

Profiling of jobseekers using statistical methods

THIS ECONOMETRIC PROFILING SYSTEM INTRODUCED IN 2012, USES A SET OF CHARACTERISTICS, COMBINED WITH COEFFICIENTS REFLECTING THEIR RELATIVE IMPORTANCE, TO STATISTICALLY CALCULATE THE PROBABILITY OF AN UNEMPLOYED PERSON EXITING THE REGISTER OF UNEMPLOYED TO EMPLOYMENT WITHIN 12 MONTHS

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IRELAND

In 2007 the unemployment rate in Ireland was 4.6% and rose to 14.8% in 2012. In response to this dramatic increase in the unemployment rate and consequent drain on public funds in terms of unemployment income supports, the Government mandated the Irish PES (DSP) to reform its approach to activation. The profiling system was developed and introduced to meet this challenge in a cost effective and efficient way. The PEX statistical tool allows scarce resources to be spent more effectively by targeting newly registered jobseekers most in need of early intervention and reinforced support (because they have the highest probability of becoming long-term unemployed).

Name of the PES

Dept. of Social Protection (DSP) PES

When was the practice implemented?

Introduction of profiling of unemployed jobseekers, which is on-going and an integral part of the activation service, commenced in Feb 2012.

What were the practice's main objectives?

Apart from a main potential reductions in costs, the objectives of the profiling system include:

- ▶ more efficient and effective focusing of resources on those who need most support;
- ▶ earlier intervention for those who need it;
- ▶ reduction in the length of time a person is unemployed; improving the possibility of obtaining sustainable employment and not returning to unemployment in the future;
- ▶ prevention of long-term unemployment; avoiding the social, financial, health and other associated impacts;
- ▶ improved control systems;
- ▶ improved targeting of jobseekers for appropriate supports.

What activities were carried out?

The model was developed, in conjunction with the Economic and Social Research Institute (ESRI), exclusively for activation of those on the register of unemployed. Using an extensive number of factors, the model predicts with a high level of accuracy, the likelihood on those who are recently unemployed, exiting to employment within 12 months. After having controlled for the predictive capacity of over 120 explanatory variables, the final model was based on 26 characteristics. In July 2009, a final ESRI report was published outlining the architecture of the statistical profiling model in current use (O'Connell, McGuinness, Kelly and Walsh, 2009). Key variables that significantly affected the likelihood of becoming long-term unemployed were identified and integrated into the Irish PES statistical profiling model. The ESRI research found that factors such as a recent history of long-term unemployment, advanced age, number of children, relatively low levels of education, literacy/numeracy problems, location in urban areas, lack of personal transport, low rates of recent labour market engagement, spousal earnings and geographic location all significantly affect the likelihood of remaining unemployed for 12 months or more. While the predicted probability distribution for males was found to be relatively normal, the female distribution was bimodal, indicating that larger proportions of females were at risk of falling into long-term unemployment. The combination of the characteristic coefficients is then used to calculate for each jobseeker his/her Probability of Exit (PEX) from the register to work within 12 months. Clients are then segmented into low, medium and high bands, which are used to determine timing and intensity of engagement. This segmented approach facilitates early, targeted interventions for those who need them most, while still devoting resources to those who are likely to find work in the short term.

- ▶ Low-risk jobseekers (approximately 20% of the client base): will be directed towards self-help tools during their initial engagement session. If they remain unemployed after four months following their registration, they will be invited to meet a caseworker and develop a personalised progression plan.
- ▶ Medium-risk jobseekers (approximately 60% of the client base) will meet with a caseworker within one week following the group engagement sessions and subsequently every three months to review progress.
- ▶ High-risk jobseekers (approximately 20% of the client base) will meet with a caseworker within one week following the group engagement sessions and subsequently every two months to review progress.

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| What outcomes/results have been achieved? | <p>In addition to that listed at 'objectives' above, the benefits of customer profiling have given rise to:</p> <ul style="list-style-type: none"> ▶ greater awareness and understanding of jobseeker's needs and capacities; ▶ more focussed and enhanced targeted service delivery to unemployed jobseekers based on their needs; ▶ targets in the Pathways to Work strategy continue to be achieved. |
| What are the lessons learnt and success factors? | <p>The extensive ESRI research that is the foundation of the model by the capturing and collation of sufficient key data in advance of the introduction of profiling was a critical enabler in its successful implementation. The statistical models underlying such systems require periodic review and updating. The introduction of profiling also coincided with the establishment of the INTREO service in 2012. INTREO's aim is to provide an activation-focussed service which integrates the delivery of PES and benefit payment services within Irish PES. Under INTREO the payment of benefit is linked to and dependent upon participation in the activation service. Customer profiling is a critical and essential element of the PES's activation policy.</p> <p>A second model recently piloted runs in parallel and uses only existing administrative data, including data held on the Client Services (former PES) System. The new profiling model – the so-called labour market disadvantage model – has recently been developed to segment and profile Ireland's existing stock of long-term unemployed.</p> <p>This model also produces a score, which reflects a client's proximity to the labour market. Similar to the 'PEX' model, the score facilitates segmentation into low, medium and high-risk cohorts. Although the model uses fewer characteristics, it performs almost as well as the PEX model in terms of predictive power.</p> |



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