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Profiling Long-Term Unemployment Utilising the Logit Model: A New Zealand Case Study

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ABSTRACT

This study attempts to fit the logit model to a random sample of data compiled by the New Zealand Employment Service on individuals who have completed unemployment spells, over the period 1988-1997. The objective is to estimate the probability that an individual job seeker, with a certain set of personal attributes, will become long-term unemployed. The regression results are consistent with *a priori* expectations. However, the predictive power of the model is low, lending support to conclusions from other empirical studies that have used other approaches to modelling long-term unemployment in New Zealand. That is, the current set of personal attributes on which data are collected in New Zealand are inadequate for modelling long-term unemployment.

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LIST OF ABBREVIATIONS

ACD	Average Completed Spell of Unemployment Duration
AID	Average Interrupted Spell of Unemployment Duration
ALMP	Active Labour Market Policies
CDF	Cumulative Distribution Function
DOL	New Zealand Department of Labour
EPF	Exit Probability Function
GDP	Gross Domestic Product
LFPR	Labour Force Participation Rates
LPM	Linear Probability Model
LRT	Likelihood Ratio Test
LTU	Long-term Unemployment
NCDS	National Child Development Study
NZES	New Zealand Employment Service
OECD	Organisation for Economic Cooperation and Development
OLS	Ordinary Least Squares
PODS	Percentage Change In Odds
STU	Short-term Unemployment
WINZ	Work and Income New Zealand

CHAPTER ONE

Introduction

Why are some workers unemployed? This fundamental question raises some of the thorniest issues in economics. ..., a competitive equilibrium equates the supply of workers with the demand for workers. The equilibrium wage clears the market, and all persons looking for work can find jobs. Despite this implication of equilibrium, unemployment is *a widespread phenomenon.*

(Borjas, 1996, p. 434)

1.0 Introduction

The importance of the issue of unemployment is concisely conveyed by Mankiw (2000 p.132) when he surmised that:

> Unemployment is the macroeconomic problem that affects people most directly and severely. For most people, the loss of a job means a reduced living standard and psychological distress. It is no surprise that unemployment is a frequent topic of political debate and that politicians often claim that their proposed policies would help create jobs.

Unemployment represents a waste of resources where job seekers are not contributing to the national income. A job is important to members of the labour force. The Prime Ministerial Task Force on Employment (1994, p.1) emphasised this importance of a job[1]:

> A paid job is important because it provides a means to earn a living. But a job also fulfils a variety of other social functions. A job is one way of participating in, and contributing to, the wider community. It is important to a person's sense of identity, independence, and self-worth.
>
> The benefits of a job reach beyond the jobholder – their family and others around them can gain financially, socially and emotionally. In the same

[1] The Prime Ministerial Task Force on Employment comprised eleven individuals representing a wide range of interests and perspectives on finding practical and sustainable solutions to New Zealand's unemployment problem (1994, Foreword).

> way, the effects of unemployment, particularly long-term or repeated spells of unemployment, impact on the individual, their family and community, and society. These effects may even be transmitted across generations. We cannot let these factors continue to erode our overall welfare as a nation.

1.1 New Zealand Economic Reforms

Before the 1987-1999 period for which unemployment spells are analysed in this study, the New Zealand economy had already undergone almost three years of "monetarism and economic liberalisation" under the 1984 Labour government (Brosnan et al., 1995, p. 686). According to Bollard (1987, pp. 38-39) the economic reforms implemented had taken four paths:

1. The removal of import licences and reduction of tariffs;[2]
2. The introduction of the 1986 Commerce Act enshrining a new competition policy in New Zealand; [3]
3. The removal of price controls instituted to protect certain industries in New Zealand; and
4. Reform of controls that affect the way goods and services are produced and distributed.

However, the New Zealand labour market did not go through this process of deregulation until the introduction of the Employment Contracts Act in 1991. The intention of the Employment Contracts Act 1991 was:

> ...to promote an efficient labour market. ...One major criticism of the system regulated by previous legislation was that it did not allow for an efficient labour market based on the operations of demand and supply. A system based on national awards and third-party intervention produced distortions and rigidities in the market which employers, in particular, were unable to overcome (Jeffry, 1997, p. 187).

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[2] For more information concerning the removal of import licences and tariff reduction see Wooding (1987)
[3] For more information concerning the 1986 Commerce Act see Vautier (1987).

The results of these state policies shifted power to the employers and changed the structure of the New Zealand labour market. Furthermore, during this period, the New Zealand unemployment rate increased from 4% in 1987 to 7.5% in 1999.[4]

1.2 Long-term Unemployment - Definition

The spell of unemployment is an important factor in the determination of what policy response is appropriate to rectify the unemployment problem. If unemployment is largely of short-term duration, it might be argued that the unemployment is frictional and therefore inevitable.[5] On the other hand, incessant or long-term unemployment signals a more enduring mismatch of job vacancies and job seekers in the labour market. A widely held view among economists is that if the natural rate of unemployment is to be reduced significantly, labour market policies must be aimed at the long-term unemployed.[6] During the early 1990's policy makers identified the growth of LTU as the single most worrying feature of New Zealand's recent economic and social performance (Prime Ministerial Task Force on Employment, 1994). This infers an accepted definition of what is meant by LTU and the successful identification of those characteristics possessed by unemployed individuals that are associated with, and indicative or predictive of, the incidence of LTU. On the definitional matter, there is no universally accepted definition of LTU. In New Zealand, LTU is defined as a period of continuous unemployment of 27 weeks or more (Statistics New Zealand, 2000), whereas the standard OECD definition utilises 52 weeks (OECD, 1987). In this study both definitions are employed in the analysis although more emphasis is placed on the New Zealand definition.

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[4] See Table 2.1, page 6 for unemployment rates for the total New Zealand labour force.
[5] Frictional unemployment will be explained in detail on p. 24 of this study.
[6] The natural rate of unemployment is "the rate of unemployment at which the rate of inflation is stable" (Wooding, 1997, p. 263).

1.3 The Problem Statement

Ethnic minority groups, job seekers over the age of 35 and those who hold no school qualifications are identified as disadvantaged groups in New Zealand in terms of LTU.[7] However, this only identifies each group of disadvantaged job seekers and job seekers have different attributes within each group. For example, a 16 year-old male Maori from Wellington with no school qualifications would not have the same odds of experiencing LTU as a 35 year-old male Maori from Northland with a university degree. Hence, I intend to formulate a means of profiling individual job seekers based on his/her personal attributes to identify the odds he/she will experience LTU.

1.4 Plan of Thesis

To see the extent of the unemployment problem in New Zealand, Chapter 2 introduces disaggregated New Zealand unemployment statistics for the period 1987-1999. Chapter 3 introduces the theories concerning different approaches to explaining the presence of unemployment in the labour market and the types of unemployment based on classifications by economists due to different attributes. Then there is a brief discussion concerning factors apart from demographic factors that affect the unemployment duration. Finally, the focus shifts to the LTU problem and profiling of an individual's long-term unemployment risk in other countries and in New Zealand. Chapter 4 provides information on the data collection and characteristics of the data as well as the methodology. This discusses the decision to use the logit model based on the binary nature of the data. In Chapter 5 the results of the model are analysed and interpreted, both on a yearly basis and for the whole period. Finally, in Chapter 6 there will be conclusions of this exercise and possible recommendations based upon these findings are discussed.

[7] See Chapter 2, Section 2.2 for details concerning LTU in New Zealand.