

Unemployment Policy: Lessons from Economic Analysis*

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Abstract

This paper summarises a large project involving many studies to evaluate the effects on employment and unemployment in Australia of macroeconomic, wage restraint, taxation and social security systems, and of education and training policies. One set of studies finds that the NAIRU is an uncertain estimated number, others suggest a number or a range of long term equilibrium unemployment rates, and by implication the lower bound to achievable non-inflationary unemployment rate is uncertain. Simulations with the TRYM, MONASH and VAR models find that stimulatory macroeconomic policies and wage restraint policies increase employment in the short run. Simulations with the MITTS and VAR models, and comparisons of employment experiences across countries, find that changes in tax and social security systems, as they alter incentives, affect labour supply and job search decisions, and employment.

1. Introduction

The aim of this paper is to provide an overview and summary of some of the key findings of a large study to evaluate the economic implications of different policy options to increase employment and to reduce unemployment in Australia. The study, conducted over 2000 through 2002, was an ARC funded SPIRT Grant involving the Melbourne Institute and the Department of Economics of the University of Melbourne and industry partners the Commonwealth departments Department of Employment and Workplace Relations and Department of Family and Community Services and the Productivity Commission. This paper summarises a large number of published journal articles and working papers, and several conference papers in mimeo form, all of which are recorded in the reference list, and it draws on comments and discussion at a conference held on the topic on 16 and 17 August, 2001 (program in Appendix).

Continued high unemployment represents a major failure of Australian economic policy. Unemployment includes not only the registered unemployed, currently around 6 per cent of the workforce, but also a similar number again classified as disguised unemployed and underemployed. Continued high unemployment is a cause of hardship and utility loss for those families directly affected, and it is contrary to broader Australian goals of social equality and harmony. The unemployment burden is shared unequally, with higher rates and longer unemployment spells for those with lower levels of education and skills and in particular regions (Borland, 2002). One of the questions raised in the project was how low an unemployment rate might Australia aspire to?

The project sought to evaluate existing research, and to undertake new research to fill some gaps, assessing the effects of different government policy strategies on the aggregate levels of employment and unemployment and on the composition of employment and unemployment. The broad policy options to be evaluated were:

- Macroeconomic policies to achieve more rapid aggregate economic growth;
- Macroeconomic policies to achieve greater stability of economic cycles;
- Lower aggregate wage growth;
- Changes in relative wages, including unskilled versus skilled and of youth versus adults;
- Changes in the tax and social security systems to improve incentives to work, particularly through lower effective marginal tax rates; and

- Education and training to improve skills and labour productivity.

An initial optimistic goal was to use a number of quantitative models, including versions of TRYM, MONASH, MITTS and VAR models, to compare and contrast quantitatively the different policy options. In the event this goal was only partly met. We also drew on some new modelling of the long run equilibrium rate of unemployment rate. The effects of other policy options, including the industrial relations system, were partly analysed as part of a review of cross-country experiences with unemployment (Borland and McDonald, 2000).

This summary paper collates the results of the project, and its more detailed publications, in two steps. First, results concerning the long run equilibrium rate of unemployment (sometimes referred to as the NAIRU or the natural rate), and what might be a target lower unemployment rate for Australia in the future, are presented. This question is of interest also as a long run equilibrium unemployment rate implicitly or explicitly is built into general equilibrium and macroeconomic models. This colours their estimates of the effects of different policy options to lower unemployment. Second, we present the results of simulations from versions of the TRYM, MONASH, MITTS and VAR models of the quantitative effects of the different policy options to increase employment and to reduce unemployment. A final section presents some overview assessments of the potential for policy initiatives to reduce unemployment based on the information generated by the project.

2. Equilibrium Long Run Unemployment

The simultaneous existence of unemployment and vacancies is a characteristic of all labour markets. A component of unemployment arises because of frictions and structural adjustment. Also, the long run equilibrium rates of frictional and structural unemployment may vary, for example with the rate of industry, occupation and other structural changes, with the industrial relations system, and with the income tax and social security systems as they affect hiring and search decisions. A general finding of several parts of the project has been that for Australia the NAIRU is an imprecise number, and that it has been affected over time by changes in economic circumstances and government policies.

