

Technical Description of the JSCI

A linear logistic regression analysis was undertaken by the Department to identify factors associated with a job seeker's relative labour market disadvantage, as measured empirically by the likelihood of remaining a job seeker for another year. Using administrative data for the stock of income-support receiving job seekers on 1 July 2007, job seekers were grouped by whether or not they remained job seeking for 12 months or more.

A range of independent or explanatory variables were regressed against this dependent variable to estimate the logit or log-odds that a person will remain a job seeker for another year. After transforming these logit estimates, it is possible to estimate the probability of the person remaining a job seeker for another year from the linear combination of independent variables.

Each of the factors included in the logistic regression was found to have a significant relationship with a job seeker's likelihood of remaining in this state for another year, as measured by the Chi-squared statistics for the explanatory variables.

Each factor was expressed in categorical or qualitative terms, with parameter estimates for the logit model developed using a maximum likelihood convergence technique. These parameter or slope estimates measure the independent effect of each category of the explanatory variable (for example, less than Year 10 educational attainment) on the log-odds of remaining a job seeker for another year, after controlling for the influence of all other factors which have been included in the model. Further, these parameter estimates from the logistic regression model allow an allocation of relative weight or 'points' for each category of the factor.

A measure of the overall accuracy of the model is gained by comparing, at each JSCI score, the estimated probability from the logistic model with the actual proportion of job seekers who exit from job seeking within 12 months. For most JSCI scores, the estimated probability from the model and actual proportion that exit from allowance is very close. The relative level of disadvantage is also being accurately identified as the actual 12-month exit rates decrease with higher JSCI scores.