group	<25y	1.32	2.11	1.35	1.40	1.00	1.27	1.06
	25–34	1.17	2.30	1.25	1.34	0.99	1.09	1.00
	35–45	1.08	2.15	1.17	1.28	1.01	1.01	1.01
	>45	1.20	2.44	1.29	1.32	1.01	1.07	0.99
Location	City	1.22	2.20	1.29	1.32	1.00	1.09	1.01
	Regional	1.22	2.25	1.27	1.38	1.01	1.21	1.04
	Remote	1.18	2.33	1.22	1.39	1.01	1.15	1.00
Field of Education	Business	1.15	2.38	1.24	1.22	1.00	1.19	1.04
	Community Services	1.25	2.27	1.26	1.48	0.99	1.13	1.04
	Other	1.09	3.73	1.71	1.09	0.94	1.08	0.96
	Other Services	1.25	1.94	1.29	1.32	1.00	1.18	0.99
	Technical	1.27	1.86	1.24	1.44	1.03	1.06	1.02
Qualification Level	Cert I & II	1.25	2.82	1.42	1.24	0.94	1.15	0.99
	Cert III & IV	1.23	2.09	1.25	1.42	1.02	1.13	1.02
	Diploma & above	1.12	1.65	1.13	1.28	1.07	1.15	1.09
Study Status	Full Time	1.19	2.05	1.25	1.23	0.99	1.27	1.03
	Part Time	1.23	2.35	1.30	1.43	1.01	1.05	1.02
SES	least disadvantaged	1.15	2.03	1.18	1.33	0.98	1.12	1.00
	somewhat disadvantaged	1.21	2.12	1.26	1.36	1.00	1.08	1.01
	midpoint disadvantaged	1.25	2.40	1.30	1.34	1.00	1.19	1.03
	very disadvantaged	1.24	2.33	1.33	1.38	1.01	1.15	1.03
	most disadvantaged	1.22	2.19	1.34	1.33	1.03	1.14	1.04
EmplStatusB4	Employed	1.03	1.99	1.04	1.31	0.99	1.09	1.01
	Not in Labour force	2.08	3.17	2.31	1.68	1.03	1.22	1.04
	Unemployed	1.34	2.58	1.57	1.15	1.05	1.39	1.11
Prior Education	<Y12 & Cert I/II	1.37	2.66	1.46	1.42	1.01	1.17	1.05
	Y12	1.20	1.81	1.20	1.36	1.02	1.19	1.03
	Cert III/IV	1.09	2.16	1.14	1.27	1.01	1.18	1.07
	Diploma & higher	1.07	1.77	1.14	1.29	0.98	1.00	0.93
	mean	**1.22**	**2.23**	**1.28**	**1.35**	**1.00**	**1.14**	**1.02**
	variance	**0.20**	**0.63**	**0.25**	**0.07**	**0.00**	**0.07**	**0.01**

Correlations of probability to complete, probability of intending to complete, and the various payoffs

					Payoff						
		Probabi'ty complet'n	Probabi'ty intention	LFSAT	Full time salary	Part time salary	Improved emplmt	Occup. code	Satisft'n	Further study	Employed or study
Pro	Completion	1									
Pro	Intention	0.584	1								
Payoff	LFSAT	-0.084	0.044	1							
	FT Salary	-0.179	0.140	0.348	1						
	PT Salary	0.365	0.291	0.217	0.086	1					
	Improved*	-0.309	0.130	0.679	0.364	-0.107	1				
	Occupation	0.052	0.249	0.276	0.541	0.419	0.182	1			
	Satisfaction	0.441	0.454	0.137	0.043	0.442	-0.202	0.396	1		
	Study	-0.231	-0.334	0.427	-0.175	0.046	0.107	0.108	0.086	1	
	Emp or Study	-0.136	-0.126	0.900	0.233	0.202	0.473	0.194	0.146	0.655	1

Regression model of probability to complete (dependent), probability of intending to complete, and the various payoffs (independent)

Variable		Estimate	Standardised estimate	Standard error	t Value	Pr > |t|
Intercept		0.6875	0.0000	0.0197	34.87	<.0001
Probability Intent to Complete		1.0756	0.5601	0.0081	131.99	<.0001
LFSAT		0.1223	0.4324	0.0017	72.44	<.0001
FT Salary		-0.5707	-0.3068	0.0084	-67.67	<.0001
PT Salary		0.0465	0.0931	0.0020	22.99	<.0001
Improved*	Payoff	-0.2572	-0.5302	0.0027	-95.59	<.0001
Occupation code		0.0285	0.0215	0.0062	4.59	<.0001
Satisfaction		-0.0759	-0.0172	0.0193	-3.93	<.0001
Further Study		-0.0367	-0.2363	0.0007	-53.99	<.0001

Note: Model statistics: N = 46,567; F = 7368.5; Pr>|F| < 0.0001; R-square(adj) = 0.56.