Borland and McDonald (2000) review Australian studies of the Phillips curve, the Beveridge curve, and multi-equation systems of the labour market. Estimates of the NAIRU are found to

vary over a wide range and the confidence intervals, where estimated, also are large. A common finding is that the NAIRU increased in the 1970s and that a higher unemployment benefit replacement rate increased the NAIRU. Disaggregating for skilled and for unskilled occupations, Song and Webster (2001) find that the estimated Beveridge curve is flatter and closer to the origin for skilled workers than for unskilled workers, and that the unemployment replacement rate shifts the Beveridge curve for unskilled workers but not for skilled workers. Studies testing for the effects of labour market programs (LMP) on unemployment, eg Martin (1998) and the Borland and McDonald (2000) review of international country comparisons, and on studies testing for the effect of LMP on the Beveridge curve, eg Webster (1999), finds the effect to be insignificant or quantitatively very small.

Another set of studies have found support for models with a range of unemployment equilibria where wage and price inflation is insensitive to changes in the unemployment rate. In an application to Australia, Lye, Sibley and McDonald (2001) estimate that the minimum unemployment rate was about 2 per cent in the 1960s, increasing to 5 per cent in the 1980s and 1990s. The minimum rate is determined in part by the unemployment benefit replacement rate, but the authors indicate it would be desirable to provide for more details on changes in the tax and social security systems. The range of unemployment where changes in the rate have a negligible effect on inflation was about 6 percentage points above the minimum rate. Lye and McDonald (2001) in a preliminary study of other OECD countries find support for a range of unemployment equilibria, and that this model is superior to a single point NAIRU model. Harding (2001) in his preliminary analysis of the time series properties of four different measures of unemployment in Australia concludes that linear models are too simple, and that a number of unemployment equilibria rather than a unique value is likely to be consistent with the data.

Harding and Kam (2001) adapt a general equilibrium job search model developed by Ljungqvist and Sargent (1998) for Europe to evaluate the effects of the tax and social security systems and of structural change (measured as changes in the rate of skill atrophy once unemployed) on the equilibrium unemployment rate in Australia. They find that a higher unemployment benefit rate raises unemployment, and especially the duration period of unemployment for the unskilled, that greater structural change increases the unemployment rate, and that these two sets of effects have positive or reinforcing cross-set effects.

Summers (2001) in his VAR model of Australian unemployment finds that structural change, measured as changes in the coefficient of variation of industry stock market indices, increases the unemployment rate, especially for the long term unemployed.

Richard Jackman in his discussion at the conference suggested that future analyses of equilibrium unemployment for Australia might usefully return to theoretical modelling of job searching, employment offers and matching (such as discussed in Layard, Nickell and Jackman, 1991, and common in analyses of unemployment in Europe) to complement the reduced form model estimation procedures used in this project.

The reviews and new research on the long run equilibrium rate of unemployment suggest the following:

- There are a wide range of estimates, and high sampling errors for the estimates, of the lower bound to which Australian unemployment might fall;
- There is a high probability that an unemployment rate below the current level of around 6 per cent can be achieved and sustained;
- Over a wide range of unemployment of several percentage points beyond the long run minimum level, the inflation-unemployment trade-off is very low to negligible;
- There is theoretical and empirical support that the taxation and social security systems, as they affect incentives, affect the long run equilibrium rate of unemployment, but the magnitude of effect is uncertain, and more detailed evaluation beyond the unemployment benefit replacement rate is required;
- Structural change, using a variety of measures, increases frictional and structural unemployment; and
- The effects of labour market programs are small or negligible.

3. Policy Effects Assessment

This section initially provides a brief description of the different models employed in the course of the project to evaluate the effects of policy options to reduce unemployment, and then it summarises the estimated effects of the different policy instruments broadly grouped under aggregate demand, wages, productivity, and tax and social security systems reform.

