

# IDENTIFICATION OF INDIVIDUALS AT RISK OF BECOMING LONG-TERM UNEMPLOYED

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## Introduction

Unemployment has risen sharply during the current recession – from 4.5 per cent at the end of 2007 to 12.5 per cent in November 2009, with forecasts for 2010 in the region of 15 per cent. When unemployment last reached these levels, long-term unemployment also rose sharply. Preventing long-term unemployment is important from both economic and social perspectives, especially because long-term unemployment tends to lead to erosion of skills and self-confidence, and damages future employment prospects. Effective prevention depends on being able to identify those at risk of becoming long-term unemployed at an early stage, and referring them to appropriate labour market programmes to improve their chances of obtaining employment. This was the motivation for a recently published ESRI report<sup>1</sup> which developed a statistical profiling model for Ireland that would identify those individuals with a high risk of becoming long-term unemployed.

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## What is Statistical Profiling?

Over the last decade or so, a growing number of public employment services around the world have begun to develop statistical profiling systems to identify and target their scarce re-employment resources at those jobseekers in greatest need. Statistical profiling is a tool whereby a numerical probability score, calculated on the basis of multivariate regression, determines the referral of an unemployed person to further employment services. Specifically, the score derived ranks each individual in terms of his/her risk of becoming long-term unemployed. Public employment service staff can then use this score to identify those who are most in need of their assistance to help prevent them becoming long-term unemployed. Overall, the main objective in using statistical profiling is to deliver intensive services early rather than after long-term unemployment has already occurred. It is important to note that a profiling system can only be successful in preventing those identified as being at risk of becoming long-term unemployed from falling into this trap if it is

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<sup>1</sup> O'Connell, P.J., S. McGuinness, S., E. Kelly and J. Walsh, 2009. *National Profiling of the Unemployed in Ireland*. ESRI Research Series No. 10, Dublin: Economic and Social Research Institute.

combined with delivery of targeted training and employment programmes that are known to be effective in enhancing the employment prospects of their participants.

In relation to Ireland, the central objective in developing a profiling model is to provide the Department of Social and Family Affairs (DSFA) with a framework that will enable them to estimate an individual's likelihood of remaining on the Live Register after twelve months. The DSFA can then use the measure that is produced by the profiling model to both identify jobseekers that require immediate re-employment services and refer them for programmes designed to enhance their chances of securing employment. This type of intervention system would be in stark contrast to that currently operated under the National Employment Action Plan (NEAP) whereby all individuals are referred by the DSFA to FÁS, the national employment and training agency, for assistance after a three-month unemployment spell.

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## Main Findings

The data used in the study came from the Live Register database and from a specially designed survey administered to all individuals in the Republic of Ireland that claimed unemployment benefit over a thirteen week period between September and December 2006. The information gathered in the survey related to a number of factors that are believed to influence subsequent employment prospects. This included information on an individual's educational attainment, literacy and numeracy proficiency, previous employment and unemployment history, health status, location, etc. The DSFA administered the survey and also tracked the subsequent status of profiled claimants over a fifteen month period. A total of 60,189 individuals made claims for unemployment benefit between September and December 2006. After the elimination of duplicates, unsuccessful claimants and individuals failing to complete the survey questionnaire, the final sample used in the study consisted of 33,754 claimants.

The statistical profiling models of long-term unemployment that were estimated from these data, for males and females separately, were found to be very well specified and, therefore, provide very accurate predictions of an individual's likelihood of entry to long-term unemployment. The accuracy of the models were found to increase substantially at higher levels of long-term unemployment risk. Very few countries implementing statistical profiling release details of their models. However, comparison with Denmark was possible, and the Irish model was found to provide more accurate predictions of entry to long-term unemployment than its Danish equivalent.

A number of individual attributes were found to be strongly associated with long-term unemployment risk. Specifically, the results for the male model indicate that the probability of remaining on the Live Register is associated with a recent history of long-term unemployment, previous participation on the Community Employment (CE) scheme, advanced age, number of children, relatively low education, literacy/numeracy problems, location in urban areas, lack of personal transport, low rates of recent labour market engagement,

spousal earnings and geographic location. The results from the female model are broadly similar to those of males: the probability of remaining on the Live Register increases with number of children, literacy/numeracy difficulties, a history of unemployment and casual employment status. Success in finding a job, on the other hand, rises with third-level education, recent employment, a willingness to move for a job and good health. However, some gender differences are apparent. In particular, females who are married or separated are less likely to leave the Live Register, as are those whose spouse is a high earner. The magnitude of the impact of children on labour market entry is also higher for females. Regarding location, unlike males, females appear to derive no disadvantage from living in an urban location. While many of the identified risk factors seem intuitive, the value of profiling is that it allows us to distinguish the importance of each and to put a weight on every factor's role in determining the risk of long-term unemployment.

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**Profiling in  
the  
Recession**

Economic conditions, and consequently labour market conditions as well, have changed radically since the data used in the ESRI study were collected. However, this is unlikely to undermine the accuracy and predictive power of the profiling model as the principal factors that determine long-term unemployment risk – low levels of education, history of long-term unemployment, literacy/numeracy problems, etc. – do not vary with business cycle conditions. Furthermore, the dramatic increase in unemployment that has taken place since the economic downturn began in 2008 has generated enormous pressure on the capacity of all components of the public employment service, particularly the DSFA and FÁS. A profiling system, if implemented, would allow the rank ordering of those claiming unemployment benefits in terms of their relative risk of entry to long-term unemployment. This would then provide policymakers with a fair and rigorous basis on which to ration interventions and target them on those most at risk of long-term unemployment.