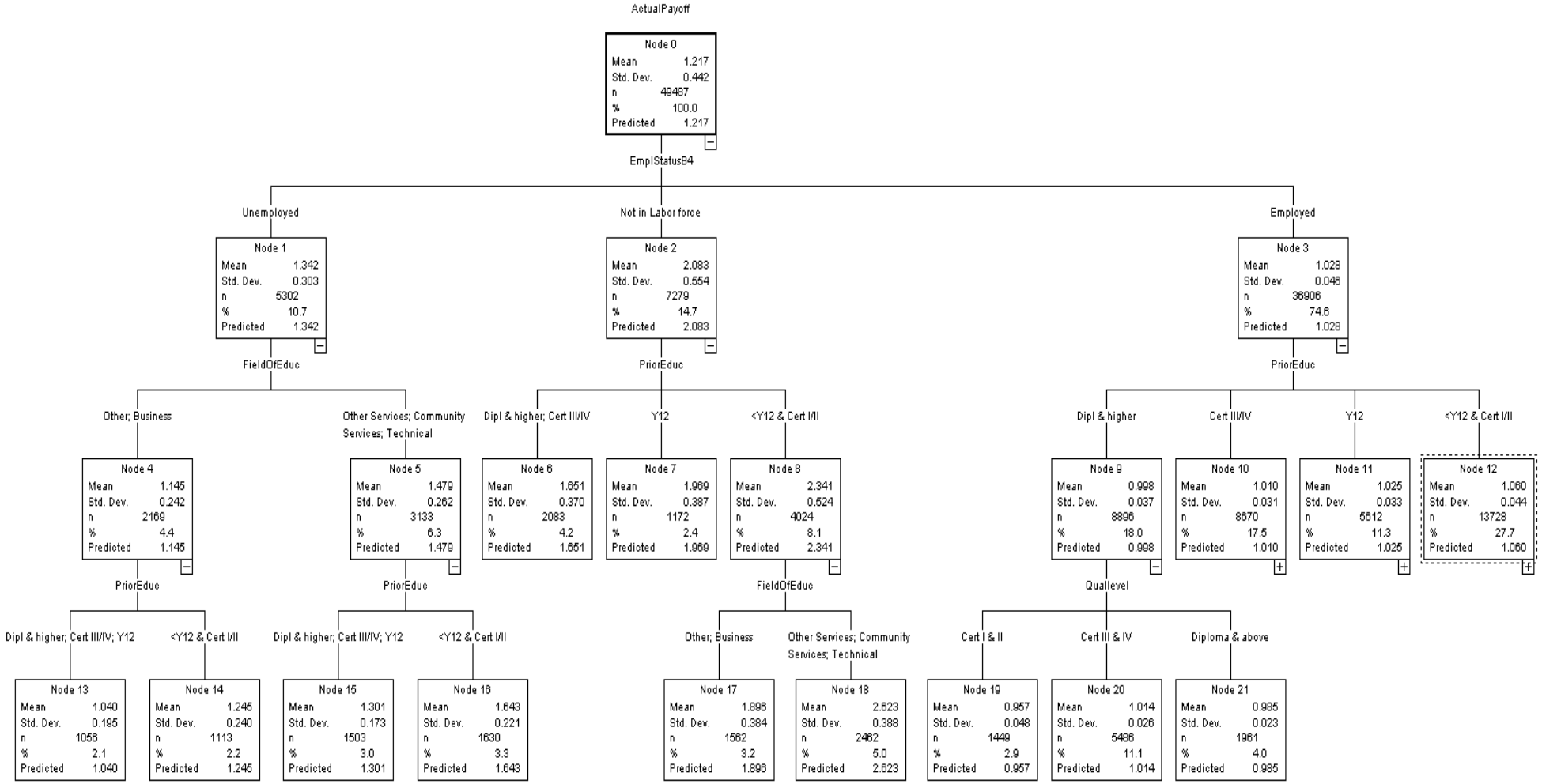
Regression model of probability to complete (dependent) and the various payoffs (independent)

Variable		Estimate	Standardised estimate	Standard error	t Value	Pr > |t|
Intercept		0.2554	0.0000	0.0228	11.21	<.0001
LFSAT		0.0892	0.3153	0.0020	45.57	<.0001
FT Salary		-0.6220	-0.3344	0.0099	-62.99	<.0001
PT Salary		0.1006	0.2012	0.0023	43.29	<.0001
Improved*	Payoff	-0.1293	-0.2666	0.0029	-43.95	<.0001
Occupation code		0.0206	0.0155	0.0073	2.83	0.0047
Satisfaction		1.1792	0.2666	0.0197	59.73	<.0001
Further Study		-0.0691	-0.4445	0.0007	-92.88	<.0001

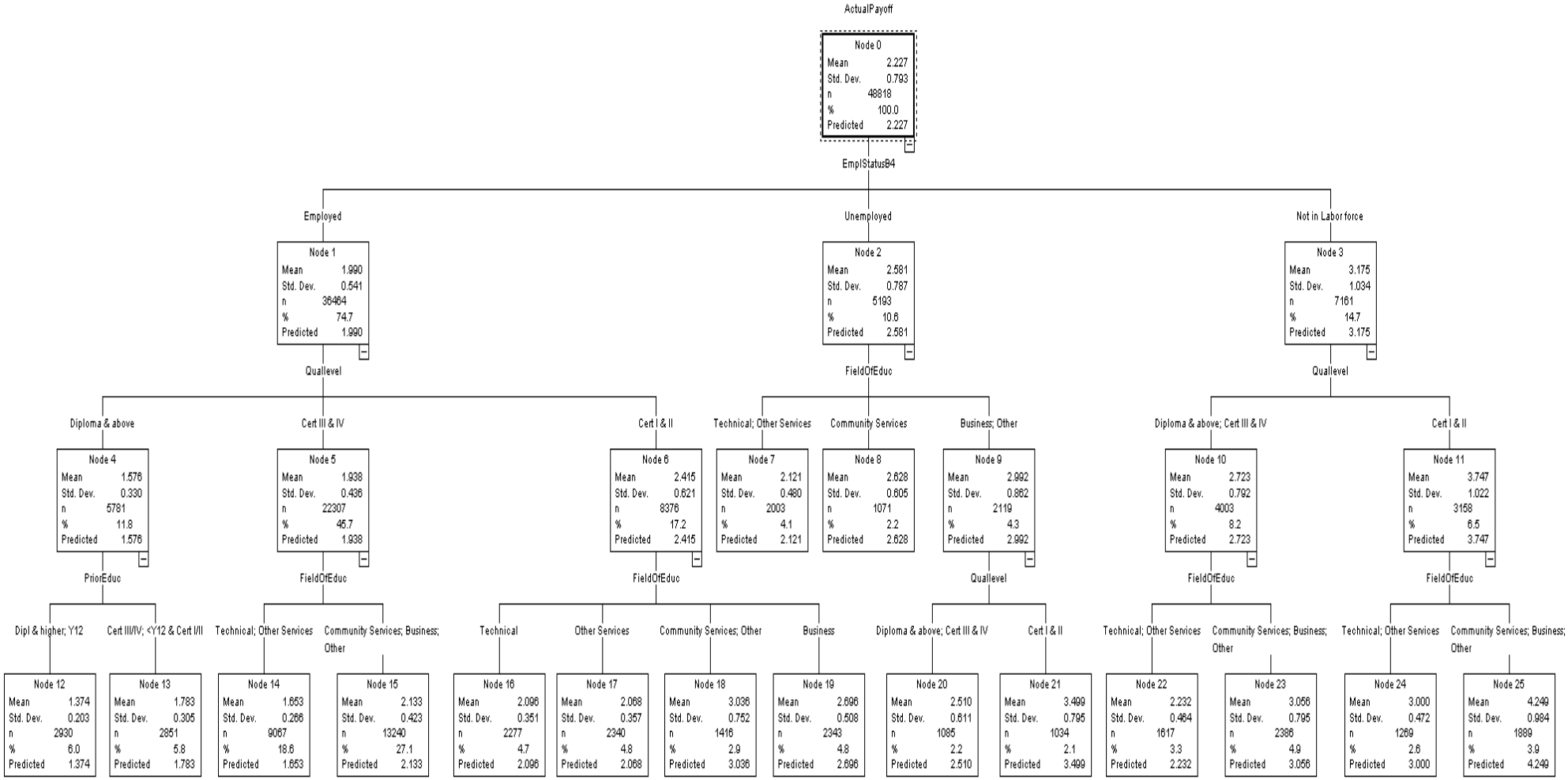
Note: Model statistics: N = 46,567; F = 4317.3; Pr>|F| < 0.0001; R-square(adj) = 0.39.