3.1. Model Description and Comparison

A modified version of the Treasury macroeconomic model TRYM (described in Harding and Song, 2001) was used to evaluate the effects of fiscal, monetary and aggregate wage policies, the effects of an increase in labour productivity, and a reduction in the NAIRU on employment, unemployment and other macroeconomic outcomes (Song, Freebairn and Harding, 2001). The paper by Thompson (2000) suggests we could expect similar results from the Murphy and Access Economics macroeconomic models. Considerable a priori information is imposed on the specification of TRYM, especially longer run neoclassical competitive equilibrium conditions and an exogenous NAIRU, and these conditions both constrain and colour the policy scenario results. For example, in the long run unemployment converges to the NAIRU and the growth in nominal wages equals the growth in labour productivity plus the inflation rate, where productivity is exogenous and inflation is given by a monetary policy rule. Importantly, macroeconomic and wage policy changes do not affect the long run employment and unemployment rates. However, in the short and medium runs, econometrically estimated parameters of partial adjustment functions and of expectations functions mean that policy changes do have important effects on employment and unemployment. Simulated policy responses with the TRYM model, and the modified version used in this project, generate dampened cyclical responses of the macroeconomy.

A new specification of the labour supply module of the MONASH model was developed for the project to assess the effects of a policy package with a freeze on award wages combined with a compensating tax reduction for low wage workers in low income families funded by a general labour income tax rate increase (Dixon and Rimmer, 2003). MONASH is a dynamic computable general equilibrium model. The basic MONASH model structure (described in Dixon and Rimmer, 2002) has a competitive neoclassical long run closure. Short run dynamics reflect physical capital accumulation equations, financial accounting budget constraints and partial adjustment, including for wages. Policy and other exogenous shocks generate dampened cyclical responses, and more dampened than TRYM. For this policy analysis a new labour supply, demand and wage setting module was developed. The workforce was disaggregated into 32 categories (of 7 occupations by award/non-award and by tax trade-off for entitled/not entitled workers, and 4 unemployment categories by short term/long term and by tax compensation entitled/not entitled). Each workforce category maximises expected utility with decisions on workforce entry and job offer rate influenced by

going wages, the probability of gaining a job, and by the effective tax rate (reflecting the income tax and social security systems).

The MITTS model, a behavioural microsimulation model, was used in the project to assess the effects on labour supply (and on government revenue and outlays) of changes in the income tax and social security systems. MITTS, which is described in Creedy, Duncan, Harris and Scutella (2002), has utility maximising models with detailed budget constraints reflecting the income tax and social security systems in Australia for unit records on (around 7000) households provided by the 1997 ABS Income Distribution Survey. Parameters of the household utility functions are econometrically estimated from the survey data. Two sets of policy scenarios changing household incentives and their labour supply decisions to join the workforce and to work more hours have been analysed: an increase by 5 percentage points of all marginal income tax rates by Creedy and Duncan (2001); and, a reduction of the withdrawal or taper rates on most social security payments (from 50 and 70 per cent) to 30 per cent by Creedy, Kalb and Kew (2003). Effects of the policy changes on labour supply for households at a high level of disaggregation, including by age, income, education and family type, are simulated. Determining the effects of these and other policy changes on employment and on unemployment would require an additional step of interfacing the MITTS supply responses with labour demand and wage determination functions.

Vector autoregression (VAR) models contrast with the foregoing TRYM, MONASH and MITTS models. In particular, studies with a VAR consider only a few aggregate macroeconomic variables, and time series data is given more weight relative to a priori theoretical and other restrictions in the estimation of the effects of policy and other exogenous shocks. Summers (2000) describes the procedures used, and Summers(2001) applies a modified version of a model used by Lougani and Trehan (1997) for the US to Australian data. He models the time series behaviour of the aggregate stock market return, GDP growth, the 90-day bond rate, the unemployment rate, and an index of dispersion of stock market returns across broad industry groupings (as an index of structural change). Causality analysis, impulse response functions, and forecast error variance decomposition techniques are used to assess the effects on unemployment of shocks to GDP growth, monetary policy and structural change. The assessment is for aggregate unemployment and for categories of unemployment by time duration.

Clearly the different modelling techniques differ from one to the other. For example, different dependent variables and outcome measures are studied, different policy scenarios are

evaluated, and there are different causal links between policy variables and outcome measures associated with different a priori model specifications and different estimated parameters. For the objective of this project to evaluate the effects of different policy options to reduce unemployment, the differences between the models used means the models are more a part of a complementary suite of models rather than a set of competing models. At this stage of our knowledge, results of the policy simulations to be reported next are more in the way of indicators of general directions of effect and illustrations of how models could be used to inform policy discussion on reducing unemployment, rather than an exhaustive and robust set of policy recommendations.

3.2. Policy Effects Assessment

3.2.1 Macroeconomic policies

Expansionary fiscal and monetary policies which can facilitate real GDP growth clearly are important to job creation and to the reduction of unemployment, even though each extra job usually results in a net fall of less than one in the list of unemployed because of induced participation effects. A positive relationship between real GDP growth and employment growth is a robust result in the cross country studies reviewed by Borland and McDonald (2000), the policy simulations using TRYM (Song, Freebairn and Harding, 2001), the VAR modelling for the US and Australia (Summers, 2001), and observation of Australian history. However, the modelling undertaken for this project raises two important sets of issues about the link between macroeconomic policies and reducing unemployment.

First, the relationship between the current period unemployment rate on the one hand and on the other hand the estimated NAIRU and model assumptions about the NAIRU are important to the effectiveness of stimulatory macroeconomic policies in reducing unemployment. In the TRYM and MONASH models an assumed exogenous NAIRU means macroeconomic policies cannot affect unemployment in the long run, but the long run in both models is many years away. Stimulatory fiscal and monetary policies can increase employment in the short run of several years, and this positive effect is projected even if the base case scenario starts with employment at the NAIRU level. Given uncertainty about the NAIRU, for the reasons discussed in section 2 above, and given the relatively high value for the NAIRU assumed in current versions of TRYM and MONASH, expansionary macroeconomic policies “to nudge” the NAIRU and to reduce unemployment may be worth the risk of inducing inflation.

Second, whether the net effect of expansionary fiscal and monetary policies is to stimulate real GDP growth depends on modelling assumptions and parameters affecting the second-round crowding-out effects on other areas of aggregate demand. In TRYM, the combination of a number of illusions in the way expectations are formed together with adjustment stickiness ensure a net benefit to employment from macroeconomic policies in the short run, but not in the long run. The VAR models also support a net positive effect of macroeconomic policies on economy-wide growth and employment creation.

3.2.2 Lower Wages

Simulations of two quite different lower wage policy options found that lower wages offer a potent way of increasing employment and reducing unemployment over the short and medium terms. A policy challenge is the availability of a policy mechanism to set wages, and labour on-costs such as superannuation and payroll tax, at rates lower than otherwise.

The TRYM model was used to evaluate the effects of an across-the-board nominal wage reduction of 0.5 per cent each quarter for two quarters (Song, Freebairn and Harding, 2001). Labour for capital substitution in production plus gains in competitiveness because of lower labour costs, offset only partly by a fall in household income and aggregate domestic demand, generates more employment with a projected increase by up to one per cent over years 3 through 5. Then, higher wages with a tighter labour market reduce employment in a cyclical downturn.

MONASH was used to evaluate an effective 9 per cent reduction in real award wages over three years with a tax compensation package for low wage earners in low income families funded by an increase in the labour tax rate on all labour returns (Dixon and Rimmer, 2003). The lower award wages flow-on to a smaller reduction in non-award wages. Lower labour costs, by increasing the residual return to capital, also stimulate investment. The policy package is projected to increase employment by up to 2.2 per cent by year 3, and more so for the lower skilled workers. Then, with higher employment inducing higher wages, the employment increase, relative to the base case scenario, falls in magnitude but remains positive. A positive long run employment increase effect comes from a combination of a smaller loss of skills of the unemployed and from the investment stimulus to a larger capital stock and its effect on raising worker productivity.