Appendix B: Tree diagrams

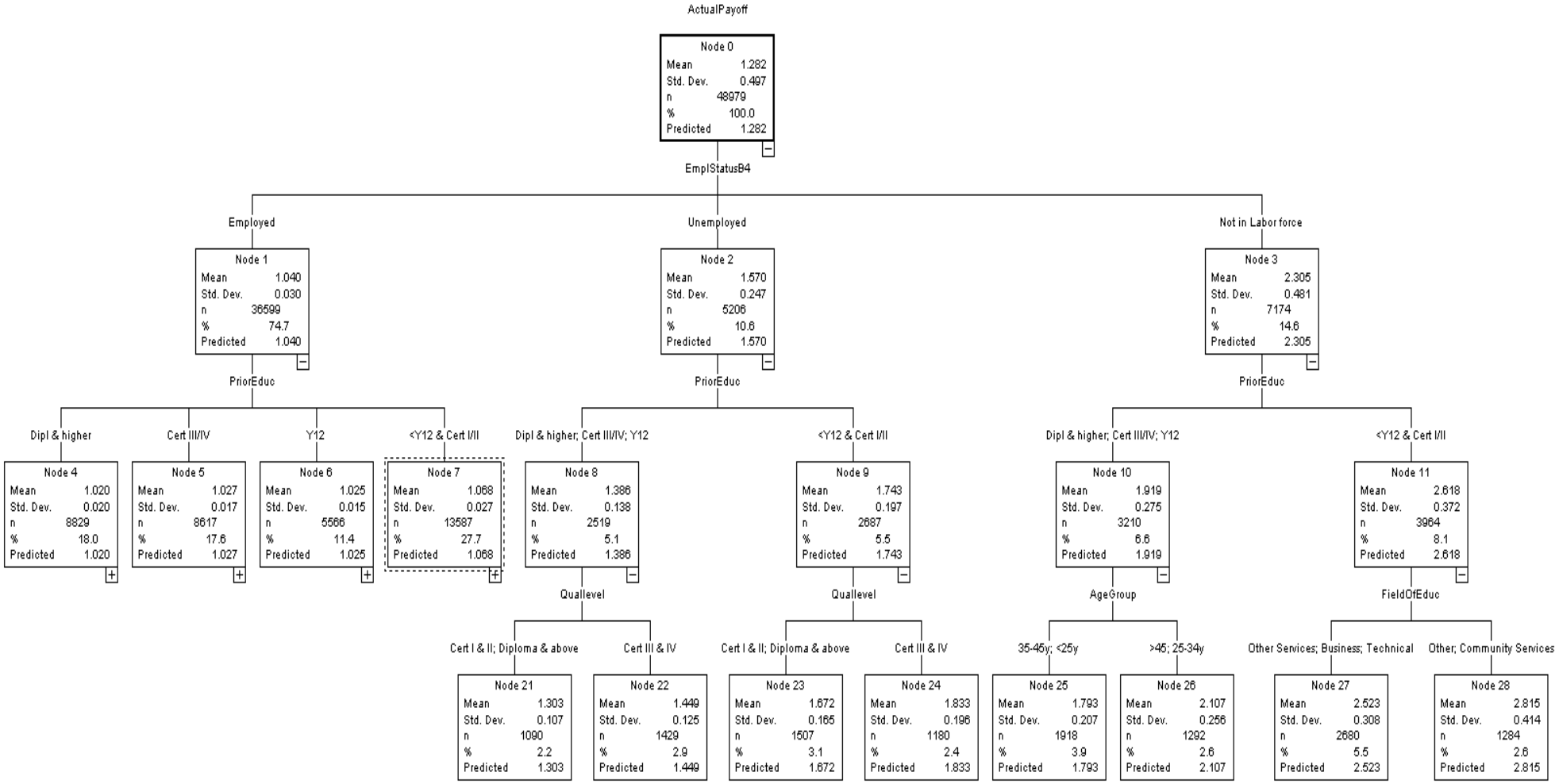
Employment status after training



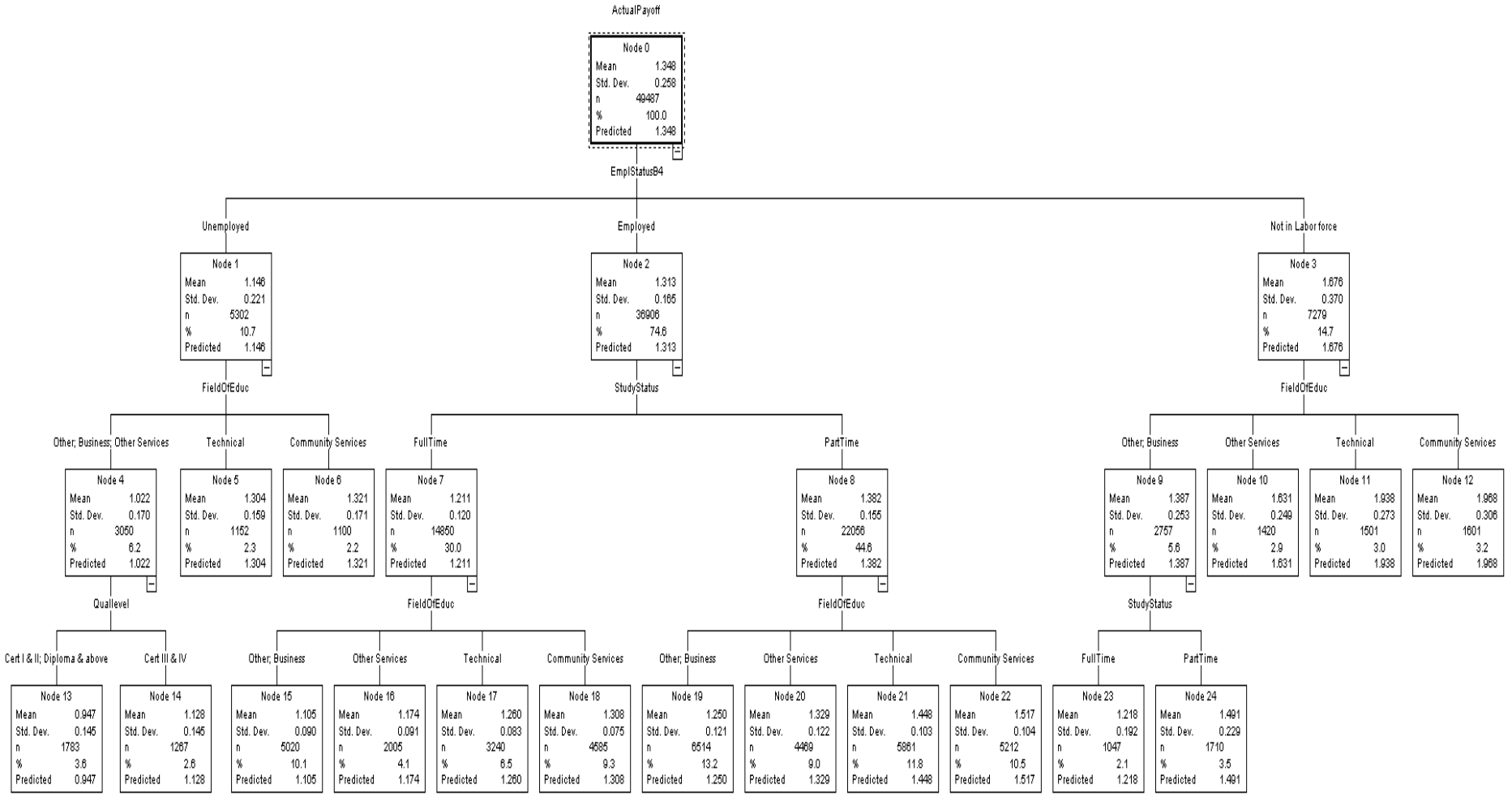
Further study



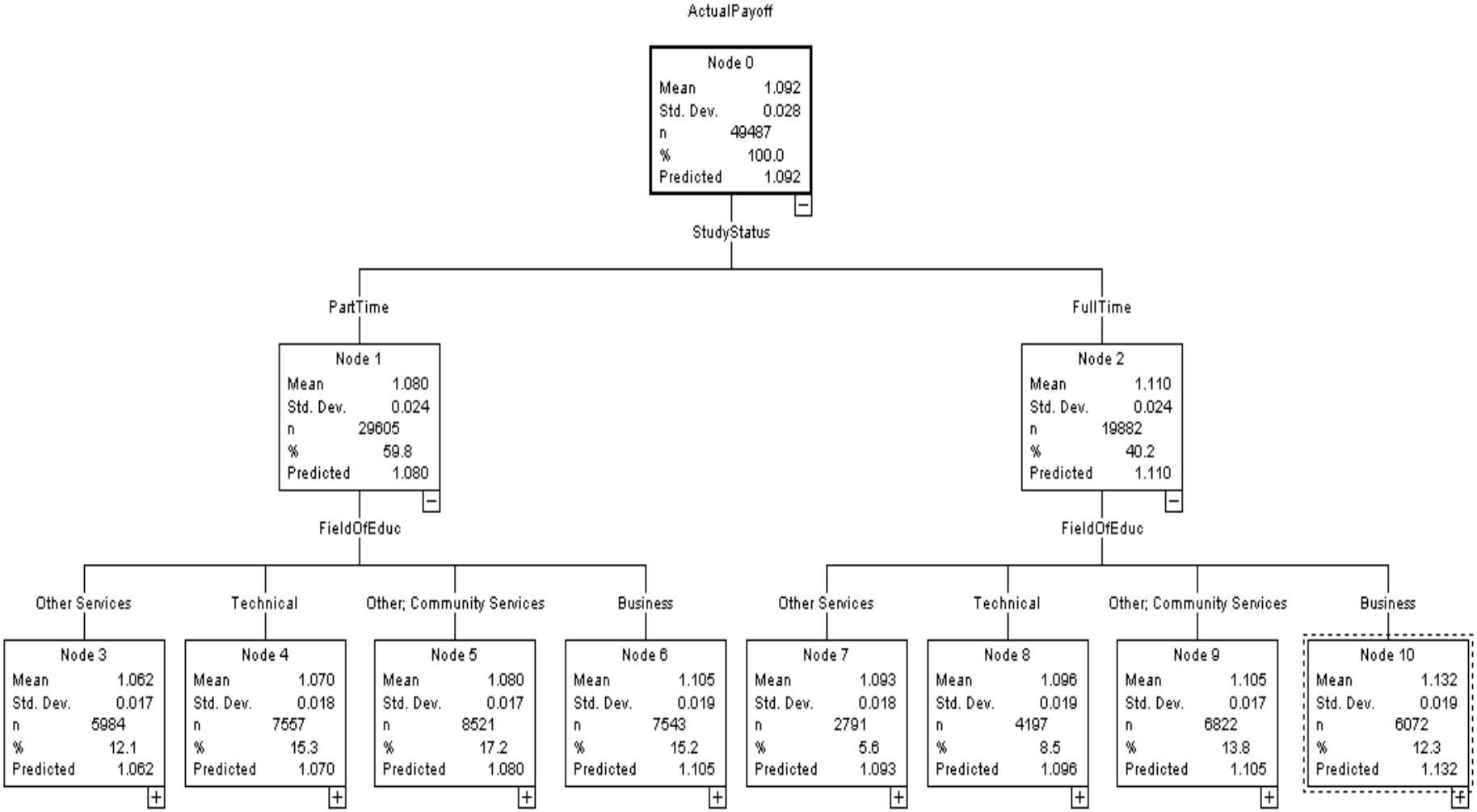
Employed or further study



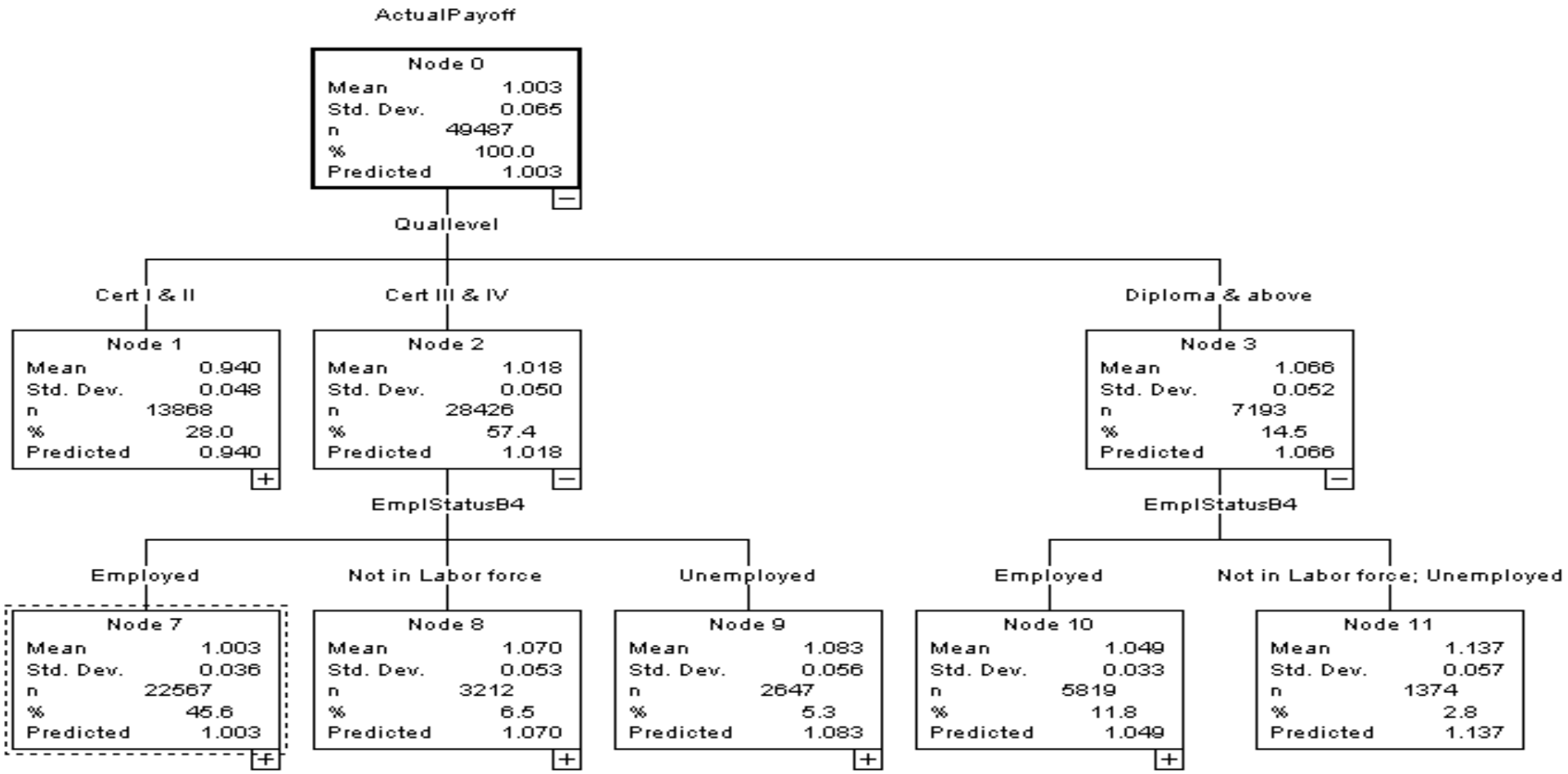
Improved


ActualPayoff
Node 0
Mean 1.348
Std. Dev. 0.258
n 49487
% 100.0
Predicted 1.348
EmplStatusB4
Unemployed
Employed
Not in Labor force
Node 1
Mean 1.146
Std. Dev. 0.221
n 5302
% 10.7
Predicted 1.146
Node 2
Mean 1.313
Std. Dev. 0.165
n 36906
% 74.6
Predicted 1.313
Node 3
Mean 1.676
Std. Dev. 0.370
n 7279
% 14.7
Predicted 1.676
FieldOfEduc
StudyStatus
FieldOfEduc
Other; Business; Other Services
Technical
Community Services
FullTime
PartTime
Other; Business
Other Services
Technical
Community Services