Debate on the effectiveness of wage reductions in reducing unemployment comes down to debate about the elasticity of labour demand. Both TRYM and MONASH are neoclassical in their a priori structure. The survey of estimates of the elasticity of demand for labour in published Australian labour demand studies by Webster (2003) provides support for the magnitude of the labour demand elasticity values used in the two models, although she is critical of the underlying methodologies used in the surveyed studies.

A second set of issues in using lower wages to increase employment and to reduce unemployment is how to achieve the wage reduction. Except under special circumstances, wage control per se is not a direct government policy instrument, and when government imposed wage freezes are used there is concern about catch-up soon after. The income loss associated with a period of wage cuts is unpopular with those who consider they would have maintained their jobs anyway. Wage and tax cut trade-off packages may be required to sweeten the bitter pill, as was negotiated during the 1980s Accord period and is modelled by MONASH, but the tax reductions have budgetary effects, at least in the short run. An important difference between the Accord period wage-tax package and the MONASH model simulation is that while the former applied to an across-the-board wage reduction, the later is a restrained reduction of award wages only, for 21 per cent of the workforce, under the so called “five economists proposal”. Compensating changes to the social security system also may be part of a policy package to reduce the rate of labour cost growth. Given the importance of enterprise bargaining in setting wages and conditions for the majority of workers in Australia to-day, government provision of information and jaw-boning may place a limit on the use of this instrument. In particular, perhaps the best that can be expected is to avoid labour cost increases beyond labour productivity growth.

3.2.3 Labour Productivity

Employers are interested in per unit output labour costs. Then, rather than reducing wages, another option, and arguably a more attractive option, is to lower unit labour costs by improving labour productivity, for example by better work and management practices, education and training, and faster adoption of technology. In this spirit the TRYM model was used to simulate the effects of a permanent 1 percent increase in labour productivity (Song, Freebairn and Harding, 2001).

Initially, and for up to 3 years, increased labour productivity is projected to reduce employment, but by less than the productivity increase, because fewer workers are required to produce a given level of output. After time for adjustment for the increase in productivity, the associated increase in competitiveness and higher returns to capital leads to an increase in GDP, and employment recovers. In the longer run, most of the productivity gain is taken as higher real wages at the NAIRU unemployment rate.

3.2.4 Reform of the Taxation and Social Security Systems

Preliminary work from simulating the effects of an increase in rates of income tax by Creedy and Duncan (2001) and of lower social security withdrawal rates by Creedy, Kalb and Kew (2001) using the MITTS model find that labour supply decisions are influenced by the tax and social security systems. Importantly, the studies find that the direction of effect, as well as the magnitude of effect, varies across households according to family composition, wage, age, education and other demographic factors.

Policy options to lower the withdrawal or taper rate on social security benefits reduce the effective marginal tax rate (EMTR) for recipients on low incomes and in partial receipt of unemployment, sole parent and family allowances, but at the same time the EMTR is raised for some higher income people now drawn into the social security system. Also, the policy change improves disposable incomes for those in partial receipt of a social security benefit, and government outlays increase. A small increase in aggregate labour supply is projected. Within broad demographic categories: labour supply rises for sole parents and couples with children, but falls for couples with no children; labour supply falls for the employed, but rises for the unemployed and for non-participants; labour supply falls for those between 40 and 50 years of age, but rises for the young and the old. Further, within these broad demographic categories, some households increase labour supply, some reduce supply, and many do not change their decision.

In the income tax system design experiment, an increase of 5 percentage points in the marginal income tax rate raises the EMTR and reduces disposable incomes for all taxpayers. In aggregate there is a small reduction in labour supply. The labour supply effect for broad demographic categories is greater for: less educated relative to more educated; single parents relative to couple parents; women relative to men; and those on lower versus higher incomes.

Although these studies using MITTS address the effects of the tax and social security systems on labour supply decisions, it seems reasonable to extrapolate these effects also to the intensity of job search once unemployed. Then, the MITTS studies are consistent with the cross country comparisons that find that institutional systems affect employment and unemployment. The high level of household disaggregation in MITTS shows however that any aggregate effect disguises considerable variation across different households with different demographic and income characteristics.