Node 4
Mean 1.022
Std. Dev. 0.170
n 3050
% 6.2
Predicted 1.022
Node 5
Mean 1.304
Std. Dev. 0.159
n 1152
% 2.3
Predicted 1.304
Node 6
Mean 1.321
Std. Dev. 0.171
n 1100
% 2.2
Predicted 1.321
Node 7
Mean 1.211
Std. Dev. 0.120
n 14850
% 30.0
Predicted 1.211
Node 8
Mean 1.382
Std. Dev. 0.155
n 22056
% 44.6
Predicted 1.382
Node 9
Mean 1.387
Std. Dev. 0.253
n 2757
% 5.6
Predicted 1.387
Node 10
Mean 1.631
Std. Dev. 0.249
n 1420
% 2.9
Predicted 1.631
Node 11
Mean 1.938
Std. Dev. 0.273
n 1501
% 3.0
Predicted 1.938
Node 12
Mean 1.968
Std. Dev. 0.306
n 1601
% 3.2
Predicted 1.968
Quallevel
FieldOfEduc
FieldOfEduc
StudyStatus
Cert I & II; Diploma & above
Cert III & IV
Other; Business
Other Services
Technical
Community Services
Other; Business
Other Services
Technical
Community Services
FullTime
PartTime
Node 13
Mean 0.947
Std. Dev. 0.145
n 1783
% 3.6
Predicted 0.947
Node 14
Mean 1.128
Std. Dev. 0.145
n 1267
% 2.6
Predicted 1.128
Node 15
Mean 1.105
Std. Dev. 0.090
n 5020
% 10.1
Predicted 1.105
Node 16
Mean 1.174
Std. Dev. 0.091
n 2005
% 4.1
Predicted 1.174
Node 17
Mean 1.260
Std. Dev. 0.083
n 3240
% 6.5
Predicted 1.260
Node 18
Mean 1.308
Std. Dev. 0.075
n 4585
% 9.3
Predicted 1.308
Node 19
Mean 1.250
Std. Dev. 0.121
n 6514
% 13.2
Predicted 1.250
Node 20
Mean 1.329
Std. Dev. 0.122
n 4469
% 9.0
Predicted 1.329
Node 21
Mean 1.448
Std. Dev. 0.103
n 5861
% 11.8
Predicted 1.448
Node 22
Mean 1.517
Std. Dev. 0.104
n 5212
% 10.5
Predicted 1.517
Node 23
Mean 1.218
Std. Dev. 0.192
n 1047
% 2.1
Predicted 1.218
Node 24
Mean 1.491
Std. Dev. 0.229
n 1710
% 3.5
Predicted 1.491

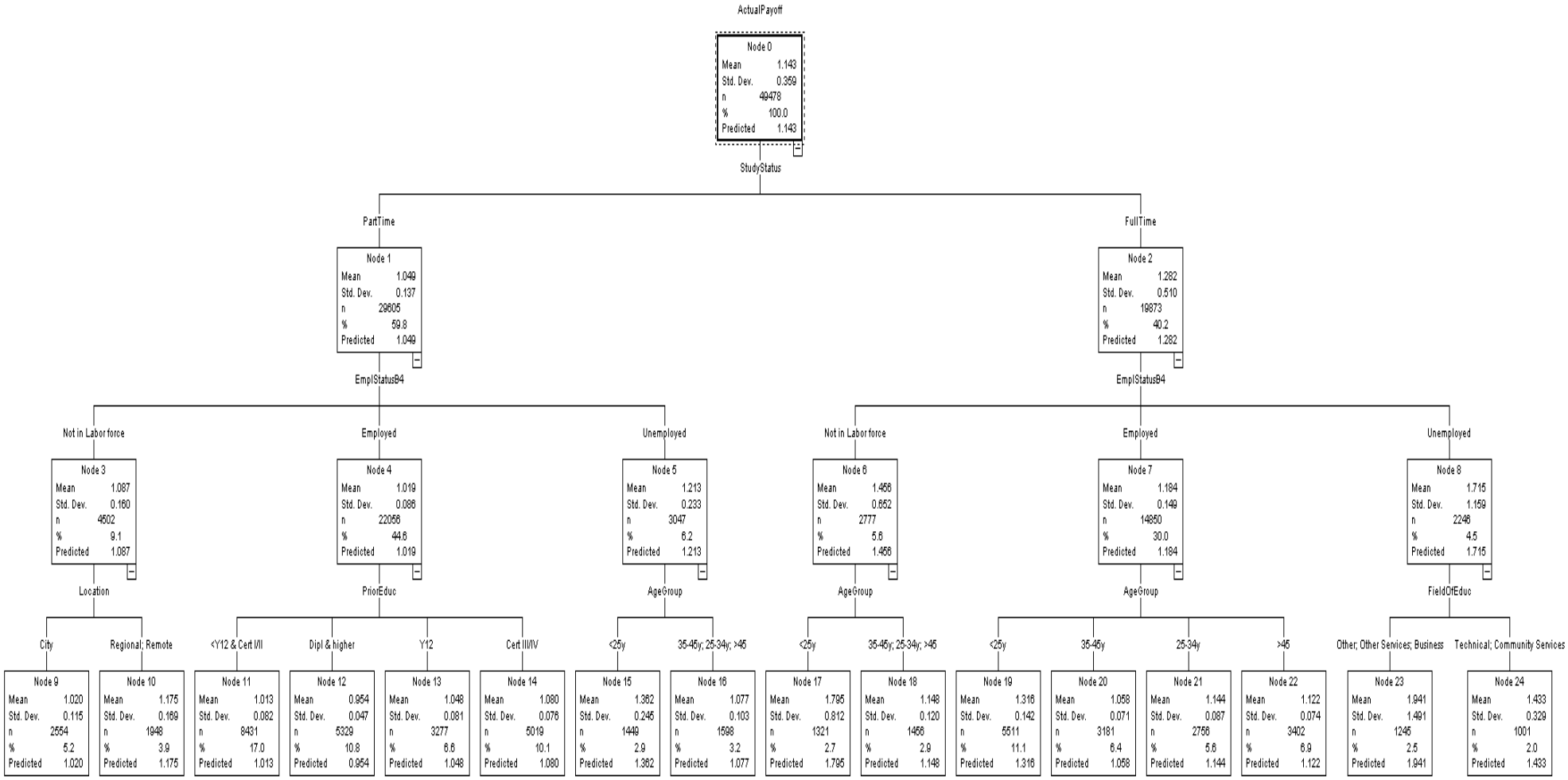
Satisfaction



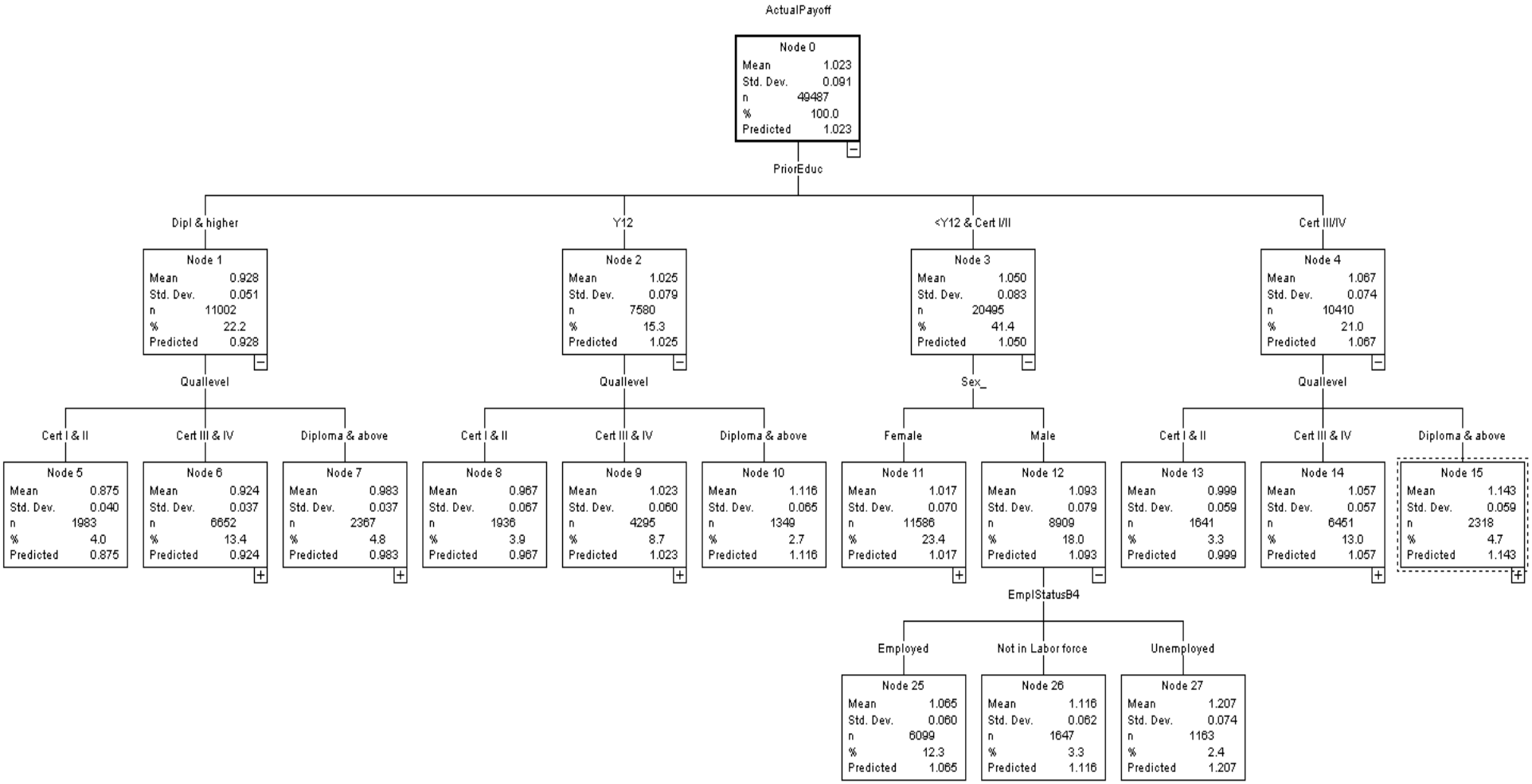
Salary full time