4. Some Conclusions

We might think of two levels of unemployment; very high unemployment where the number of unemployed significantly exceed the number of vacancies and the unemployment rate is above conventional wisdom and views of the NAIRU; and lower rates of unemployment in the vicinity of conventional wisdom and views of the NAIRU or of the lower bound of multiple equilibria models. With high unemployment, the principal policy focus has to be on instruments that will create new and more jobs. These are stimulatory macroeconomic policies, lower labour costs, and in the long run higher productivity. Taxation and social security reform policy instruments affecting labour supply and job search, and perhaps those affecting the industrial relations system, become important policy instruments, along with the macroeconomic and labour cost policy instruments, at lower levels of unemployment.

The analyses undertaken for the project provides several lines of support for a policy of lower labour costs, or at a minimum restraint on labour cost growth to not exceed labour productivity growth, to increase employment. This result was shown in the MONASH and TRYM simulations and it is evident from the cross country comparison studies. If the current or base run unemployment rate is at or about the model imposed exogenous NAIRU rate, lower labour costs result in only a short run cyclical employment boost, and if the current unemployment rate is above the NAIRU rate lower labour costs speed-up the employment creation process. A policy challenge is how to achieve a sustainable reduction in wages and/or labour on costs. A wage-tax trade-off is one option. In some circumstances supply side policies to increase workforce participation, desired hours and job search intensity may put added downward pressure on wages.

Stimulatory monetary and fiscal policies generate a net increase in aggregate domestic demand and employment in the TRYM and VAR models used in the project, at least in the

short run with the long run effect depending on the assumed model base run. In TRYM the causal mechanism is the usual macroeconomic model with only partial crowding out, whereas in the VAR the effect is an estimated reduced form model story. The labour supply module developed for this project for MONASH has an additional employment creation effect arising from a reduction in the rate of skill decay for the unemployed as a result of lower labour costs, or an aggregate demand boost, and in a sense this effect means a reduction in the NAIRU.

Policy changes to the tax and social security systems are estimated by MITTS to affect labour supply at the extensive margin (in terms of decisions for those not employed to join the workforce) and at the intensive margin (in terms of decisions for those employed to work more hours). For some sectors of the workforce, including sole parents and older workers, the supply elasticities are high and very much higher than for other categories. Assuming that the labour supply responses also transfer into higher job search intensities, these supply side policy instruments likely will help in reducing the NAIRU as was found by other studies undertaken in the project. However, more work is required to pin down a lower level of unemployment to which Australia might aim towards over the next few years.

A final observation is that there are complementarities between the different policy instruments to increase employment and to reduce unemployment. This suggests the need for a broad, comprehensive and integrated policy package.

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Appendix: Unemployment Conference – 16th and 17th August 2001

Conference Venue:

Lygon & Rathdowne Rooms, 4th Floor
Rydges Hotel
 701 Swanston Street, Carlton

Conference Dinner:

Il Primo Ristorante
 242 Lygon Street
 Carlton, VIC, 3053

Research Questions

(i) (DAY 1 AM)

What determines the “speed limits” that constrain economic and employment growth?

- Is there a NAIRU? If so, can it be reduced?
- Alternatively, is there an equilibrium range of unemployment? If so, what are the policy implications?
- Alternatively are there multiple equilibria? If so what are the policy implications?
- What about the Beveridge Curve?