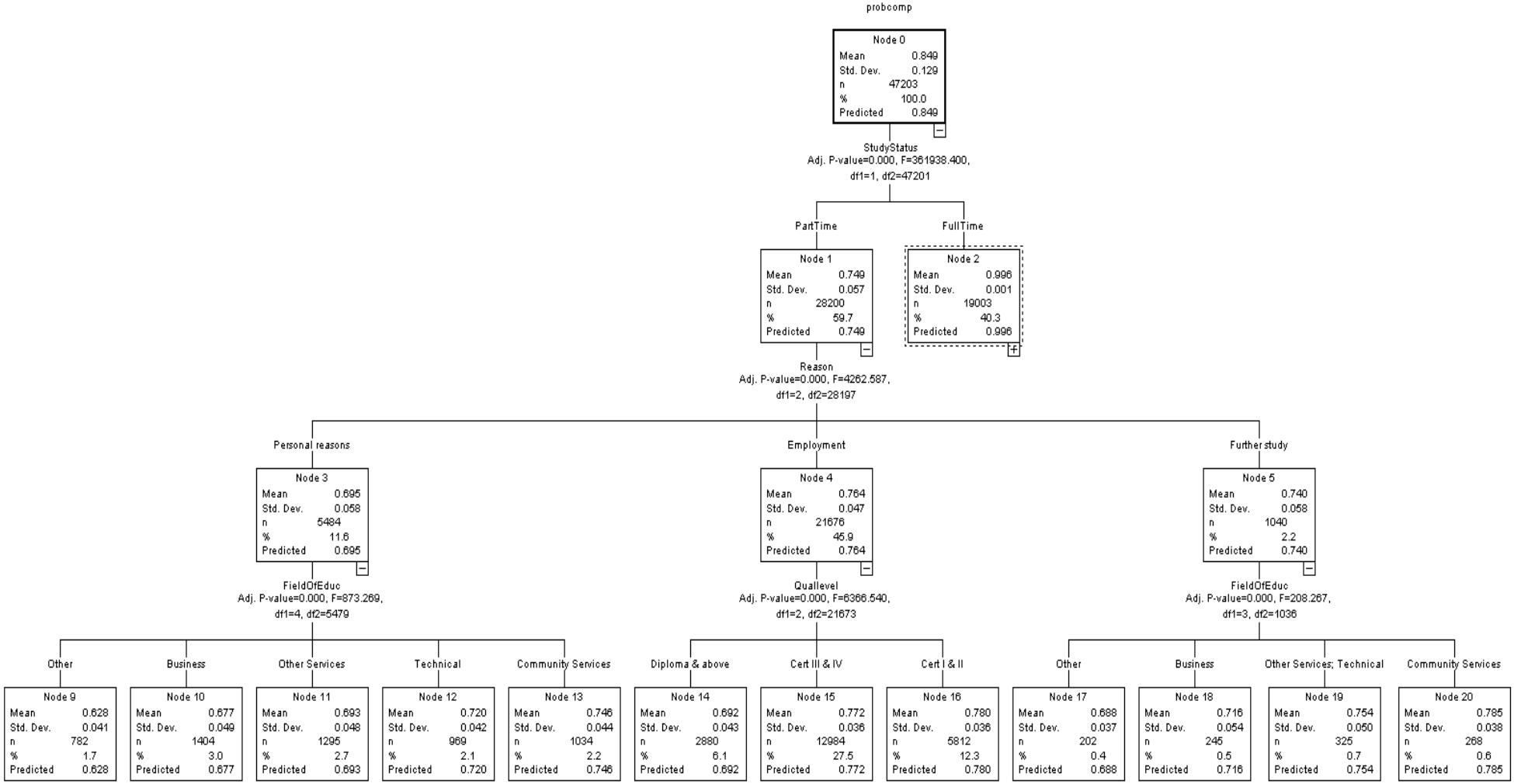
Salary part time



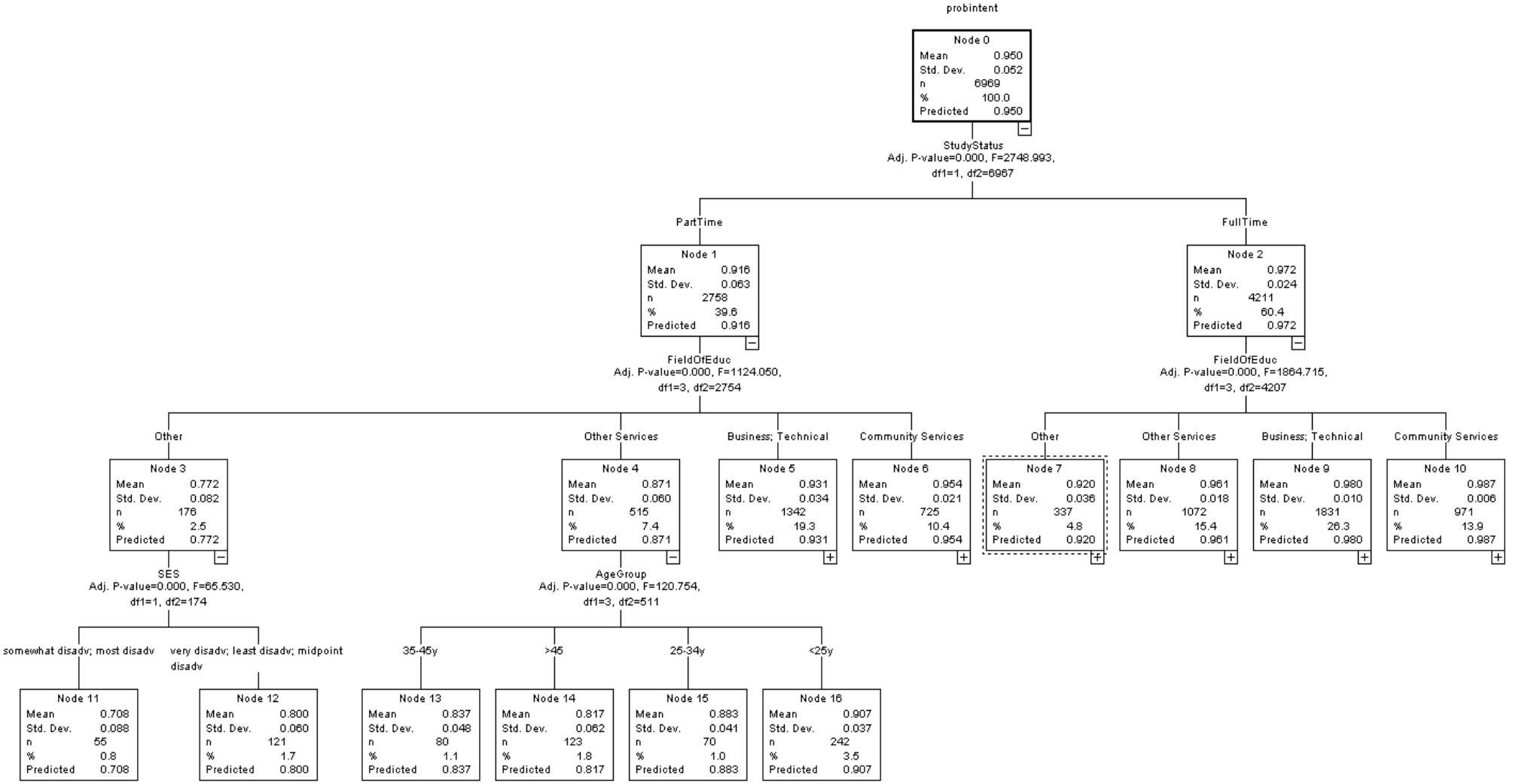
Occupational status

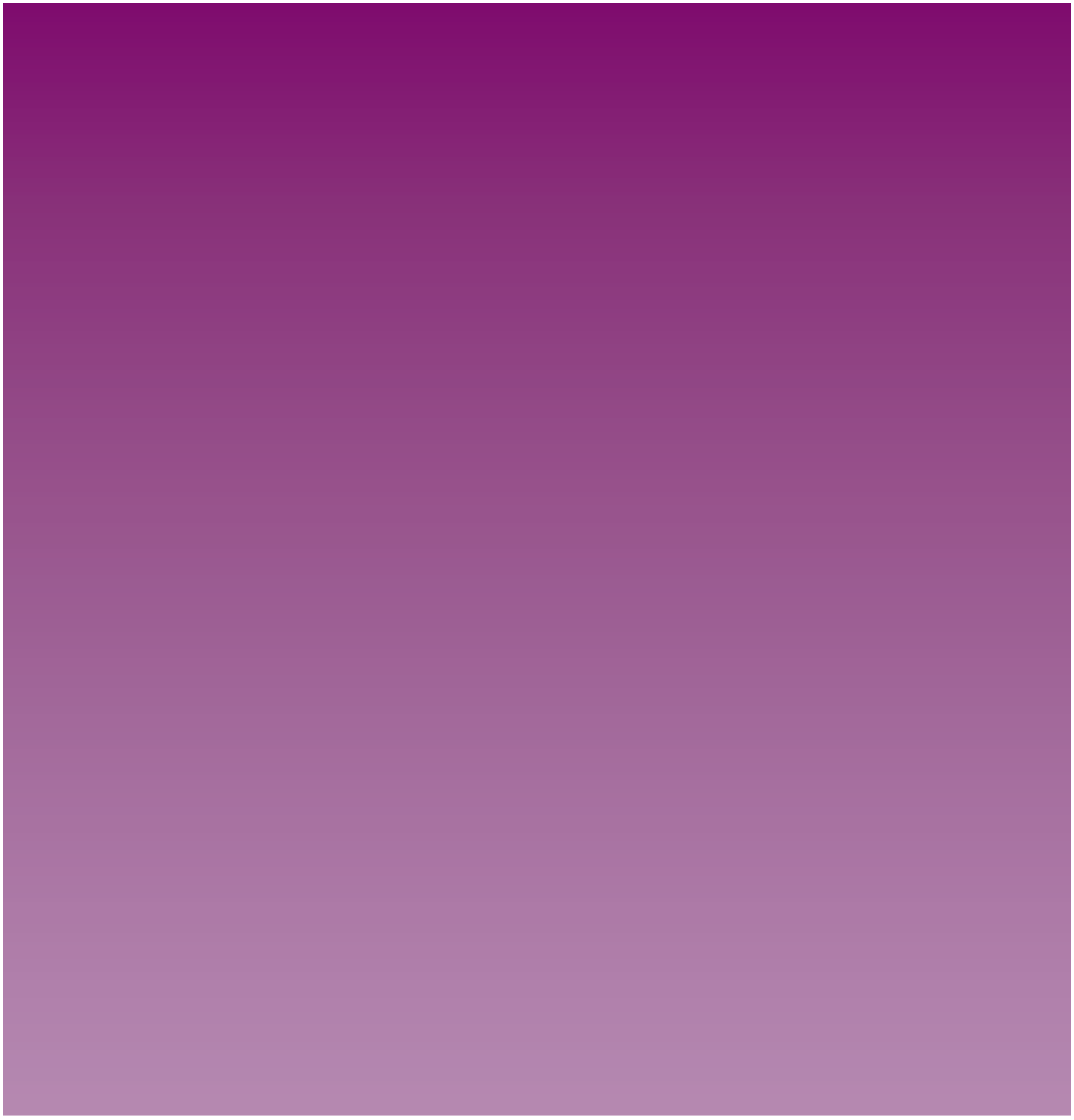


Probability to complete



Probability of intending to complete





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