(ii) (DAY 1 PM)

How can the level and/or composition of employment and unemployment and be affected by:-

- productivity shocks
- wage shocks
 - “exogenous” shocks to average wages
 - “exogenous” shocks to relative wages
 - wage subsidies
 - payroll tax cuts?
 - other?
- Wage reaction function
- Fiscal policy reaction function
- Monetary policy reaction function

(iii)(DAY 2 AM)

How can welfare reform affect the level of labour supply, employment and unemployment, including policies which change:

- effective marginal tax rates/replacement ratio
- mutual obligations on welfare recipients

(iv) (DAY 2 PM)

What policy packages might be suggested by the findings under (i) (ii) and (iii) above and who would be the winners and losers? (These packages could be explored further in last few months of project)

Day 1

9:00am	Welcome and introductory remarks	Peter Dawkins
9:05am	Introductory Remarks	Richard Jackman
9:15am	Introductory Remarks	Dan Hamermesh
9:25am	Speed Limits, the NAIRU, Wage Setting and Beveridge Curves (Chair: Peter Dawkins)	
9:25am	How can Unemployment be Reduced?	Ian McDonald and Jenny Lye
9:45am	Non-Parametric Evidence on the Number and Nature of Equilibria in the Australian Unemployment Rate	Don Harding
10:05am	Discussant	Mardi Dungey
10:15am	Discussion	
<i>10:35am</i>	<i>Morning Tea</i>	
11:00am	How Segmented are Skilled and Unskilled Labour Markets: The Case of Beveridge Curves	Lei Lei Song, Beth Webster and Duy Tran
11:20am	Cross-Country Studies of Unemployment in Australia	Jeff Borland and Ian McDonald
11:40am	Discussants	Nilss Olekalns Bob Gregory
12:00noon	Discussion	
12:20pm	Discussant of whole session	Richard Jackman
<i>12:45pm</i>	<i>Lunch</i>	
1:45pm	Modelling Productivity Shocks, Wage Shocks, Fiscal Policy, Monetary Policy and Wage Reaction functions (Chair: Don Harding)	
1:45pm	Unemployment, Real Wages and Productivity in Australia: a Common Trends Approach	Peter Summers
2:05pm	Discussants	Mardi Dungey and Alex Joiner
2:15pm	Discussion	
2:35pm	TRYM Simulations of Effects of Policy Changes on Employment and Unemployment	Lei Lei Song, Don Harding and John Freebairn
3:05pm	A new specification of labour supply in the MONASH model with an illustrative application	Peter Dixon
<i>3:35pm</i>	<i>Afternoon Tea</i>	
3:50pm	Discussants	Peter Downes Patrick Jomini Phil Lewis
4:35pm	Discussion	
5:00pm	Discussant of whole session	Dan Hamermesh
5:30pm	Close	

Day 2**9:00am Welfare Reform, Labour Supply, Employment and Unemployment****(Chair: Bernie Yates)****Session 1**

9:00am	The Impact of Social Policy Initiatives on Labour Supply Incentives: A Review of the Literature	Guyonne Kalb
9:20am	Perspectives on Unemployment from a General Equilibrium Search Model	Don Harding and Tim Kam
9:40am	Policy Simulations Using MITTS: The Effects of Reducing Benefits and Flattening the Rate Structure	John Creedy, Guyonne Kalb and Hsein Kew
10:00am	Discussants	Alex Heath Denise Doiron
10:20am	General Discussion	

*10:40am Morning Tea***Session 2**

11:00am	Aggregating labour supply from micro-foundations using MITTS	John Creedy and Alan Duncan
11:20am	A new specification of labour supply in the MONASH model with an illustrative application	Peter Dixon
11:40pm	Discussants	Greg Connolly Denise Doiron
12:00noon	General Discussion	
12:30pm	Discussants of whole morning session	Dan Hamermesh Richard Jackman

*1:00pm Lunch***2:00pm Drawing together the threads****(Chair: James Jordan)**

2:00pm	Policy Implications of Findings on Speed Limits from Day 1	Ian McDonald
2:15pm	What can TRYM tell us about Policy Options to Reduce Unemployment	John Freebairn, Don Harding and Lei Lei Song
2:30pm	What does Monash tell us about Reducing Unemployment?	Peter Dixon
2:45pm	Comments	Peter Downes
3:00pm	Discussion	
3:30pm	<i>Afternoon Tea</i>	
3:45pm	Summary of Conference and further research needs	Peter Dawkins
4:15pm	Discussants and General Discussion	Dan Hamermesh Richard Jackman

5:00pm Close